



THE UNIVERSITY
of NORTH CAROLINA
at CHAPEL HILL

ATTACHMENT A

CAROL L. FOLT
Chancellor

103 SOUTH BUILDING
CAMPUS BOX 9100
CHAPEL HILL, NC 27599

T 919.962.1365
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carol.folt@unc.edu

TO: Members of the Board of Trustees

FROM: Carol L. Folt

RE: Mail Ballot

DATE: October 8, 2014

I write to request your vote by mail ballot on the following matters which have not yet received formal approval from the Board of Trustees:

Endowment Fund: North Carolina General Statute 116-36 and Board of Governors' regulations require that the Board of Trustees elect the membership of the Endowment Board of Trustees. There are two (2) vacancies. Attached is a chart showing the names and terms of the current Endowment Trustees. The nominees for each vacancy are shown in bold on the chart.

The University of North Carolina at Chapel Hill Foundation, Inc. (Foundation): The Bylaws of the Foundation provide that the Board of Trustees shall elect two directors from the membership of the Board of Trustees and three directors from the membership of the Endowment Trustees. There is one (1) vacancy in the Endowment category of directors. A chart showing the current ex officio directors and the directors elected by the Board of Trustees is attached. The nominee for the one vacancy is shown in bold.

I recommend election of the proposed nominees.

cc: Matthew Fajack
David Routh
Jonathon King

**THE BOARD OF TRUSTEES OF THE ENDOWMENT FUND OF
THE UNIVERSITY OF NORTH CAROLINA AT CHAPEL HILL**

**MEMBERSHIP – MINIMUM 6; MAXIMUM 9
(three year term)***

MEMBERS ELECTED BY BOARD OF TRUSTEES

	<u>TERM</u>
Chairman Board of Trustees	(Ex-Officio)
Chancellor	(Ex-Officio)
Sallie Shuping-Russell	(Ex-Officio)
John Townsend	2015
Peter Grauer	2015
John Ellison	2016
Steve Lerner	2016
<u>David Carroll</u>	<u>2017</u>
(vacancy created by expiration of term of Nelson Schwab)	
<u>Max Chapman</u>	<u>2017</u>
(vacancy created by expiration of term of Max Chapman)	

* Effective with appointments after July 26, 1996, individuals are eligible for a maximum of two consecutive 3 year terms. Individuals are eligible for reappointment after one year has elapsed from conclusion of most recent term.

October 2014

THE UNIVERSITY OF NORTH CAROLINA AT CHAPEL HILL FOUNDATION, INC.
BOARD OF DIRECTORS
17 MEMBERS; METHOD OF SELECTION

I. NINE EX-OFFICIO MEMBERS

A. 4 BY VIRTUE OF OFFICE (term concurrent with office tenure)

Chairman of the Board of Trustees
Chancellor
Vice Chancellor for Finance and Administration
Vice Chancellor for University Advancement

B. 2 ELECTED BY BOARD OF TRUSTEES FROM BOARD OF TRUSTEES MEMBERSHIP (term concurrent with Board tenure)*

Sallie Shuping-Russell	2015
Steve Lerner	2015

C. 3 ELECTED BY BOARD OF TRUSTEES FROM MEMBERSHIP OF THE BOARD OF TRUSTEES OF THE ENDOWMENT FUND (term concurrent with Endowment tenure)*

Peter Grauer	2015
John Townsend	2015
Max Chapman	2017
(vacancy created by expiration of term of Nelson Schwab)	

II. EIGHT DIRECTORS ARE ELECTED BY THE NINE EX-OFFICIO DIRECTORS (The election of directors in this category is not part of the current mail ballot.)



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Chancellor

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Mail Ballot

Board of Trustees

October 8, 2014

Attached for your review and approval is a memo detailing the issues associated with this mail ballot. This mail ballot will be approved as part of the Consent Agenda at the Full Board meeting on Thursday, November 20, 2014.

The undersigned votes as follows with respect to the recommendation proposed in Chancellor Folt's memorandum dated October 8, 2014.

	Approve	Disapprove
Election of Max Chapman to the Endowment Fund for a three (3) year term ending in 2017.	<input type="checkbox"/>	<input type="checkbox"/>
Election of David Carroll to the Endowment Fund for a three (3) year term ending in 2017.	<input type="checkbox"/>	<input type="checkbox"/>
Election of Max Chapman to the Foundation's Board of Directors for a term concurrent with his term as an Endowment Trustee	<input type="checkbox"/>	<input type="checkbox"/>

Signature_____

Printed Name_____

Date_____

Please fax to TJ Scott at (919) 962-1647 or email at tj_scott@unc.edu

This mail ballot was approved by the Board of Trustees with a majority vote on October 9, 2014. Alston Gardner, Sallie Shuping-Russell, Jeff Brown, Haywood Cochrane, Don Curtis, Chuck Duckett, Steve Lerner, Dwight Stone and Andrew Powell approved this action.



THE UNIVERSITY
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at CHAPEL HILL

CAROL L. FOLT
Chancellor

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MEMORANDUM

TO: Members of the Board of Trustees
FROM: Carol L. Folt
RE: Mail Ballot
DATE: October 15, 2014

You have authorized my office to poll you by mail concerning personnel matters which require attention by the Board. Accordingly, we are transmitting to you herewith personnel actions as follows:

EPA Non-Faculty Compensation Actions	Attachment A
EPA Faculty Compensation & Tenure Actions	Attachment B

Please mark and return the enclosed mail ballot indicating whether or not you agree with the actions proposed. Thank you.

University of North Carolina at Chapel Hill Board of Trustees
EXECUTIVE SUMMARY (EPA Non-Faculty)
Meeting Date: October 2014 (Mail Ballot)

Attachment A

Compensation Actions												
No.	College/Division	Employee Last Name	Employee First Name	Department	Rank/Title	Reason	Requested Increase \$\$	Requested Increase %	June 30 Salary	Current Salary	Proposed Salary	Effective Date
1	University Library	Graham	Nicholas	University Library	Prog Coordinator, NCDHC & Assist to the Director of Wilson Library	This is a salary adjustment related to a permanent increase in job duties or responsibilities. The current duties include establishing priorities and work flow plans for digitization projects and initiatives; developing collaborative relationships with institutions throughout the state and facilitating discussions of potential digitization projects and initiatives; preparing budgets, grant applications, and reports; monitoring expenditures; publicizing and promoting plans and accomplishments of the Center; and planning and supervising. The new additional duties will include working with Wilson curators and Library IT on challenges with long-term storage and establishing sustainable long-term practices; analyzing digital production work; working on born-digital collecting; "revitalizing" DocSouth; designing a general technology policy for Wilson Library; coordinating digital collections; serving as a member of the Library Technology Council; working on grant funding projects; and assisting in developing workflows and priorities. Employee was to receive a total increase of 13.27% (\$8,200) for additional duties, 9.35% (\$5,562) was granted in September 2014 and this increase is for the balance. There are no comparable positions within the work unit.	8,200	13.27	\$ 61,800	\$ 67,362	\$70,000.00	10/6/2014

University of North Carolina at Chapel Hill Board of Trustees
EXECUTIVE SUMMARY (EPA Non-Faculty)
Meeting Date: October 2014 (Mail Ballot)

2	School of Social Work	Smith	Kelly B.	School of Social Work	Assistant Dean for Administration	This promotion results from the position being reallocated to a higher-level classification. In the current position (Business Officer - Journey), the duties include managing the School of Social Work finances with overall focus on controlling costs and increasing revenue; working with the Dean to establish short and long-term financial goals and objectives, business policy and practice; developing tools and systems to implement and track financial progress of activities and maintain on-going review of systems to improve efficiency and quality data. In the new role (Assistant Dean for Administration), the duties will include oversight of the schools fiscal affairs; managing human resources, finance, facilities, contracts and grants; serving as a member of the School's Steering Committee in collaboration with the Dean and Associate Deans; and overseeing development and implementation of strategic plan for the School. There are no comparable positions within the work unit. The requested salary results in a market index of 77%. The employee qualifies for the classification with a Bachelor's degree and 19 years of relevant experience.	21,984	31.49	\$ 69,816	\$ 69,816	\$91,800.00	10/6/2014
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University of North Carolina at Chapel Hill Board of Trustees
EXECUTIVE SUMMARY (EPA Non-Faculty)
Meeting Date: October 2014 (Mail Ballot)

3	VC-Finance & Administration	Weiss	Meredith	VC-Finance & Administration	Senior AVC Finance and Administration	This promotion results from a waiver of recruitment. The Senior Associate Vice Chancellor for Finance and Administration (F & A) position is being vacated due to retirement of current incumbent. In the current position (AVC Administration), the duties include oversight of various operational and administrative components of the Division of Finance and Administration to include: oversight of Auxiliary Services; Student Stores; Energy Services; Public Safety; and Environmental Health and Safety for which, a \$10,519 increase was granted in August 2014 for this additional oversight. In the new role (Senior AVC Finance and Administration), the duties will include serving as strategic advisor and principal deputy to the Vice Chancellor for Finance and Administration. In addition, the newly added duties will include institutional oversight of the University's financial, budget and accounting operations and oversight of the Finance and Administration Division's Human Resources, Information Technology and Communications units. There are no comparable positions within the work unit. Candidate qualifies for this class based on having extensive administrative and financial experience at UNC-Chapel Hill and multiple advanced degrees.	36,805	16.34	\$ 225,195	\$ 235,714	\$262,000.00	10/6/2014
4	School of Medicine	Dodson	Barbara	Anesthesiology	Associate Chair for Administration	This recommended increase is for equity with other employees at the same classification performing similar work. The requested salary is commensurate with other similarly situated employees and creates no equity issues.	26,108	17.50	\$ 149,194	\$ 149,194	\$175,302.00	9/16/2014
5	VC Research	Bernadotte	Christina	Carolina Population Center	Research Associate	This is a salary adjustment related to a permanent increase in job duties or responsibilities. The current duties include implementing monitoring and evaluation (M&E) systems and supervision. The new additional duties will include leading the M&E unit to design and implement an integrated M&E system, providing technical oversight, and development of the M & E's program strategy and communications plan. The requested salary is commensurate with other similarly situated employees and creates no equity issues.	11,788	19.50	\$ 60,450	\$ 60,450	\$72,238.00	9/16/2014

University of North Carolina at Chapel Hill Board of Trustees
EXECUTIVE SUMMARY (EPA Non-Faculty)
Meeting Date: October 2014 (Mail Ballot)

6	School of Pharmacy	Brosnan-Cook	Michelle	School of Pharmacy	Research Associate Level 2	This promotion results from the position being reallocated to a higher-level classification. In the current position (Research Associate Level 1), the duties include executing the Laboratory's Quality Management Program; ensuring that all current clinical laboratory compliance regulations are met; assisting in writing, revising, reviewing, and maintaining a library of laboratory standard operating procedures and assay validation reports; reviewing lab notebooks and assay data reports for accuracy; maintaining laboratory safety; and performing monthly internal audits of the laboratory scientists' activities. In the new role (Research Associate Level 2), the duties will include managing the quarterly national and international proficiency testing program; overseeing all analytical chemists in analyzing unknown samples; performing data review, verification, and quality control checks to ensure standard operating procedures are being properly followed; submitting and analyzing data; training analytical chemists in best practices; and independently formulating research standard operating procedures for the laboratory. There are no comparable positions within the work unit. The requested salary results in a market index of 100%.	16,799	30.54	\$ 55,000	\$ 55,000	\$71,799.00	9/16/2014
7	School of Pharmacy	Jayakody	Chatura	School of Pharmacy	Research Associate	This recommended salary increase is for equity with other employees at the same classification performing similar work. The requested salary results in a market index of 95.7% and creates no equity issues.	6,568	18.03	\$ 36,432	\$ 36,432	\$43,000.00	9/16/2014

Non-Salary Compensation Actions

No.	College/Division	Employee Last Name	Employee First Name	Department	Rank	Reason	Total Monetary Value of Non-Salary Compensation	Duration of Non-Salary Compensation	Effective Date	End Date		
1	None											

University of North Carolina at Chapel Hill Board of Trustees
EXECUTIVE SUMMARY (EPA Non-Faculty)
Meeting Date: October 2014 (Mail Ballot)

No.	College/Division	Employee Last Name	Employee First Name	Department	Rank/Title	Reason	Requested Increase \$\$	Requested Increase %	June 30 Salary	Current Salary	Proposed Salary	Effective Date
1												
2												
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The University of North Carolina at Chapel Hill
EXECUTIVE SUMMARY
Board of Trustees
October 23, 2014

Attachment B

No.	College/Division	Name	Dept./School	Current Rank	New Rank	Tenure Request Reason	Effective Date	Salary
Personnel Actions								
New Appointments without Tenure								
1	Health Sciences	Mengjie Chen	Public Health	N/A	Assistant Professor	N/A	8/1/2014	\$110,000.00
2	Health Sciences	Cindy Wu	Surgery	Visiting Assistant Professor	Assistant Professor	N/A	11/1/2014	\$225,000.00
Addition of Joint Appointment without Tenure								
n/a								
Promotion to Full Professor								
3	Health Sciences	Debra Barksdale	Nursing	Associate Professor	Professor	N/A	11/1/2014	\$124,984.00
Reappointments to the same Rank								
4	Health Sciences	Gang Fang	Pharmacy	Assistant Professor	Assistant Professor	N/A	11/18/2015	\$111,320.00
5	Health Sciences	Christine Oramasionwu	Pharmacy	Assistant Professor	Assistant Professor	N/A	10/28/2015	\$108,284.00
Designation/Reappointments to Departmental Chair								
n/a								
Designation/Reappointments to Distinguished Professorship								
6	Health Sciences	Harendra Arora	Medicine	Clinical Professor	Edward A. Norfleet, MD '70 Distinguished Professor in Anesthesiology	N/A	10/24/2014	\$275,873.00
7	Health Sciences	Jan Busby-Whitehead	Medicine	Professor	Mary & Thomas Hudson Distinguished Professorship in Geriatric Medicine, Center for Aging & Health	N/A	12/1/2014	\$243,115.00
Actions Conferring Tenure								
Promotion Conferring Tenure								
8	Health Sciences	Gabriel Dichter	Psychiatry	Assistant Professor	Associate Professor	Promotion based on demonstrated excellence in research	12/1/2014	\$86,052.00
9	Health Sciences	Laura Klinger	Psychiatry	Associate Professor	Associate Professor	Promotion based on excellence in clinical scholarship	10/1/2014	\$194,781.00
New Appointments Conferring Tenure								
10	Academic Affairs	Kenneth Bollen	Psychology - Base/ Sociology - Full Joint	Distinguished Professor	Distinguished Professor	Promotion based on excellence in research	1/1/2015	\$226,865.00
Addition of Joint Appointment Conferring Tenure								
11	Health Sciences	Maureen Su	Pediatrics/Microbiology & Immunology	Assistant Professor	Associate Professor	Promotion based on excellence in research	11/1/2014	\$138,377.00
Corrections								
0								

The University of North Carolina at Chapel Hill

EXECUTIVE SUMMARY

Board of Trustees

July 14, 2014

No.	College/Division	Name	Department/School	Rank	Reason	Requested Increase Amount	Percent of Increase	Current Salary	New Salary	Effective Date
Compensation Actions						<small>* Available funding for each action has been confirmed by the appropriate Department and School/Division management officials to support the proposed salary increase. Upon implementation, specific funding sources are reviewed and approved at the Department level, as well as by the applicable University Central financial offices, including the University Budget Office and the Office of Sponsored Research for grant-funded salaries.</small>				
1	Health Affairs	Kevin Carneiro	School of Medicine	Clinical Assistant Professor	Increase due to additional duties as Medical Director at the UNC Spine Center	\$40,000	22.22%	\$185,000	\$220,000	12/1/2014
2	Health Affairs	Kendall Hutson	School of Medicine	Research Technician	Increase due to job change from SPA role to Research Assistant Professor	\$13,934	38.63%	\$36,066	\$50,000	12/1/2014
3	Health Affairs	Jonathan Schisler	School of Medicine	Research Instructor	Increase due to job change from Research Instructor to Research Assistant Professor	\$16,600	22.65%	\$73,300	\$89,900	12/1/2014
4	Health Affairs	Ikuko Smith	School of Medicine	Postdoc Research Associate	Increase due to job change from SPA role to Research Assistant Professor	\$10,918	21.17%	\$51,582	\$62,500	12/1/2014
5	Health Affairs	Joan Taylor	School of Medicine	Professor/Assoc Director	Increase due to secondary appointment as	\$26,274	19.12%	\$133,701	\$163,701	12/1/2014
6	Health Affairs	Janelle Torchio	School of Medicine	Postdoc Research Associate	Increase due to job change from SPA role to Research Assistant Professor	\$42,000	87.50%	\$48,000	\$90,000	12/1/2014
7	Health Affairs	Monte Willis	School of Medicine	Associate Professor	Increase due to secondary appointment as Vice Chair for Academic Affairs in his department and the additional duties that come with that role	\$21,598	13.51%	\$161,410	\$181,410	12/1/2014
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No.	College/Division	Name	Department/School	Rank	Reason	Total Monetary Value of Non-Salary Compensation	Duration of Non- Salary Compensation	Effective Date	End Date
Non-Salary Compensation Actions									
0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

The University of North Carolina at Chapel Hill

EXECUTIVE SUMMARY

Board of Trustees

July 14, 2014

No.	College/Division	First Name	Last Name	Department/School	Rank	Description
For Information - Leave of Absence for Fiscal Year 2014 (7/1/2013-7/1/2014)						
1	Arts & Sciences	ANNA	AGBE-DAVIES	Anthropology	Assistant Professor	Internal Competitive Leave
2	Arts & Sciences	HOWARD	ALDRICH	Sociology	Distinguished Professor/dept. chair	Research and Study Assignment
3	Arts & Sciences	SARA	ALGOE	Psychology	Assistant Professor	Research and Study Assignment
4	Arts & Sciences	STEPHEN	ANDERSON	Music	Associate Professor	Internal Competitive Leave
5	VC Student Affairs	SUZANNE	ARAGONA	Campus Health Services	Social Worker/Case Manager	Other
6	Arts & Sciences	YAAKOV	ARIEL	Religious Studies	Professor	Internal Competitive Leave
7	Arts & Sciences	CAROL	ARNOSTI	Marine Sciences	Professor	Research and Study Assignment
8	Arts & Sciences	TODD	AUSTELL	Chemistry	Research Asst Professor/Academic Ad	Professional Leave
9	Arts & Sciences	GERSHUN	AVILEZ	English & Comp Literature	Assistant Professor	Research and Study Assignment
10	Arts & Sciences	CEMIL	AYDIN	History	Associate Professor	Internal Competitive Leave
11	Arts & Sciences	JANICE	BARDSLEY	Asian Studies	Assoc. Professor	Internal Competitive Leave
12	Arts & Sciences	BRANDON	BAYNE	Religious Studies	Assistant Professor	Parental Leave
13	Arts & Sciences	PRAKASH	BELKALE	Mathematics	Professor	Research and Study Assignment
14	Arts & Sciences	TAMARA	BERG	Computer Science	Assistant Professor	Research and Study Assignment
15	Arts & Sciences	LUCIA	BINOTTI	Romance Languages	Professor	Internal Competitive Leave
16	Arts & Sciences	CAROLE	BLAIR	Communication Studies	Professor	Research and Study Assignment
17	Arts & Sciences	MARCUS	BULL	History	Distinguished Professor	External Competitive
18	Arts & Sciences	KATHRYN	BURNS	History	Professor	External Competitive
19	Arts & Sciences	IVAN	CHEREDNIK	Mathematics	Distinguished Professor	Research and Study Assignment
20	Arts & Sciences	CHRISTOPHER	CLARK	Political Science	Assistant Professor	Parental Leave
21	Arts & Sciences	JAMES	COLEMAN	English & Comp Literature	Professor	Research and Study Assignment
22	Arts & Sciences	PAMELA	COOPER	English & Comp Literature	Associate Professor	Other
23	Arts & Sciences	STACEY	DAUGHTERS	Psychology	Associate Professor	Parental Leave
24	Sch Journalism	PATRICK	DAVISON	Journalism/Mass Communication	Professor	External Competitive
25	Arts & Sciences	SARAH	DEMPSEY	Communication Studies	Assistant Professor	Parental Leave
26	Arts & Sciences	JOSEPH	DESIMONE	Chemistry	Chancellor's Eminent Professor	Professional Leave
27	Sch Pub Hlth	KEMI	DOLL	Health Policy and Management	Post-Doctoral Research Associate	Other
28	Arts & Sciences	OSWALDO	ESTRADA	Romance Languages	Associate Professor	Research and Study Assignment
29	Arts & Sciences	MARYANN	FELDMAN	Public Policy	Distinguished Professor	Off Campus Assignment
30	Arts & Sciences	EMMA	FLATT	History	Assistant Professor	External Competitive
31	Arts & Sciences	GREGORY	FLAXMAN	English & Comp Literature	Associate Professor	Professional Leave
32	Arts & Sciences	DAVID	GARCIA	Music	Associate Professor	External Competitive
33	Arts & Sciences	MELISSA	GEIL	English & Comp Literature	Lecturer	Family and Medical Leave
34	Arts & Sciences	JOSEPH	GLATTHAAR	History	Distinguished Professor	External Competitive
35	Arts & Sciences	PERVIN	GOKARIKSEL	Geography	Associate Professor	Parental Leave
36	Sch Medicine	CATHERINE	GRODENSKY	Comprehensive Cancer Center	Program Coordinator	Personal
37	Arts & Sciences	GUANG	GUO	Sociology	Welsh Distinguished Professor	Research and Study Assignment

The University of North Carolina at Chapel Hill

EXECUTIVE SUMMARY

Board of Trustees

July 14, 2014

38	Arts & Sciences	PHILIP	GURA	English & Comp Literature	Distinguished Professor	Internal Competitive Leave
39	Arts & Sciences	ZEINA	HALABI	Asian Studies	Assistant Professor	Research and Study Assignment
40	Arts & Sciences	ELIZABETH	HAVICE	Geography	Assistant Professor	Professional Leave
41	Arts & Sciences	JONATHAN	HESS	Germanic & Slavic Lang & Lit	Distinguished Professor	Research and Study Assignment
42	Arts & Sciences	THOMAS	HOFWEBER	Philosophy	Professor	External Competitive
43	Arts & Sciences	LIESBET	HOOGHE	Political Science	W.R. Kenan, Jr. Distinguished Profess	Professional Leave
44	Arts & Sciences	CHRISTOPHER	JONES	Mathematics	Guthridge Distinguished Professor	Research and Study Assignment
45	Arts & Sciences	MICHELLE	KING	History	Associate Professor	External Competitive
46	Sch Law	HOLNING	LAU	School of Law	Professor	Parental Leave
47	Arts & Sciences	MARGARET	LEE	African, Afri-Amer & Diaspora	Associate Professor	Internal Competitive Leave
48	Arts & Sciences	WAYNE	LEE	History	Distinguished Term Professor	Research and Study Assignment
49	Arts & Sciences	PAUL	LESLIE	Anthropology	Prof./dept. Chair	Internal Competitive Leave
50	Arts & Sciences	NICHOLA	LOWE	City & Regional Planning	Associate Professor	Research and Study Assignment
51	Arts & Sciences	WILLIAM	LYCAN	Philosophy	Distinguished Professor	Professional Leave
52	Arts & Sciences	ANNE	MACNEIL	Music	Associate Professor	Internal Competitive Leave
53	Arts & Sciences	CAROL	MAGEE	Art	Associate Professor	Research and Study Assignment
54	Arts & Sciences	GARY	MARKS	Political Science	Distinguished Professor/director	Professional Leave
55	Arts & Sciences	CHRISTOPHER	MARTENS	Marine Sciences	Distinguished Professor	Research and Study Assignment
56	Arts & Sciences	CHRISTOPHER	MIDDLETON	Anthropology	Assistant Professor	Internal Competitive Leave
57	Arts & Sciences	CHARLES	MITCHELL	Biology	Associate Professor	Research and Study Assignment
58	Arts & Sciences	JAMES	MOESER	Music	Professor	Off Campus Assignment
59	Arts & Sciences	MICHAEL	MORGAN	History	Assistant Professor	Research and Study Assignment
60	Arts & Sciences	NEIL	MULLIGAN	Psychology	Professor	Research and Study Assignment
61	Arts & Sciences	CHERIE	NDALIKO	Music	Assistant Professor	Internal Competitive Leave
62	Arts & Sciences	ROBERTA	OWEN	Dramatic Art	Distinguished Professor	Internal Competitive Leave
63	Arts & Sciences	LAURIE	PAUL	Philosophy	Professor	Research and Study Assignment
64	Arts & Sciences	ROBERT	PEET	Biology	Professor	Research and Study Assignment
65	Arts & Sciences	INGA	POLLMANN	Germanic & Slavic Lang & Lit	Assistant Professor	Research and Study Assignment
66	Sch Law	GREGG	POLSKY	School of Law	Willie Person Mangum Professor of La	Professional Leave
67	Arts & Sciences	GERALD	POSTEMA	Philosophy	Distinguished Professor	Research and Study Assignment
68	Arts & Sciences	ROBERT	PROCTOR	Mathematics	Professor	Professional Leave
69	Sch Law	KATIE ROSE	PRYAL	School of Law	Clinical Associate Professor	Personal
70	Arts & Sciences	CYNTHIA	RADDING	History	Distinguished Professor	Professional Leave
71	Arts & Sciences	ENNIO	RAO	Romance Languages	Professor	Research and Study Assignment
72	Sch Law	DANA	REMUS	School of Law	Associate Professor	Professional Leave
73	Arts & Sciences	ANDREW	REYNOLDS	Political Science	Associate Professor	Research and Study Assignment
74	Arts & Sciences	JOSE	RIAL	Geological Sciences	Professor	Research and Study Assignment
75	Arts & Sciences	COURTNEY	RIVARD	English & Comp Literature	Lecturer	Parental Leave
76	Arts & Sciences	SARAH	ROBERTS	Political Science	Assistant Professor	Research and Study Assignment
77	Arts & Sciences	ERIC	RYAN	Exercise & Sport Science	Stallings Fellow Assistant Professor	Research and Study Assignment
78	Arts & Sciences	DONALD	SEARING	Political Science	Distinguished Professor	Off Campus Assignment

The University of North Carolina at Chapel Hill

EXECUTIVE SUMMARY

Board of Trustees

July 14, 2014

79	Arts & Sciences	BEREKET	SELASSIE	African, Afri-Amer & Diaspora	Distinguished Professor	Research and Study Assignment
80	Arts & Sciences	LILLY	SHANAHAN	Psychology	Assistant Professor	Research and Study Assignment
81	Arts & Sciences	SARAH	SHARMA	Communication Studies	Associate Professor	Research and Study Assignment
82	Arts & Sciences	HAIPENG	SHEN	Statistics and Operations Res	Professor	Personal
83	Arts & Sciences	SARAH	SHIELDS	History	Bowman & Gordon Gray Dist Term Pr	Research and Study Assignment
84	Arts & Sciences	MARTIN	SIMPSON	English & Comp Literature	Kenan Distinguished Professor	Research and Study Assignment
85	Arts & Sciences	JENNIFER	SMITH	Linguistics	Associate Professor	Internal Competitive Leave
86	Sch Law	ROBERT	SMITH	School of Law	Assistant Professor	Professional Leave
87	Arts & Sciences	CONGHE	SONG	Geography	Professor	Research and Study Assignment
88	Arts & Sciences	YAN	SONG	City & Regional Planning	Professor	Research and Study Assignment
89	Sch Business	BRADLEY	STAATS	Kenan-Flagler Business School	Associate Professor	Professional Leave
90	Arts & Sciences	JAMES	STIMSON	Political Science	Distinguished Professor	Professional Leave
91	Arts & Sciences	RICHARD	SUPERFINE	Physics-Astronomy	Taylor-Williams Distinguished Profess	Research and Study Assignment
92	Arts & Sciences	ANDREAS	TESKE	Marine Sciences	Professor	Internal Competitive Leave
93	Sch Law	KATHLEEN	THOMAS	School of Law	Assistant Professor	Parental Leave
94	Arts & Sciences	JANE	THRAILKILL	English & Comp Literature	Distinguished Term Associate Profess	Internal Competitive Leave
95	Arts & Sciences	HONG-AN	TRUONG	Art	Assistant Professor	Parental Leave
96	Arts & Sciences	KAROLYN	TYSON	Sociology	Professor	External Competitive
97	Arts & Sciences	JOSEPH	VISCOMI	English & Comp Literature	Distinguished Professor	Other
98	Sch Pub Hlth	MORRIS	WEINBERGER	Health Policy and Management	Distinguished Professor	Off Campus Assignment
99	Arts & Sciences	RONALD	WILLIAMS	African, Afri-Amer & Diaspora	ASSISTANT PROFESSOR	Parental Leave
100	Arts & Sciences	RACHEL	WILLIS	American Studies	Associate Professor	Research and Study Assignment
101	Arts & Sciences	SUSAN	WOLF	Philosophy	Director, Philosophy in Humanities Pro	Research and Study Assignment
102	Arts & Sciences	CLARA	YANG	Music	Assistant Professor	Research and Study Assignment
103	Arts & Sciences	ANDREW	YATES	Economics	Assistant Professor	Research and Study Assignment
104	Arts & Sciences	JIAYUN	ZHUANG	Dramatic Art	Assistant Professor	Family and Medical Leave

No.	College/Division	First Name	Last Name	Department/School	Rank	Description
For Information - End of Employment - Fiscal Year 2014 (7/1/2013 - 7/1/2014)						
1	Arts & Sciences	ELIZABETH	ADAMS	Psychology	LECTURER	Term Appt NonRenewal (Not Funding Related)
2	Sch Medicine	ROHIT	AHUJA	Medicine	ASSISTANT PROFESSOR	Pursue Outside Employment/Further Education
3	Arts & Sciences	JOHN	AKIN	Economics	PROFESSOR	Emeritus Retirement
4	Sch Medicine	LEKISHA	ALESII	Anesthesiology	ASSISTANT PROFESSOR	Pursue Outside Employment/Further Education
5	Arts & Sciences	CARRIE	ALTER	Art	LECTURER	Term Appt NonRenewal (Not Funding Related)
6	Arts & Sciences	SAHAR	AMER	Asian Studies	PROFESSOR	Retirement
7	Arts & Sciences	MARTINE	ANTLE	Romance Languages	PROFESSOR	Retirement

The University of North Carolina at Chapel Hill

EXECUTIVE SUMMARY

Board of Trustees

July 14, 2014

8	Sch Medicine	CYNTHIA	BAKER	Pediatrics	INSTRUCTOR	Other
9	Sch Medicine	JAMES	BARBA	Allied Health Sciences	ASSISTANT PROFESSOR	Retirement
10	Arts & Sciences	DORIT	BAR-ON	Philosophy	PROFESSOR	Pursue Outside Employment/Further Education
11	Sch Medicine	HANNAH	BEAUCHAMP	Pediatrics	INSTRUCTOR	Other
12	Sch Medicine	ALAN	BEEBER	Psychiatry	PROFESSOR	Retirement
13	Sch Pub Hlth	WILFRIDA	BEHETS	Epidemiology	PROFESSOR	Retirement
14	Arts & Sciences	ARTHUR	BENAVIE	Economics	PROFESSOR	Term Appt NonRenewal (Not Funding Related)
15	Sch Dentistry	CAROLINA	BERALDO MELC	Endodontics	ASSISTANT PROFESSOR	Pursue Outside Employment/Further Education
16	Arts & Sciences	GUSTAV	BERG	Physics-Astronomy	LECTURER	Term Appt NonRenewal (Not Funding Related)
17	Arts & Sciences	PHILIP	BERKE	City & Regional Planning	PROFESSOR	Pursue Outside Employment/Further Education
18	Sch Medicine	JENNA	BLACK	Anesthesiology	ASSISTANT PROFESSOR	Pursue Outside Employment/Further Education
19	Arts & Sciences	SIMON	BLACKBURN	Philosophy	PROFESSOR	Other
20	Sch Medicine	ALISON	BLAKE	Pediatrics	INSTRUCTOR	Other
21	Sch Business	EDWARD	BLOCHER	Kenan-Flagler Business School	PROFESSOR	Retirement
22	Sch Medicine	ERIC	BOLIN	Anesthesiology	INSTRUCTOR	Pursue Outside Employment/Further Education
23	Sch Medicine	KRISTA	BONNER	Pediatrics	INSTRUCTOR	Other
24	Sch Dentistry	FREDERICK	BOOTH	Orthodontics	PROFESSOR	Term Appt NonRenewal (Not Funding Related)
25	Sch Medicine	SAMANTHA	BORDEN	Pediatrics	INSTRUCTOR	Other
26	Sch Medicine	CARL	BOSE	Pediatrics	PROFESSOR	Phased Retirement
27	Sch Medicine	JENNIFER	BOWLES	Pediatrics	INSTRUCTOR	Other
28	Sch Journalism	RODERICK	BOYD	Journalism/Mass Communication	LECTURER	Term Appt NonRenewal (Not Funding Related)
29	Sch Medicine	LAURA	BRAM	Psychiatry	INSTRUCTOR	Pursue Outside Employment/Further Education
30	Arts & Sciences	MOLLY	BRECKLING	Music	LECTURER	Term Appt NonRenewal (Not Funding Related)
31	Sch Business	PETER	BREWS	Kenan-Flagler Business School	PROFESSOR	Pursue Outside Employment/Further Education
32	Sch Medicine	ARLENE	BRIDGES	Pathology & Lab Medicine	ASSOCIATE PROFESSOR	Pursue Outside Employment/Further Education
33	Arts & Sciences	MAURICE	BROOKHART	Chemistry	PROFESSOR	Phased Retirement
34	Arts & Sciences	JAMES	BROWN	Germanic & Slavic Lang & Lit	LECTURER	Term Appt NonRenewal (Not Funding Related)
35	Arts & Sciences	CHRISTOPHER	BROWNING	History	PROFESSOR	Emeritus Retirement
36	Sch Medicine	JAMES	BRYAN	Medicine	PROFESSOR	Other
37	Sch Medicine	DEBRA	BUDWIT	Pathology & Lab Medicine	PROFESSOR	Retirement
38	Arts & Sciences	ELIZABETH	BURNS	Women's and Gender Studies	PROFESSOR	Emeritus Retirement
39	Sch Journalism	NAPOLEON	BYARS	Journalism/Mass Communication	ASSOCIATE PROFESSOR	Emeritus Retirement
40	Sch Journalism	QUEENIE	BYARS	Journalism/Mass Communication	ASSISTANT PROFESSOR	Emeritus Retirement
41	Sch Business	JOSEPH	BYLINSKI	Kenan-Flagler Business School	ASSOCIATE PROFESSOR	Retirement
42	Sch Medicine	ANDREW	BYRNE	Allied Health Sciences	INSTRUCTOR	Term Appt NonRenewal (Not Funding Related)
43	Sch Medicine	MICHELLE	CABRERA	Ophthalmology	ASSISTANT PROFESSOR	Pursue Outside Employment/Further Education
44	Sch Journalism	JONATHAN	CAMP	Journalism/Mass Communication	LECTURER	Term Appt NonRenewal (Not Funding Related)
45	Sch Nursing	JOHN	CARLSON	School of Nursing	ASSOCIATE PROFESSOR	At-Will Notice (Not Funding Related)
46	Arts & Sciences	ERIN	CARLSTON	English & Comp Literature	PROFESSOR	Pursue Outside Employment/Further Education
47	Sch Medicine	ELIZABETH	CARMAC	Pediatrics	INSTRUCTOR	Other
48	Arts & Sciences	KATHLEEN	CARROLL	Mathematics	LECTURER	Term Appt NonRenewal (Not Funding Related)

The University of North Carolina at Chapel Hill

EXECUTIVE SUMMARY

Board of Trustees

July 14, 2014

49	Sch Journalism	BRIAN	CARROLL	Journalism/Mass Communication	LECTURER	Term Appt NonRenewal (Not Funding Related)
50	Sch Pub Hlth	CARRI	CASTEEL	Epidemiology	ASSOCIATE PROFESSOR	Pursue Outside Employment/Further Education
51	Sch Medicine	NELSON	CASTILLO	Surgery	ASSISTANT PROFESSOR	Term Appt NonRenewal (Not Funding Related)
52	Sch Social Work	JOANNE	CAYE	School of Social Work	ASSOCIATE PROFESSOR	Retirement
53	Sch Dentistry	HONG	CHEN	Endodontics	ASSISTANT PROFESSOR	Personal Reasons
54	Sch Dentistry	XI	CHEN	Dental Ecology Dept	ASSISTANT PROFESSOR	Pursue Outside Employment/Further Education
55	Arts & Sciences	MARY	CHOPAS	History	LECTURER	Term Appt NonRenewal (Not Funding Related)
56	Sch Medicine	SHAILESH	CHOUDHARY	Medicine	INSTRUCTOR	Personal Reasons
57	Arts & Sciences	MASSIMILIANO	CIRULLI	Romance Languages	LECTURER	Term Appt NonRenewal (Not Funding Related)
58	Sch Education	MARTA	CIVIL	School of Education	PROFESSOR	Pursue Outside Employment/Further Education
59	Arts & Sciences	FREDDIE	CLARK	Romance Languages	PROFESSOR	Emeritus Retirement
60	Sch Medicine	STEPHEN	CLARKE	Microbiology & Immunology	PROFESSOR	Personal Reasons
61	Sch Journalism	GEORGE	CLOUD	Journalism/Mass Communication	PROFESSOR	Emeritus Retirement
62	Arts & Sciences	KIMBERLY	COFFEY	Psychology	ASSISTANT PROFESSOR	Pursue Outside Employment/Further Education
63	Sch Medicine	NATHAN	COOK	Pediatrics	ASSISTANT PROFESSOR	Pursue Outside Employment/Further Education
64	Arts & Sciences	LOIS	COOKSEY	Psychology	LECTURER	Term Appt NonRenewal (Not Funding Related)
65	Sch Pub Hlth	ROSE	CORY	Environment Sciences & Engi	ASSISTANT PROFESSOR	Pursue Outside Employment/Further Education
66	Arts & Sciences	M	CRAMER	Sociology	ASSOCIATE PROFESSOR	Term Appt NonRenewal (Not Funding Related)
67	Arts & Sciences	SKYLER	CRANMER	Political Science	ASSISTANT PROFESSOR	Pursue Outside Employment/Further Education
68	Sch Medicine	SARAH	CROOP	Pediatrics	INSTRUCTOR	Other
69	Arts & Sciences	GRAHAM	CULBERTSON	English & Comp Literature	LECTURER	Term Appt NonRenewal (Not Funding Related)
70	Arts & Sciences	TIMOTHY	CUPERY	Sociology	LECTURER	Term Appt NonRenewal (Not Funding Related)
71	Arts & Sciences	JENNIFER	CURTIS	Music	LECTURER	Term Appt NonRenewal (Not Funding Related)
72	Arts & Sciences	ADRIANNE	DALTON	English & Comp Literature	LECTURER	Term Appt NonRenewal (Not Funding Related)
73	Sch Medicine	JENNIFER	DANIELS	Pediatrics	INSTRUCTOR	Other
74	Arts & Sciences	YOANN	DARD	Romance Languages	LECTURER	Term Appt NonRenewal (Not Funding Related)
75	Sch Medicine	NANCY	DARTNALL	Psychiatry	ASSOCIATE PROFESSOR	Term Appt NonRenewal (Not Funding Related)
76	Sch Medicine	CLARK	DAVIS	Cell Biology and Physiology	PROFESSOR	Emeritus Retirement
77	Sch Journalism	GARY	DAVIS	Journalism/Mass Communication	LECTURER	Term Appt NonRenewal (Not Funding Related)
78	Sch Law	CHARLES	DAYE	School of Law	PROFESSOR	Emeritus Retirement
79	Arts & Sciences	ADELA	DEANOVA	Germanic & Slavic Lang & Lit	LECTURER	Term Appt NonRenewal (Not Funding Related)
80	Sch Medicine	RANI	DELANEY	Pediatrics	INSTRUCTOR	Other
81	Sch Medicine	KRISTIN	DELEO	Psychiatry	INSTRUCTOR	Term Appt NonRenewal (Not Funding Related)
82	Sch Medicine	PAUL	DENTON	Medicine	INSTRUCTOR	Pursue Outside Employment/Further Education
83	Sch Medicine	NINAD	DESHMUKH	Surgery	INSTRUCTOR	Pursue Outside Employment/Further Education
84	Sch Dentistry	LUDA	DIATCHENKO	Endodontics	PROFESSOR	Pursue Outside Employment/Further Education
85	Sch Medicine	MEGAN	DIFURIO	Pathology & Lab Medicine	ASSOCIATE PROFESSOR	Pursue Outside Employment/Further Education
86	Arts & Sciences	GLADYS	DOBBS	Geography	LECTURER	Pursue Outside Employment/Further Education
87	Arts & Sciences	KRISTEN	DOLAN	History	LECTURER	Term Appt NonRenewal (Not Funding Related)
88	Sch Pub Hlth	ROSALIE	DOMINIK	Biostatistics	ASSOCIATE PROFESSOR	Personal Reasons
89	Sch Medicine	FRANS	DONKERS	Psychiatry	ASSISTANT PROFESSOR	Term Appt NonRenewal (Not Funding Related)

The University of North Carolina at Chapel Hill

EXECUTIVE SUMMARY

Board of Trustees

July 14, 2014

90	Arts & Sciences	JENNIFER	DONNALLY	History	LECTURER	Term Appt NonRenewal (Not Funding Related)
91	Sch Medicine	MARY	DOOLEY	Medicine	ASSOCIATE PROFESSOR	Retirement
92	Arts & Sciences	NORA	DOYLE	History	LECTURER	Term Appt NonRenewal (Not Funding Related)
93	Sch Govt	JAMES	DRENNAN	School of Government	PROFESSOR	Phased Retirement
94	Arts & Sciences	ALEXANDER	DUKALSKIS	Peace War & Defense	LECTURER	Term Appt NonRenewal (Not Funding Related)
95	Sch Journalism	MICHAEL	DUKES	Journalism/Mass Communication	LECTURER	Term Appt NonRenewal (Not Funding Related)
96	Sch Medicine	ELIZABETH	DUNCAN	Medicine	ASSISTANT PROFESSOR	Pursue Outside Employment/Further Education
97	Sch Medicine	ANDREA	DUNN	Allied Health Sciences	ASSISTANT PROFESSOR	Term Appt NonRenewal (Not Funding Related)
98	Sch Medicine	JONATHAN	DUTTON	Ophthalmology	PROFESSOR	Emeritus Retirement
99	Arts & Sciences	PATRICK	EBERLEIN	Mathematics	PROFESSOR	Emeritus Retirement
100	Arts & Sciences	DAVID	ECKERMAN	Psychology	LECTURER	Term Appt NonRenewal (Not Funding Related)
101	Sch Medicine	JENNIFER	EDWARDS	Psychiatry	INSTRUCTOR	Pursue Outside Employment/Further Education
102	Sch Social Work	CHRISTOPHER	EGAN	School of Social Work	ASSISTANT PROFESSOR	Pursue Outside Employment/Further Education
103	Sch Medicine	MURUVET	ELKAY	Neurology	ASSISTANT PROFESSOR	Term Appt NonRenewal (Not Funding Related)
104	Sch Medicine	HALEY	ENGEL	Pediatrics	INSTRUCTOR	Other
105	Sch Social Work	DANIA	ERMENTROUT	School of Social Work	INSTRUCTOR	Personal Reasons
106	Sch Medicine	SADYE	ERRICKSON	Allied Health Sciences	ASSISTANT PROFESSOR	Pursue Outside Employment/Further Education
107	Sch Medicine	DENISE	ESSERMAN	Medicine	ASSISTANT PROFESSOR	Personal Reasons
108	Arts & Sciences	BAROHNY	EUN	Asian Studies	LECTURER	Term Appt NonRenewal (Not Funding Related)
109	Arts & Sciences	ALASSANE	FALL	African, Afri-Amer & Diaspora	LECTURER	Term Appt NonRenewal (Not Funding Related)
110	Sch Social Work	WALTER	FARRELL	School of Social Work	PROFESSOR	Retirement
111	Arts & Sciences	TRACY	FELDMAN	Biology	LECTURER	Term Appt NonRenewal (Not Funding Related)
112	Arts & Sciences	PAUL	FERGUSON	Communication Studies	PROFESSOR	Phased Retirement
113	Sch Dentistry	RICHARD	FETTERMAN	Prosthodontics	PROFESSOR	Other
114	Arts & Sciences	JOSHUA	FETTERMAN	Psychology	LECTURER	Term Appt NonRenewal (Not Funding Related)
115	Arts & Sciences	JOSEPH	FICARROTTA	Philosophy	LECTURER	Term Appt NonRenewal (Not Funding Related)
116	Sch Pub Hlth	LAUREL	FILES	Health Policy and Management	ASSOCIATE PROFESSOR	Emeritus Retirement
117	Sch Journalism	LAURA	FIORILLI-CREW	Journalism/Mass Communication	LECTURER	Term Appt NonRenewal (Not Funding Related)
118	Arts & Sciences	W	FLETCHER	History	PROFESSOR	Phased Retirement
119	Sch Journalism	JEAN	FOLKERTS	Journalism/Mass Communication	PROFESSOR	Emeritus Retirement
120	Arts & Sciences	LAUREN	FORDYCE	Anthropology	LECTURER	Term Appt NonRenewal (Not Funding Related)
121	Sch Medicine	JAMES	FOSTER	Medicine	PROFESSOR	Term Appt NonRenewal (Not Funding Related)
122	Sch Medicine	DAWN	FRAUTSCHY	Pediatrics	INSTRUCTOR	Other
123	Arts & Sciences	PIERCE	FREELON	Music	LECTURER	Term Appt NonRenewal (Not Funding Related)
124	Arts & Sciences	PIERCE	FREELON	Music	LECTURER	Other
125	Arts & Sciences	PETER	FRIEDRICH	Dramatic Art	LECTURER	Term Appt NonRenewal (Not Funding Related)
126	Arts & Sciences	RITA	FUCHS LOKENS	Psychology	ASSOCIATE PROFESSOR	Pursue Outside Employment/Further Education
127	Arts & Sciences	SHOKO	FUKUYA	Asian Studies	LECTURER	Term Appt NonRenewal (Not Funding Related)
128	Sch Social Work	ROBIN	GAULT-WINTON	School of Social Work	INSTRUCTOR	Funding Contingency Clause (Contract/Grant)
129	Sch Medicine	KRISTEN	GEIB	Pediatrics	ASSOCIATE PROFESSOR	Other
130	Arts & Sciences	MICAH	GILMER	Public Policy	LECTURER	Term Appt NonRenewal (Not Funding Related)

The University of North Carolina at Chapel Hill

EXECUTIVE SUMMARY

Board of Trustees

July 14, 2014

131	Arts & Sciences	ANNELIES	GOGER	Geography	LECTURER	Term Appt NonRenewal (Not Funding Related)
132	Sch Medicine	JESSE	GOLDSTEIN	Surgery	ASSISTANT PROFESSOR	Pursue Outside Employment/Further Education
133	Sch Medicine	DIANA	GORDON	Pediatrics	INSTRUCTOR	Other
134	Sch Medicine	OLEG	GORKUN	Pathology & Lab Medicine	ASSISTANT PROFESSOR	Funding Contingency Clause (Contract/Grant)
135	Sch Medicine	BARRY	GOZ	Pharmacology	PROFESSOR	Retirement
136	Sch Medicine	DIANA	GRAHAM	Psychiatry	ASSOCIATE PROFESSOR	Pursue Outside Employment/Further Education
137	Sch Medicine	CHRISTOPHER	GRATIAN	Anesthesiology	INSTRUCTOR	Pursue Outside Employment/Further Education
138	Arts & Sciences	DAVID	GRAY	Peace War & Defense	LECTURER	Term Appt NonRenewal (Not Funding Related)
139	Arts & Sciences	MELANIE	GREEN	Psychology	ASSISTANT PROFESSOR	Term Appt NonRenewal (Not Funding Related)
140	Sch Medicine	JACLYN	GREEN	Radiology	INSTRUCTOR	Other
141	Sch Medicine	DAVID	GRIMES	Obstetrics and Gynecology	PROFESSOR	Retirement
142	Sch Social Work	SHENYANG	GUO	School of Social Work	PROFESSOR	Pursue Outside Employment/Further Education
143	Arts & Sciences	MINROSE	GWIN	English & Comp Literature	PROFESSOR	Phased Retirement
144	Sch Medicine	TAMMY	HAITHCOX	Pediatrics	INSTRUCTOR	Pursue Outside Employment/Further Education
145	Arts & Sciences	JACQUELYN	HALL	History	PROFESSOR	Emeritus Retirement
146	Sch Medicine	WILLIAM	HALL	Medicine	ASSISTANT PROFESSOR	Pursue Outside Employment/Further Education
147	Sch Dentistry	DAVID	HALL	Orthodontics	PROFESSOR	Personal Reasons
148	Arts & Sciences	ALISON	HALPERIN	Art	LECTURER	Term Appt NonRenewal (Not Funding Related)
149	Arts & Sciences	ALISON	HALPERIN	Art	LECTURER	Term Appt NonRenewal (Not Funding Related)
150	Sch Nursing	JILL	HAMILTON	School of Nursing	ASSOCIATE PROFESSOR	Pursue Outside Employment/Further Education
151	Sch Medicine	JENNIFER	HANNER	Psychiatry	ASSISTANT PROFESSOR	Pursue Outside Employment/Further Education
152	Sch Medicine	T	HARDEN	Pharmacology	PROFESSOR	Retirement
153	Sch Law	AARON	HARMON	School of Law	ASSISTANT PROFESSOR	Term Appt NonRenewal (Not Funding Related)
154	Sch Medicine	CAROL	HARRELL	Medicine	INSTRUCTOR	Personal Reasons
155	Arts & Sciences	SARA	HAVILAND	Sociology	LECTURER	Term Appt NonRenewal (Not Funding Related)
156	Sch Medicine	CHARLES	HAWORTH	Neurosurgery	ASSOCIATE PROFESSOR	Pursue Outside Employment/Further Education
157	Sch Medicine	BRITNI	HEBERT	Medicine	ASSISTANT PROFESSOR	Personal Reasons
158	Sch Medicine	ALBERT	HEDGEPEETH	Psychiatry	INSTRUCTOR	Term Appt NonRenewal (Not Funding Related)
159	Sch Medicine	FREDERICK	HENDERSON	Pediatrics	PROFESSOR	Emeritus Retirement
160	Sch Medicine	RICHARD	HENDERSON	Orthopaedics	PROFESSOR	Phased Retirement
161	Arts & Sciences	RANDALL	HENDRICK	Linguistics	PROFESSOR	Phased Retirement
162	Arts & Sciences	REGINALD	HILDEBRAND	African, Afri-Amer & Diaspora	ASSOCIATE PROFESSOR	Phased Retirement
163	Arts & Sciences	ASHER	HILDEBRAND	Public Policy	LECTURER	Term Appt NonRenewal (Not Funding Related)
164	Sch Nursing	DENISE	HIRST	School of Nursing	ASSISTANT PROFESSOR	Pursue Outside Employment/Further Education
165	Arts & Sciences	DOROTHY	HOLLAND	Anthropology	PROFESSOR	Emeritus Retirement
166	Sch Dentistry	ROBERT	HOLLOWELL	Dental Ecology Dept	ASSOCIATE PROFESSOR	Personal Reasons
167	Sch Medicine	ELIZABETH	HOLOMAN	Pediatrics	ASSOCIATE PROFESSOR	Pursue Outside Employment/Further Education
168	Sch Medicine	SELDEN	HOLT	Psychiatry	INSTRUCTOR	Transfer to UNCCH SPA Payroll
169	Sch Medicine	DOUGLAS	HOLTZMAN	Pediatrics	ASSISTANT PROFESSOR	Pursue Outside Employment/Further Education
170	Arts & Sciences	DANIEL	HOOKER	Exercise & Sport Science	LECTURER	Term Appt NonRenewal (Not Funding Related)
171	Sch Pub Hlth	JENNIFER	HORNEY	Epidemiology	ASSISTANT PROFESSOR	Pursue Outside Employment/Further Education

The University of North Carolina at Chapel Hill

EXECUTIVE SUMMARY

Board of Trustees

July 14, 2014

172	Arts & Sciences	J MYRICK	HOWARD	City & Regional Planning	LECTURER	Term Appt NonRenewal (Not Funding Related)
173	Arts & Sciences	ROBIN	HOWARTH	City & Regional Planning	LECTURER	Term Appt NonRenewal (Not Funding Related)
174	Sch Medicine	CAROL	HUBBARD	Pediatrics	INSTRUCTOR	Other
175	Sch Medicine	BETH	HUDSON	Pediatrics	INSTRUCTOR	Pursue Outside Employment/Further Education
176	Sch Medicine	MATEUSZ	HUPERT	Biomedical Engineering	INSTRUCTOR	Funding Contingency Clause (Other Funds)
177	Sch Medicine	DANA	IGLESIAS	Family Medicine	ASSISTANT PROFESSOR	Pursue Outside Employment/Further Education
178	Sch Social Work	TERESA	ILINITCH	School of Social Work	INSTRUCTOR	Deceased
179	Sch Medicine	DAVID	INGRAM	Pediatrics	PROFESSOR	Emeritus Retirement
180	Sch Pub Hlth	DEBRA	IRWIN	Epidemiology	ASSOCIATE PROFESSOR	Personal Reasons
181	Sch Medicine	LEANNA	ISSERLIN	Psychiatry	ASSISTANT PROFESSOR	Personal Reasons
182	Sch Pharmacy	JENA	IVEY BURKHAR	School of Pharmacy	ASSISTANT PROFESSOR	Pursue Outside Employment/Further Education
183	Arts & Sciences	ALEXANDER	JECH	Philosophy	LECTURER	Term Appt NonRenewal (Not Funding Related)
184	Arts & Sciences	GEORGE	JENNE	Communication Studies	LECTURER	Term Appt NonRenewal (Not Funding Related)
185	Sch Pharmacy	JIAN	JIN	School of Pharmacy	ASSOCIATE PROFESSOR	Pursue Outside Employment/Further Education
186	Sch Medicine	ANDREW	JOHNSON	Obstetrics and Gynecology	PROFESSOR	Term Appt NonRenewal (Not Funding Related)
187	Arts & Sciences	DAVID	JONES	Chemistry	LECTURER	Term Appt NonRenewal (Not Funding Related)
188	Arts & Sciences	SONDRA	JONES	Sociology	LECTURER	Term Appt NonRenewal (Not Funding Related)
189	Sch Govt	KENNETH	JOYNER	School of Government	LECTURER	Pursue Outside Employment/Further Education
190	Sch Pharmacy	RUDOLPH	JULIANO	School of Pharmacy	PROFESSOR	Phased Retirement
191	Sch Education	JULIE	JUSTICE	School of Education	ASSISTANT PROFESSOR	Personal Reasons
192	Sch Medicine	KAVITHA SRAVANTHI	KADUMPALLI	Medicine	ASSISTANT PROFESSOR	Term Appt NonRenewal (Not Funding Related)
193	Sch Pub Hlth	WILLIAM	KALSBECK	Biostatistics	PROFESSOR	Emeritus Retirement
194	Sch Journalism	SRIRAM	KALYANARAMA	Journalism/Mass Communication	ASSOCIATE PROFESSOR	Pursue Outside Employment/Further Education
195	Sch Business	JOHN	KASARDA	Kenan-Flagler Business School	PROFESSOR	Emeritus Retirement
196	Sch Medicine	WILLIAM	KAUFMANN	Pathology & Lab Medicine	PROFESSOR	Phased Retirement
197	Sch Medicine	KATE	KAWOLA	Allied Health Sciences	ASSISTANT PROFESSOR	Pursue Outside Employment/Further Education
198	Arts & Sciences	LARA	KEES	English & Comp Literature	LECTURER	Other
199	Arts & Sciences	THOMAS	KEMENY	Public Policy	ASSISTANT PROFESSOR	Term Appt NonRenewal (Not Funding Related)
200	Sch Pharmacy	DEBRA	KEMP	School of Pharmacy	ASSISTANT PROFESSOR	Term Appt NonRenewal (Not Funding Related)
201	Arts & Sciences	PATRICK	KENT	History	LECTURER	Term Appt NonRenewal (Not Funding Related)
202	Sch Medicine	CHRISTINE	KHANDELWAL	Family Medicine	ASSISTANT PROFESSOR	Pursue Outside Employment/Further Education
203	Sch Medicine	JOANNE	KILB	Pediatrics	INSTRUCTOR	Other
204	Arts & Sciences	GORHAM	KINDEM	Communication Studies	PROFESSOR	Emeritus Retirement
205	Sch Medicine	JONATHAN	KIRSCH	Medicine	ASSISTANT PROFESSOR	Other
206	Sch Pharmacy	KATHLEEN	KOECK	School of Pharmacy	ASSISTANT PROFESSOR	Pursue Outside Employment/Further Education
207	Sch Medicine	JONATHAN	KOMBRINCK	Anesthesiology	ASSISTANT PROFESSOR	Pursue Outside Employment/Further Education
208	Sch Business	DIMITRIOS	KOSTAMIS	Kenan-Flagler Business School	ASSISTANT PROFESSOR	Pursue Outside Employment/Further Education
209	Sch Medicine	KATERYNA	KOTLYAREVSK	Pediatrics	ASSISTANT PROFESSOR	Pursue Outside Employment/Further Education
210	Sch Medicine	KELLI	KRASE	Obstetrics and Gynecology	ASSISTANT PROFESSOR	Other
211	Arts & Sciences	PAUL	KROPP	Chemistry	LECTURER	Term Appt NonRenewal (Not Funding Related)
212	Sch Pub Hlth	PEI-FEN	KUAN	Biostatistics	ASSISTANT PROFESSOR	Personal Reasons

The University of North Carolina at Chapel Hill

EXECUTIVE SUMMARY

Board of Trustees

July 14, 2014

213	Sch Social Work	HYE-CHUNG	KUM	School of Social Work	ASSOCIATE PROFESSOR	Pursue Outside Employment/Further Education
214	Arts & Sciences	AARON	LACLUYZE	Physics-Astronomy	LECTURER	Term Appt NonRenewal (Not Funding Related)
215	Sch Dentistry	CYNTHIA	LAMBERT	Dental Ecology Dept	ASSISTANT PROFESSOR	Term Appt NonRenewal (Not Funding Related)
216	Sch Medicine	MARYELLEN	LANE	Pediatrics	ASSISTANT PROFESSOR	Other
217	Sch Medicine	TIMOTHY	LANE	Medicine	PROFESSOR	Emeritus Retirement
218	Sch Pub Hlth	ABU HENA M. MAHBUB UL	LATIF	Biostatistics	PROFESSOR	Term Appt NonRenewal (Not Funding Related)
219	Sch Govt	DAVID	LAWRENCE	School of Government	PROFESSOR	Other
220	Sch Medicine	SHERRY	LEBLANC	Pediatrics	INSTRUCTOR	Other
221	Sch Medicine	TAEWOO	LEE	Medicine	ASSOCIATE PROFESSOR	Term Appt NonRenewal (Not Funding Related)
222	Sch Medicine	MARY	LEE	Pediatrics	INSTRUCTOR	Other
223	Arts & Sciences	DONNA	LEFEBVRE	Political Science	SENIOR LECTURER	Retirement
224	Arts & Sciences	CHRISTIANE	LEMKE-DAMPF	Political Science	PROFESSOR	Term Appt NonRenewal (Not Funding Related)
225	Sch Pub Hlth	LUCIA	LEONE	Nutrition	ASSISTANT PROFESSOR	Pursue Outside Employment/Further Education
226	Sch Medicine	DANIEL	LERCHER	Pediatrics	ASSISTANT PROFESSOR	Pursue Outside Employment/Further Education
227	Sch Medicine	CARRIE	LEWIS	Pediatrics	INSTRUCTOR	Other
228	Sch Medicine	CARMEN	LEWIS	Medicine	ASSOCIATE PROFESSOR	Pursue Outside Employment/Further Education
229	Arts & Sciences	XIAOYING	LILES	Asian Studies	LECTURER	Term Appt NonRenewal (Not Funding Related)
230	Arts & Sciences	ERIKA	LINDEMANN	English & Comp Literature	PROFESSOR	Emeritus Retirement
231	Arts & Sciences	ROBERT	LIPSHITZ	Mathematics	ASSISTANT PROFESSOR	Other
232	Sch Medicine	KATHERINE	LIU	Obstetrics and Gynecology	ASSISTANT PROFESSOR	Pursue Outside Employment/Further Education
233	Arts & Sciences	KENNETH	LOKENS GARD	Religious Studies	LECTURER	Pursue Outside Employment/Further Education
234	Arts & Sciences	ROGER	LOTCHIN	History	PROFESSOR	Emeritus Retirement
235	Sch Medicine	ELIZABETH	LUNDEEN	Pediatrics	ASSISTANT PROFESSOR	Pursue Outside Employment/Further Education
236	Arts & Sciences	ROBERT	LUPTON	English & Comp Literature	LECTURER	Term Appt NonRenewal (Not Funding Related)
237	Sch Medicine	BRADLY	MAC NEIL	Psychiatry	ASSISTANT PROFESSOR	Pursue Outside Employment/Further Education
238	Sch Medicine	MISCHA	MACHIUS	Pharmacology	ASSOCIATE PROFESSOR	Other
239	Sch Medicine	JUDY	MANN	Psychiatry	INSTRUCTOR	Retirement
240	Sch Info & Lib	RICHARD	MARCIANO	School of Info & Libr Science	PROFESSOR	Personal Reasons
241	Sch Info & Lib	JOANNE	MARSHALL	School of Info & Libr Science	PROFESSOR	Retirement
242	Arts & Sciences	JAMES	MARTINDALE	Mathematics	LECTURER	Term Appt NonRenewal (Not Funding Related)
243	Sch Medicine	MATTHEW	MASSARO	Pediatrics	INSTRUCTOR	Other
244	Sch Medicine	MILDRED	MAXWELL	Psychiatry	ASSISTANT PROFESSOR	Personal Reasons
245	Sch Medicine	LENA	MAYES	Anesthesiology	ASSISTANT PROFESSOR	Pursue Outside Employment/Further Education
246	Sch Medicine	PEGGY	MCCRACKEN	Pediatrics	ASSISTANT PROFESSOR	Other
247	Arts & Sciences	JENNIFER	MCDANELD	English & Comp Literature	LECTURER	Term Appt NonRenewal (Not Funding Related)
248	Arts & Sciences	TRENT	MCDOWELL	Geological Sciences	LECTURER	Other
249	Arts & Sciences	STEPHANIE	MCGARRAH	Public Policy	LECTURER	Term Appt NonRenewal (Not Funding Related)
250	Sch Medicine	LEE	MCLEAN	Allied Health Sciences	PROFESSOR	Emeritus Retirement
251	Sch Pharmacy	HOWARD	MCLEOD	School of Pharmacy	PROFESSOR	Pursue Outside Employment/Further Education
252	Arts & Sciences	JESSE	MCNIEL	Psychology	LECTURER	Term Appt NonRenewal (Not Funding Related)
253	Arts & Sciences	JESSE	MCNIEL	Psychology	LECTURER	Term Appt NonRenewal (Not Funding Related)

The University of North Carolina at Chapel Hill

EXECUTIVE SUMMARY

Board of Trustees

July 14, 2014

254	Sch Medicine	SUSAN	MEIER	Pediatrics	ASSISTANT PROFESSOR	Other
255	Sch Medicine	PAUL	MERMIN	Psychiatry	PROFESSOR	Retirement
256	Sch Medicine	CHRISTINE	MICANCIN	Family Medicine	LECTURER	Term Appt NonRenewal (Not Funding Related)
257	Arts & Sciences	JONATHAN	MICANCIN	Biology	LECTURER	Term Appt NonRenewal (Not Funding Related)
258	Arts & Sciences	PAUL	MICELI	Psychology	LECTURER	Term Appt NonRenewal (Not Funding Related)
259	Sch Education	MELISSA	MILLER	School of Education	ASSISTANT PROFESSOR	Personal Reasons
260	Arts & Sciences	TIMOTHY	MILLER	Music	LECTURER	Term Appt NonRenewal (Not Funding Related)
261	Sch Nursing	MERLE	MISHEL	School of Nursing	PROFESSOR	Emeritus Retirement
262	Sch Journalism	SCOTT	MISNER	Journalism/Mass Communication	LECTURER	Term Appt NonRenewal (Not Funding Related)
263	Arts & Sciences	STEVEN	MITCHELL	Philosophy	LECTURER	Term Appt NonRenewal (Not Funding Related)
264	Arts & Sciences	YUKO	MIYAMOTO	Biology	ASSOCIATE PROFESSOR	Term Appt NonRenewal (Not Funding Related)
265	Sch Medicine	BILLIE	MOATS-STAA	Pediatrics	ASSOCIATE PROFESSOR	Phased Retirement
266	Arts & Sciences	COLLEEN	MOORE	History	LECTURER	Term Appt NonRenewal (Not Funding Related)
267	Sch Info & Lib	BARBARA	MORAN	School of Info & Libr Science	PROFESSOR	Phased Retirement
268	Arts & Sciences	DAVID	MOREAU	City & Regional Planning	LECTURER	Term Appt NonRenewal (Not Funding Related)
269	Arts & Sciences	WENDY	MORGAN	Communication Studies	LECTURER	Term Appt NonRenewal (Not Funding Related)
270	Arts & Sciences	ROYCE	MURRAY	Chemistry	PROFESSOR	Phased Retirement
271	Arts & Sciences	CHRISTOPHER	MUSINA	Art	LECTURER	Term Appt NonRenewal (Not Funding Related)
272	Arts & Sciences	JOHN	NADAS	Music	PROFESSOR	Phased Retirement
273	Arts & Sciences	PUNITA	NAGPAL	Biology	ASSISTANT PROFESSOR	Other
274	Sch Medicine	KIMBERLY	NAIL	Pediatrics	INSTRUCTOR	Other
275	Sch Medicine	KAZUHIRO	NAKAMURA	Pharmacology	ASSISTANT PROFESSOR	Pursue Outside Employment/Further Education
276	Sch Nursing	LAURA	NASIR	School of Nursing	ASSISTANT PROFESSOR	Term Appt NonRenewal (Not Funding Related)
277	Sch Nursing	VIRGINIA	NEELON	School of Nursing	ASSOCIATE PROFESSOR	Retirement
278	Arts & Sciences	ALISON	NEFF	Communication Studies	LECTURER	Term Appt NonRenewal (Not Funding Related)
279	Sch Medicine	DANIEL	NELSON	Social Medicine	PROFESSOR	Pursue Outside Employment/Further Education
280	Sch Dentistry	SAMUEL	NESBIT	Operative Dentistry	PROFESSOR	Retirement
281	Arts & Sciences	THOMAS	NEWPHER	Biology	LECTURER	Term Appt NonRenewal (Not Funding Related)
282	Sch Medicine	SUSAN	NICKEL	Obstetrics and Gynecology	ASSISTANT PROFESSOR	Retirement
283	Sch Medicine	LARA	NOVAK	Radiation Oncology	ASSISTANT PROFESSOR	Personal Reasons
284	Sch Medicine	THOMAS	O CONNELL	Medicine	ASSOCIATE PROFESSOR	Personal Reasons
285	Arts & Sciences	TED	OAKLEY	Physics-Astronomy	LECTURER	Term Appt NonRenewal (Not Funding Related)
286	Sch Nursing	MARILYN	OERMANN	School of Nursing	PROFESSOR	Pursue Outside Employment/Further Education
287	Sch Medicine	MATTHEW	OETTINGER	Psychiatry	ASSISTANT PROFESSOR	Other
288	Sch Law	SAULE	OMAROVA	School of Law	ASSOCIATE PROFESSOR	Pursue Outside Employment/Further Education
289	Sch Medicine	BERT	O'NEIL	Medicine	ASSOCIATE PROFESSOR	Pursue Outside Employment/Further Education
290	Sch Journalism	HELEN	ORR	Journalism/Mass Communication	LECTURER	Term Appt NonRenewal (Not Funding Related)
291	Sch Medicine	NURI	OZTURK	Biochemistry and Biophysics	ASSISTANT PROFESSOR	Other
292	Sch Pharmacy	MARY	PAINE	School of Pharmacy	ASSISTANT PROFESSOR	Pursue Outside Employment/Further Education
293	Arts & Sciences	NALIN	PARIKH	Physics-Astronomy	ASSOCIATE PROFESSOR	Term Appt NonRenewal (Not Funding Related)
294	Sch Medicine	W.	PATTERSON	Medicine	PROFESSOR	Pursue Outside Employment/Further Education

The University of North Carolina at Chapel Hill

EXECUTIVE SUMMARY

Board of Trustees

July 14, 2014

295	Sch Medicine	THOMAS	PAULSON	Pediatrics	ASSISTANT PROFESSOR	Pursue Outside Employment/Further Education
296	Sch Medicine	ADNAN	PERVEZ	Medicine	ASSISTANT PROFESSOR	Pursue Outside Employment/Further Education
297	Sch Journalism	SCOTT	PETERS	Journalism/Mass Communication	LECTURER	Term Appt NonRenewal (Not Funding Related)
298	Arts & Sciences	JEREMY	PETRANKA	Economics	LECTURER	Pursue Outside Employment/Further Education
299	Arts & Sciences	DEAN	PETTIT	Philosophy	LECTURER	Term Appt NonRenewal (Not Funding Related)
300	Arts & Sciences	DAVID	PIERCE	Mathematics	LECTURER	Term Appt NonRenewal (Not Funding Related)
301	Sch Medicine	RAMYA	PINNAMANENI	Medicine	ASSISTANT PROFESSOR	Personal Reasons
302	Sch Medicine	JESSICA	PITTMAN	Pediatrics	ASSISTANT PROFESSOR	Pursue Outside Employment/Further Education
303	Arts & Sciences	DAVID	PIZARRO	Philosophy	ASSOCIATE PROFESSOR	Term Appt NonRenewal (Not Funding Related)
304	Arts & Sciences	JOSEPH	PLANTE	Mathematics	PROFESSOR	Emeritus Retirement
305	Sch Medicine	SCOTT	PLEVY	Medicine	ASSOCIATE PROFESSOR	Pursue Outside Employment/Further Education
306	Arts & Sciences	DAVID	PODOFF	Public Policy	PROFESSOR	Term Appt NonRenewal (Not Funding Related)
307	Sch Medicine	MICHAEL	POHLERS	Genetics	ASSISTANT PROFESSOR	Pursue Outside Employment/Further Education
308	Arts & Sciences	ANA MARIA	POLO SANCHEZ	Romance Languages	LECTURER	Term Appt NonRenewal (Not Funding Related)
309	Sch Info & Lib	JEFFREY	POMERANTZ	School of Info & Libr Science	ASSOCIATE PROFESSOR	Personal Reasons
310	Sch Medicine	VICTORIA	POWELL	Pediatrics	INSTRUCTOR	Other
311	Sch Medicine	CAMMIE	PRESLER	Pediatrics	ASSISTANT PROFESSOR	Other
312	Arts & Sciences	J	PROVAN	Statistics and Operations Res	PROFESSOR	Emeritus Retirement
313	Sch Medicine	HONG RYULL	PYO	Radiation Oncology	ASSISTANT PROFESSOR	Pursue Outside Employment/Further Education
314	Sch Medicine	MARK	QUALE	Emergency Medicine	INSTRUCTOR	Pursue Outside Employment/Further Education
315	Sch Medicine	BONZO	REDDICK	Family Medicine	ASSISTANT PROFESSOR	Pursue Outside Employment/Further Education
316	Sch Medicine	CYNTHIA	REILLY	Pediatrics	INSTRUCTOR	Other
317	Sch Medicine	DAVID	REINER	Pharmacology	ASSISTANT PROFESSOR	Pursue Outside Employment/Further Education
318	Sch Medicine	DAVID	RHYNE	Psychiatry	INSTRUCTOR	Pursue Outside Employment/Further Education
319	Arts & Sciences	RACHEL	RICHARDSON	English & Comp Literature	LECTURER	Term Appt NonRenewal (Not Funding Related)
320	Arts & Sciences	NINA	RIGGS	English & Comp Literature	LECTURER	Term Appt NonRenewal (Not Funding Related)
321	Sch Social Work	AMELIA	ROBERTS-LEW	School of Social Work	ASSOCIATE PROFESSOR	Emeritus Retirement
322	Arts & Sciences	ROBERT	ROBINSON	Music	LECTURER	Term Appt NonRenewal (Not Funding Related)
323	Sch Medicine	GREGORY	ROGERS	Psychiatry	INSTRUCTOR	Term Appt NonRenewal (Not Funding Related)
324	Sch Medicine	CHARLES	ROGERS	Medicine	PROFESSOR	Emeritus Retirement
325	Arts & Sciences	BENJAMIN	ROGERSON	English & Comp Literature	LECTURER	Pursue Outside Employment/Further Education
326	Arts & Sciences	FATIMA	ROMAN CAMAC	Romance Languages	LECTURER	Term Appt NonRenewal (Not Funding Related)
327	Sch Medicine	ANGELA	ROSENBERG	Allied Health Sciences	ASSOCIATE PROFESSOR	Retirement
328	Arts & Sciences	WALTER	RUCKER	African, Afri-Amer & Diaspora	ASSOCIATE PROFESSOR	Pursue Outside Employment/Further Education
329	Sch Medicine	WILLIAM	RUTALA	Medicine	PROFESSOR	Pursue Outside Employment/Further Education
330	Sch Medicine	JANAYA	SADLER	Psychiatry	INSTRUCTOR	Other
331	Arts & Sciences	OMID	SAFI	Religious Studies	PROFESSOR	Pursue Outside Employment/Further Education
332	Arts & Sciences	EDWARD	SALMON	Biology	PROFESSOR	Retirement
333	Sch Medicine	JONATHAN	SAMUEL	Surgery	ASSISTANT PROFESSOR	Pursue Outside Employment/Further Education
334	Sch Medicine	STEFANIE	SARANTOPOUL	Medicine	ASSISTANT PROFESSOR	Pursue Outside Employment/Further Education
335	Arts & Sciences	JAMES	SASSER	Public Policy	PROFESSOR	Term Appt NonRenewal (Not Funding Related)

The University of North Carolina at Chapel Hill

EXECUTIVE SUMMARY

Board of Trustees

July 14, 2014

336	Arts & Sciences	MATTHEW	SAVAGE	Music	LECTURER	Pursue Outside Employment/Further Education
337	Sch Business	SEYED AMIN	SAYEDI ROSH K	Kenan-Flagler Business School	ASSISTANT PROFESSOR	Pursue Outside Employment/Further Education
338	Sch Medicine	JAMES	SCATLIFF	Radiology	PROFESSOR	Other
339	Arts & Sciences	KIMBERLY	SCHAEFER	Anthropology	LECTURER	Term Appt NonRenewal (Not Funding Related)
340	Sch Medicine	STEPHANIE	SCHOUTEN	Pediatrics	INSTRUCTOR	Other
341	Arts & Sciences	ELEANOR	SEATON	Psychology	ASSISTANT PROFESSOR	Pursue Outside Employment/Further Education
342	Arts & Sciences	JAMES	SEAY	English & Comp Literature	PROFESSOR	Emeritus Retirement
343	Sch Medicine	RICHARD	SEGAL	Allied Health Sciences	PROFESSOR	Pursue Outside Employment/Further Education
344	Sch Business	MERIH	SEVILIR	Kenan-Flagler Business School	ASSOCIATE PROFESSOR	Term Appt NonRenewal (Not Funding Related)
345	Arts & Sciences	THOMAS	SHAY	Environment and Ecology	LECTURER	Term Appt NonRenewal (Not Funding Related)
346	VC Research	ELIZABETH	SHAY	UNC Inst for the Environment	ASSISTANT PROFESSOR	Other
347	Sch Dentistry	ROSE	SHEATS	Orthodontics	ASSOCIATE PROFESSOR	Retirement
348	Arts & Sciences	PETER	SHERWOOD	Germanic & Slavic Lang & Lit	PROFESSOR	Emeritus Retirement
349	Sch Pharmacy	QIAN	SHI	School of Pharmacy	ASSOCIATE PROFESSOR	Pursue Outside Employment/Further Education
350	Arts & Sciences	KATHERINE	SHIELDS	Asian Studies	LECTURER	Term Appt NonRenewal (Not Funding Related)
351	Sch Medicine	CAROL	SHORES	Otolaryngology (Ent)	PROFESSOR	Retirement
352	Arts & Sciences	KATHERINE	SHRIEVES	Computer Science	LECTURER	Term Appt NonRenewal (Not Funding Related)
353	Sch Medicine	REBECCA	SIEGEL	Psychiatry	ASSISTANT PROFESSOR	Pursue Outside Employment/Further Education
354	Arts & Sciences	KEITH	SIMMONS	Philosophy	PROFESSOR	Pursue Outside Employment/Further Education
355	Sch Medicine	DENNIS	SIMPSON	Pathology & Lab Medicine	ASSISTANT PROFESSOR	Funding Contingency Clause (Contract/Grant)
356	Sch Medicine	IRENE	SKOWRONEK	Family Medicine	ASSISTANT PROFESSOR	Personal Reasons
357	Sch Pub Hlth	MEGHAN	SLINING	Nutrition	ASSISTANT PROFESSOR	Pursue Outside Employment/Further Education
358	Sch Medicine	LINDZIE	SMARCH	Pediatrics	INSTRUCTOR	Other
359	Arts & Sciences	BROOKS	SMITH	Music	PROFESSOR	Phased Retirement
360	Sch Medicine	DAVID	SMITH	Pediatrics	ASSISTANT PROFESSOR	Pursue Outside Employment/Further Education
361	Sch Medicine	SARA	SMITH	Psychiatry	INSTRUCTOR	Pursue Outside Employment/Further Education
362	Arts & Sciences	SANDY	SMITH-NONINI	Anthropology	ASSISTANT PROFESSOR	Other
363	Sch Dentistry	DOUGLAS	SOLOW	Operative Dentistry	ASSOCIATE PROFESSOR	Pursue Outside Employment/Further Education
364	Arts & Sciences	MICHAEL	SONNICHSEN	Art	LECTURER	Pursue Outside Employment/Further Education
365	Sch Medicine	FELICIA	SOZA	Pediatrics	INSTRUCTOR	Other
366	Sch Medicine	RENAE	STAFFORD	Surgery	ASSISTANT PROFESSOR	Term Appt NonRenewal (Not Funding Related)
367	Arts & Sciences	DAMIAN	STAMER	Art	LECTURER	Term Appt NonRenewal (Not Funding Related)
368	Sch Medicine	DEBORAH	STANFORD	Obstetrics and Gynecology	ASSISTANT PROFESSOR	Retirement
369	Sch Medicine	WILLIAM	STANSFIELD	Surgery	ASSISTANT PROFESSOR	Term Appt NonRenewal (Not Funding Related)
370	Sch Medicine	LUCIA	STEFANINI	Biochemistry and Biophysics	ASSISTANT PROFESSOR	Pursue Outside Employment/Further Education
371	Arts & Sciences	BLAIRE	STEINWAND	Biology	LECTURER	Term Appt NonRenewal (Not Funding Related)
372	Arts & Sciences	JOHN	STEWART	Economics	PROFESSOR	Emeritus Retirement
373	Arts & Sciences	JACQUELINE	STONE	Mathematics	LECTURER	Term Appt NonRenewal (Not Funding Related)
374	Sch Medicine	ROGER	STONE	Pathology & Lab Medicine	ASSISTANT PROFESSOR	Pursue Outside Employment/Further Education
375	Arts & Sciences	DAVID	STRAIGHT	Biology	ASSISTANT PROFESSOR	Retirement
376	Sch Medicine	SARAH	STREET	Cell Biology and Physiology	ASSISTANT PROFESSOR	Pursue Outside Employment/Further Education

The University of North Carolina at Chapel Hill

EXECUTIVE SUMMARY

Board of Trustees

July 14, 2014

377	Sch Medicine	MONROE	STUTTS	Medicine	PROFESSOR	Term Appt NonRenewal (Not Funding Related)
378	Arts & Sciences	BO	SUN	Asian Studies	LECTURER	Term Appt NonRenewal (Not Funding Related)
379	Sch Medicine	ALISON	SWEENEY	Medicine	ASSISTANT PROFESSOR	Term Appt NonRenewal (Not Funding Related)
380	Sch Pub Hlth	ANDREW	SWICK	Nutrition	ASSOCIATE PROFESSOR	Pursue Outside Employment/Further Education
381	Sch Social Work	DANIELLE	SWICK	School of Social Work	ASSISTANT PROFESSOR	Personal Reasons
382	Sch Medicine	XIAOLI	TANG	Radiation Oncology	ASSISTANT PROFESSOR	Pursue Outside Employment/Further Education
383	Arts & Sciences	MICHAEL	TAYLOR	American Studies	LECTURER	Term Appt NonRenewal (Not Funding Related)
384	Arts & Sciences	CHRISTOPHER	TEUTON	American Studies	ASSOCIATE PROFESSOR	Pursue Outside Employment/Further Education
385	Sch Medicine	CHRISTOPHER	THOMAS	Medicine	ASSISTANT PROFESSOR	Funding Contingency Clause (Contract/Grant)
386	Sch Medicine	PATRICIA	THOMPSON	Surgery	INSTRUCTOR	Other
387	Arts & Sciences	CHARLES	THOMPSON	Public Policy	PROFESSOR	Retirement
388	Sch Medicine	RICHARD	TIDWELL	Pathology & Lab Medicine	PROFESSOR	Phased Retirement
389	Sch Education	LINDA	TILLMAN	School of Education	PROFESSOR	Emeritus Retirement
390	Sch Dentistry	KAREN	TIWANA	Operative Dentistry	ASSISTANT PROFESSOR	Term Appt NonRenewal (Not Funding Related)
391	Arts & Sciences	TONYA	TRAIN	Biology	LECTURER	Term Appt NonRenewal (Not Funding Related)
392	Arts & Sciences	TONYA	TRAIN	Biology	ASSISTANT PROFESSOR	Term Appt NonRenewal (Not Funding Related)
393	Sch Dentistry	CARROLL-ANN	TROTMAN	Orthodontics	PROFESSOR	Pursue Outside Employment/Further Education
394	Arts & Sciences	CRAIG	TURNER	Dramatic Art	PROFESSOR	Phased Retirement
395	Sch Law	WILLIAM	TURNIER	School of Law	PROFESSOR	Emeritus Retirement
396	Arts & Sciences	PETER	UHLENBERG	Sociology	PROFESSOR	Retirement
397	Arts & Sciences	RACHANA	UMASHANKAR	Asian Studies	LECTURER	Personal Reasons
398	Sch Medicine	MAHESH	VARIA	Radiation Oncology	PROFESSOR	Phased Retirement
399	Arts & Sciences	LARA	WAGNER	Geological Sciences	ASSOCIATE PROFESSOR	Pursue Outside Employment/Further Education
400	Sch Pharmacy	CHRISTINE	WALKO	School of Pharmacy	ASSISTANT PROFESSOR	Pursue Outside Employment/Further Education
401	Sch Medicine	JUDITH	WARD	Psychiatry	ASSOCIATE PROFESSOR	Retirement
402	Sch Medicine	LEA	WATSON	Psychiatry	ASSOCIATE PROFESSOR	Other
403	Sch Medicine	LYNN	WEGNER	Pediatrics	PROFESSOR	Emeritus Retirement
404	Arts & Sciences	GARY	WEIN	Environment and Ecology	ASSISTANT PROFESSOR	Term Appt NonRenewal (Not Funding Related)
405	Sch Medicine	JANICE	WERESZCZAK	Pediatrics	INSTRUCTOR	Other
406	Arts & Sciences	EVERETT	WHEELER	Peace War & Defense	LECTURER	Term Appt NonRenewal (Not Funding Related)
407	Sch Medicine	ANNE	WHEELER	Psychiatry	ASSOCIATE PROFESSOR	Pursue Outside Employment/Further Education
408	Sch Medicine	ANGELIQUE	WHITEHURST	Pharmacology	ASSISTANT PROFESSOR	Pursue Outside Employment/Further Education
409	Sch Medicine	BARRY	WHITSEL	Cell Biology and Physiology	PROFESSOR	Funding Contingency Clause (Contract/Grant)
410	Sch Medicine	JAMES	WHITT	Psychiatry	PROFESSOR	Retirement
411	Arts & Sciences	R MARK	WIGHTMAN	Chemistry	PROFESSOR	Phased Retirement
412	Arts & Sciences	JAMES	WILDE	Economics	PROFESSOR	Term Appt NonRenewal (Not Funding Related)
413	Sch Dentistry	ALDRIDGE	WILDER	Operative Dentistry	PROFESSOR	Phased Retirement
414	Arts & Sciences	HEATHER	WILLIAMS	History	PROFESSOR	Pursue Outside Employment/Further Education
415	Sch Medicine	KATHRYN	WILSON	Allied Health Sciences	ASSISTANT PROFESSOR	Retirement
416	Sch Medicine	AMBERLY	WINDISCH	Urology	ASSISTANT PROFESSOR	Term Appt NonRenewal (Not Funding Related)
417	Arts & Sciences	JOEL	WINKELMAN	Political Science	LECTURER	Term Appt NonRenewal (Not Funding Related)

The University of North Carolina at Chapel Hill

EXECUTIVE SUMMARY

Board of Trustees

July 14, 2014

418	Sch Pharmacy	KRISTINA	WOLF	School of Pharmacy	ASSISTANT PROFESSOR	Funding Contingency Clause (Contract/Grant)
419	Sch Medicine	LYNNA	WOODS	Obstetrics and Gynecology	INSTRUCTOR	Personal Reasons
420	Arts & Sciences	CECIL	WOOTEN	Classics	PROFESSOR	Term Appt NonRenewal (Not Funding Related)
421	Sch Medicine	JOHN	WRIGHT	Ophthalmology	ASSOCIATE PROFESSOR	Retirement
422	Sch Pub Hlth	FRED	WRIGHT	Biostatistics	PROFESSOR	Pursue Outside Employment/Further Education
423	Sch Pub Hlth	MARCEL	YOTEBIENG	Epidemiology	ASSISTANT PROFESSOR	Pursue Outside Employment/Further Education
424	Sch Pub Hlth	WILLIAM	ZELMAN	Health Policy and Management	PROFESSOR	Emeritus Retirement
425	Sch Pub Hlth	SHUCHA	ZHANG	Nutrition	ASSISTANT PROFESSOR	Pursue Outside Employment/Further Education
426	Arts & Sciences	FEHIME	ZULFIKAR	Asian Studies	LECTURER	Pursue Outside Employment/Further Education



THE UNIVERSITY
of NORTH CAROLINA
at CHAPEL HILL

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Chancellor

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Mail Ballot

Board of Trustees

October 15, 2014

Chancellor Carol Folt submits for your review and approval the EPA Non-Faculty and EPA Faculty Personnel Actions as recommended for October 2014. This mail ballot will be approved as part of the Consent Agenda at the Full Board meeting on Thursday, November 20, 2014.

The undersigned votes as follows with recommendation to these proposed actions as presented by the Chancellor.

	Approve	Disapprove
EPA Non-Faculty Compensation Requests (Attachment A)	<input type="checkbox"/>	<input type="checkbox"/>
Faculty Salary Increases and Tenure Promotions (Attachment B)	<input type="checkbox"/>	<input type="checkbox"/>

Signature_____

Printed Name_____

Date_____

Please fax to TJ Scott at (919) 962-1647 or email at tj_scott@unc.edu

This mail ballot was approved by the Board of Trustees with a majority vote on October 19, 2014. Lowry Caudill, Alston Gardner, Jeff Brown, Haywood Cochrane, Don Curtis, Chuck Duckett, Kelly Hopkins, Steve Lerner, and Andrew Powell approved this action.



Development Report FY 2015

Cash Received:	11/14/14	11/14/13	Variance	% Change
Gifts	\$36,527,026	\$34,603,564	\$1,923,462	6%
Grants	\$22,969,514	\$28,441,022	(\$5,471,508)	-19%
Total Cash Received:	\$59,496,540	\$63,044,586	(\$3,548,046)	-6%
New Cash and Commitments:				
	\$60,486,057	\$67,529,144	(\$7,043,087)	-10%
In the Pipeline:				
	Prospect	Intent	Proposal	
	\$187,691,529	\$251,902,726	\$235,775,398	



Development Report FY 2015

Post-Wainstein, we've:

- Exceeded our nightly phonathon goals;
- Closed several leadership level gifts;
- Experienced no impact on the receptiveness of corporations and foundations doing business with us.

ATTACHMENT C

DESIGNER SELECTION – PHILLIPS HALL RENOVATION

This project will renovate approximately 3,200 SF of Phillips Hall for the Department of Biomedical Engineering laboratory based courses.

The project budget is \$1,699,000 and will be funded by University funds.

This project was advertised on September 25, 2014. Seven (7) proposals were received. Four (4) firms were interviewed on October 28 and 29, 2014. Members of the Board of Trustees did not participate in the interviews.

The committee recommended the selection of the three firms in the following priority order:

- | | |
|------------------------|--------------|
| 1. Wagner Architecture | New Hill, NC |
| 2. HH Architecture | Raleigh, NC |
| 3. BHDP Architecture | Raleigh, NC |

The firms were selected for their knowledge of the program, past performance on similar projects and familiarity with the University Design Guidelines.

RECOMMENDED ACTION:

A motion to approve the three firms in the following priority order:

- | | |
|------------------------|--------------|
| 1. Wagner Architecture | New Hill, NC |
| 2. HH Architecture | Raleigh, NC |
| 3. BHDP Architecture | Raleigh, NC |

ATTACHMENT D

DESIGNER SELECTION – MURRAY HALL LABORATORY UP-FIT

This project will up-fit approximately 10,500 SF of an existing shell space at Murray Hall 1101 for a “Creator-Space”, a collection of scientific laboratories for the Departments of Mathematics and Physics.

The project budget is \$3.4M and will be funded by University funds.

This project was advertised on October 13, 2014. Five (5) proposals were received. Three (3) firms were interviewed on November 12, 2014. Members of the Board of Trustees did not participate in the interviews.

The committee recommended the selection of the three firms in the following priority order:

- | | |
|-----------------------|-------------|
| 1. BHDP | Raleigh, NC |
| 2. Flad Architects | Raleigh, NC |
| 3. LaBelle Associates | Cary, NC |

The firms were selected for their past performance on similar projects, strength of their consultant team and experience with campus projects.

RECOMMENDED ACTION:

A motion to approve the three firms in the following priority order:

- | | |
|-----------------------|-------------|
| 1. BHDP | Raleigh, NC |
| 2. Flad Architects | Raleigh, NC |
| 3. LaBelle Associates | Cary, NC |

ATTACHMENT E

CONSTRUCTION MANAGER AT RISK SELECTION – POWER GENERATION AND CHILLED WATER PLANTS AT MANNING STEAM PLANT

This project will construct a new steam turbine driven chiller plant of a nominal 10,000 ton capacity and a new 18 megawatt electrical generation plant at the Manning Steam Plant.

The project budget is \$92.5M and will be funded by Energy Services receipts.

This project was advertised on September 26, 2014. Six (6) proposals were received. Four (4) firms were interviewed on November 4, 2014. Members of the Board of Trustees did not participate in the interviews.

The committee recommended the selection of three firms in the following priority order:

- | | |
|---------------------------------|-----------------|
| 1. Brasfield & Gorrie/METCON | Raleigh, NC |
| 2. DPR/Rogers | Morrisville, NC |
| 3. Clancy/SKANSKA/Holt Brothers | Raleigh, NC |

The firms were selected for their past performance on similar projects, knowledge of campus energy systems and strength of their consultant team.

RECOMMENDED ACTION:

A motion to approve the three firms in the following priority order:

- | | |
|---------------------------------|-----------------|
| 1. Brasfield & Gorrie/METCON | Raleigh, NC |
| 2. DPR/Rogers | Morrisville, NC |
| 3. Clancy/SKANSKA/Holt Brothers | Raleigh, NC |

ATTACHMENT F

DESIGN APPROVAL – STUDENT HOUSING PHASE III

This project will replace the existing Odum Village housing units with a new 275-bed suite-style residence hall. The building site was approved by the Trustees at the January 2014 meeting.

The project budget is \$32.4M and will be funded by Student Life and Residential Education.

The Board of Trustees reviewed the project at its September 2014 meeting.

The design has been reviewed by the Design Review Committee.

The Chancellor's Buildings and Grounds Committee approved the project at its November 2014 meeting.

RECOMMENDED ACTION:

A motion to approve the design.

ATTACHMENT G

ANNUAL ENDOWMENT FUND REPORT

Board of Governors' regulations require that the institution's Board of Trustees submit to the Board of Governors an annual report on the endowment fund. The annual report for the fiscal year ending June 30, 2014 is attached. The Endowment Board approved this report at its meeting on October 17, 2014.

RECOMMENDED ACTION

A motion to approve the June 30, 2014 annual report of the endowment fund and to transmit the report to the Board of Governors.

Endowment Fund
The University of North Carolina at Chapel Hill

Annual Report
Year Ended June 30, 2014

We are pleased to report that for fiscal year 2014, The University of North Carolina at Chapel Hill Endowment Fund (Endowment Fund) recorded a significant increase in its market value. During the fiscal year ended June 30, 2014, the market value of the Endowment Fund increased by \$160.0 million to end the year at \$1.27 billion. This increase in market value resulted from the combination of positive investment performance and the continuing generosity of donors to the Endowment Fund. The components of the \$160.0 million increase in fiscal 2014 are 1) net investment return of \$179.1 million, plus 2) net gifts and bequests totaling \$41.8 million, less 3) \$60.9 million distributed for program spending.

Over 99% of the Endowment Fund's assets are invested in The University of North Carolina at Chapel Hill Foundation Investment Fund, Inc. (Chapel Hill Investment Fund), which in turn invests all of its assets in the UNC Investment Fund, LLC (UNC Investment Fund). The Endowment Fund also owns several commercial properties in Chapel Hill, North Carolina, that collectively represent less than 1% of the Endowment Fund's total value. For the fiscal year ended June 30, 2014, the UNC Investment Fund generated an investment return of 15.7%. This return compares to the Strategic Investment Policy Portfolio ("SIPP") benchmark return of 15.0% and the more traditional 70/30 index (70% MSCI All Country World Index / 30% Barclays Aggregate Bond Index) which returned 17.2%. The UNC Investment Fund's 9.8% annualized three-year return underperformed the 10.0% return on the SIPP benchmark but exceeded the 8.5% return on the 70/30 index. For the five- and ten-year periods ended June 30, 2014, the UNC Investment Fund outperformed its long-term return target of CPI plus 5.5% with investment returns of 10.3% and 9.2%, respectively. This CPI plus 5.5% long-term return target reflects the goal of preserving the purchasing power of UNC Investment Fund after inflation and spending. A detailed description of the asset allocation of the Endowment Fund is provided on the following page along with aggregated asset class and benchmark returns.

The \$60.9 million distributed from the Endowment Fund for spending in fiscal year 2014 represented 5.5% of the Endowment Fund's beginning market value. This amount was computed in accordance with the distribution policy of the Chapel Hill Investment Fund. These funds were distributed to the University for spending on programs supported by the corresponding endowed accounts. The Board of the Chapel Hill Investment Fund authorized a 1.7% increase in the annual distribution rate for fiscal year 2015. This increase is consistent with the spending policy target threshold of increasing the rate by CPI each year.

Mr. Lowry Caudill served as the Chairman of the Endowment Fund Board of Directors during the year. Other members of the Board were Max Chapman, Chancellor Carol Folt, John Ellison, Peter Grauer, Steve Lerner, Nelson Schwab, Sallie Shuping-Russell, and John Townsend.

The Board of Trustees of The University of North Carolina at Chapel Hill has approved all transfers from the Endowment Fund for expenditures as recommended by the Chancellor. All expenditures have been made in accordance with the terms of the applicable gift, devise or bequest.

Respectfully submitted,

The Board of Trustees of the Endowment Fund
of The University of North Carolina at Chapel Hill

ENDOWMENT FUND
THE UNIVERSITY OF NORTH CAROLINA AT CHAPEL HILL

Asset Allocation as of June 30, 2014

Long Biased Equity	\$377,296,653	29.8%
Long/Short Equity	241,824,365	19.1%
Diversifying Strategies	121,545,231	9.6%
Fixed Income	101,287,692	8.0%
Private Equity	222,832,923	17.6%
Real Estate	86,094,538	6.8%
Energy & Natural Resources	82,296,250	6.5%
Cash & Other	32,918,500	2.6%
Total	\$1,266,096,152	100.0%

Asset Class and Benchmark Returns
for Fiscal Year Ended June 30, 2014

Public Equity Strategies	18.6%
<i>Blended Equity Benchmark*</i>	<i>18.7%</i>
Non-Equity Strategies	10.4%
<i>Blended Non-Equity Benchmark*</i>	<i>7.3%</i>
Private Partnerships	17.4%
<i>Blended Composite Benchmark*</i>	<i>15.3%</i>
Cash & Other	0.0%
<i>90-Day T-Bill</i>	<i>0.1%</i>
 <i>Total UNC Investment Fund</i>	 <i>15.7%</i>
<i>Strategic Investment Policy Portfolio</i>	<i>15.0%</i>

*Blended benchmarks reflect weighted SIPP benchmarks for the underlying asset classes.

WITHDRAWAL FROM QUASI-ENDOWMENT

In 2005, the Department of Environmental Sciences and Engineering (ESE) created a quasi-endowment fund using expendable gifts and over time reinvested the distribution to build up the fund. ESE wishes to withdraw \$300,000 from principal for use in connection with support for the Water Institute. Examples of support needs are personnel related expenses and short-term strategic growth. The current market value of the fund as of September 30, 2014 is \$1,620,626.68.

The Board of Trustees of the Endowment Fund approved this withdrawal by mail ballot on November 4, 2014. Regulations adopted by the Board of Governors require that the Trustees approve any transfer of Endowment principal or income to the useful possession of the institution.

RECOMMENDED ACTION:

A motion to approve the withdrawal described above.

ATTACHMENT I

PROPERTY ACQUISITION BY LEASE –OFFICE SPACE – CAROLINA POPULATION CENTER

This request is to acquire approximately 55,000 SF of office space from Cousins Properties, Inc. /Northwood Ravin, Inc. (Lessor) to be located at 123 West Franklin Street in Chapel Hill for use by the Carolina Population Center (CPC). This space will be within the new University Square mixed use development located on Chapel Hill Foundation Real Estate Holdings, Inc. owned property that will be ground leased to the Lessor. The CPC was previously in leased space at University Square and, as a result of the proposed redevelopment of the University Square property, has been temporarily relocated to leased space in five separate locations. This lease will allow all the CPC groups to be housed together within contiguous space that is in close proximity to campus. The lease term will be ten years at an annual cost of \$1,815,000. This equates to an annualized cost of \$33.00 per square feet inclusive of all utilities, taxes, insurance and common area maintenance. Phone and internet service will be paid separately by tenant.

RECOMMENDED ACTION:

A motion to recommend approval to acquire office space by lease as described above.

PROPERTY ACQUISITION BY LEASE –OFFICE SPACE – BIOSTATISTICS AND EPIDEMIOLOGY

This request is to acquire approximately 40,000 SF of office space from Cousins Properties, Inc. /Northwood Ravin, Inc. (Lessor) to be located at 123 West Franklin Street in Chapel Hill for use by the departments of Biostatistics and Epidemiology within the Gillings School of Global Public Health. This space will be within the new University Square mixed use development located on Chapel Hill Foundation Real Estate Holdings, Inc. owned property that will be ground leased to the Lessor. These two departments are currently located in leased space in two separate locations. This lease will allow them to co-locate and collaborate with each other as well as other University departments given the leased space's proximity to campus. The lease term will be ten years at an annual cost of \$1,320,000. This equates to an annualized cost of \$33.00 per square feet inclusive of all utilities, taxes, insurance and common area maintenance. Phone and internet service will be paid separately by tenant.

RECOMMENDED ACTION:

A motion to recommend approval to acquire office space by lease as described above.

ATTACHMENT K

FOR INFORMATION – IMPROVE PEDESTRIAN, BICYCLE AND VEHICULAR ACCESS FROM FRANKLIN STREET TO CAMERON AVENUE (PORTHOLE ALLEY ENTRANCE)

The goal of this project is to develop a master plan to improve the pedestrian, bicycle and vehicular access from Franklin Street to Cameron Avenue. The initial phase of this project will include improvements to make Porthole Alley into a safe and attractive pedestrian and bicycle oriented entrance into campus. Construction of the initial phase is anticipated to start in 2015.

The project budget is \$2.1M and will be funded by University funds.

The Chancellor's Buildings and Grounds Committee reviewed the project at its November 2014 meeting.

The design is presented to the Board of Trustees for information.

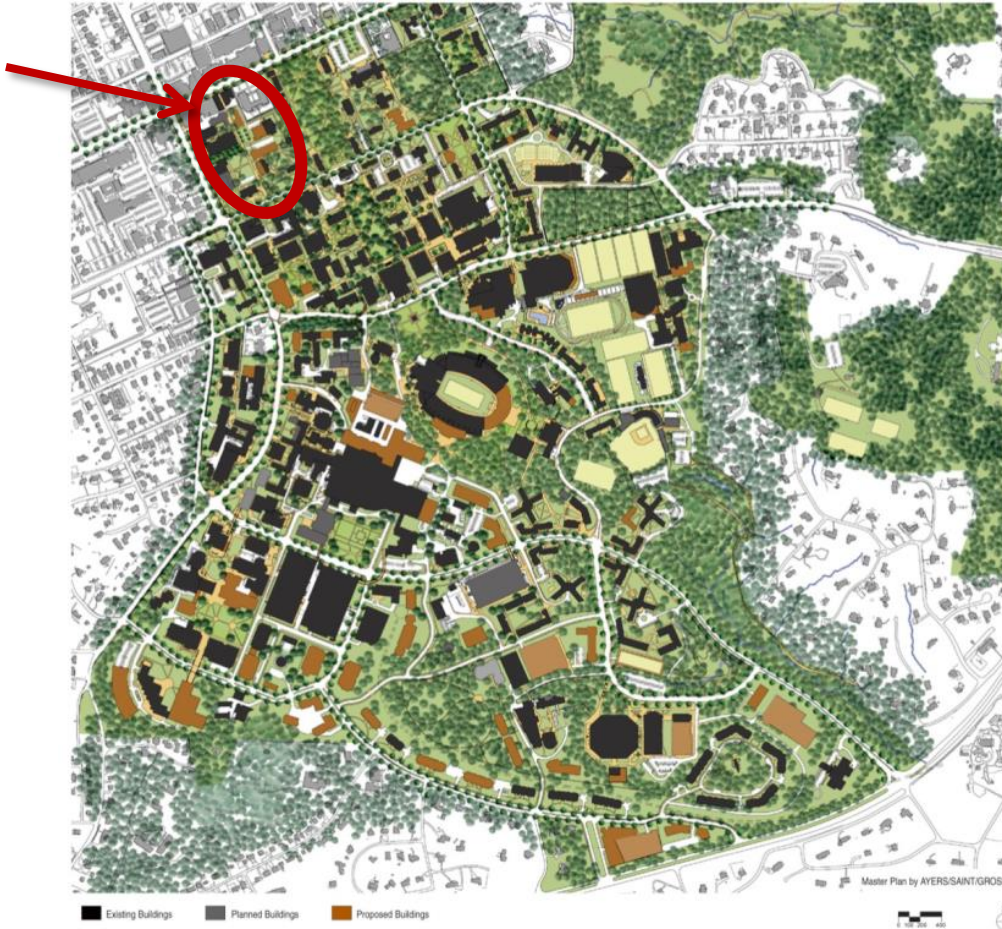
No formal action is requested at this time.

**IMPROVE PEDESTRIAN, BICYCLE AND VEHICULAR
ACCESS FROM FRANKLIN STREET TO CAMERON
AVENUE (PORTHOLE ALLEY ENTRANCE)**

PRELIMINARY DESIGN

IMPROVE PEDESTRIAN, BICYCLE AND VEHICULAR ACCESS FROM FRANKLIN STREET TO CAMERON AVENUE (PORTHOLE ALLEY ENTRANCE)

PROJECT SITE



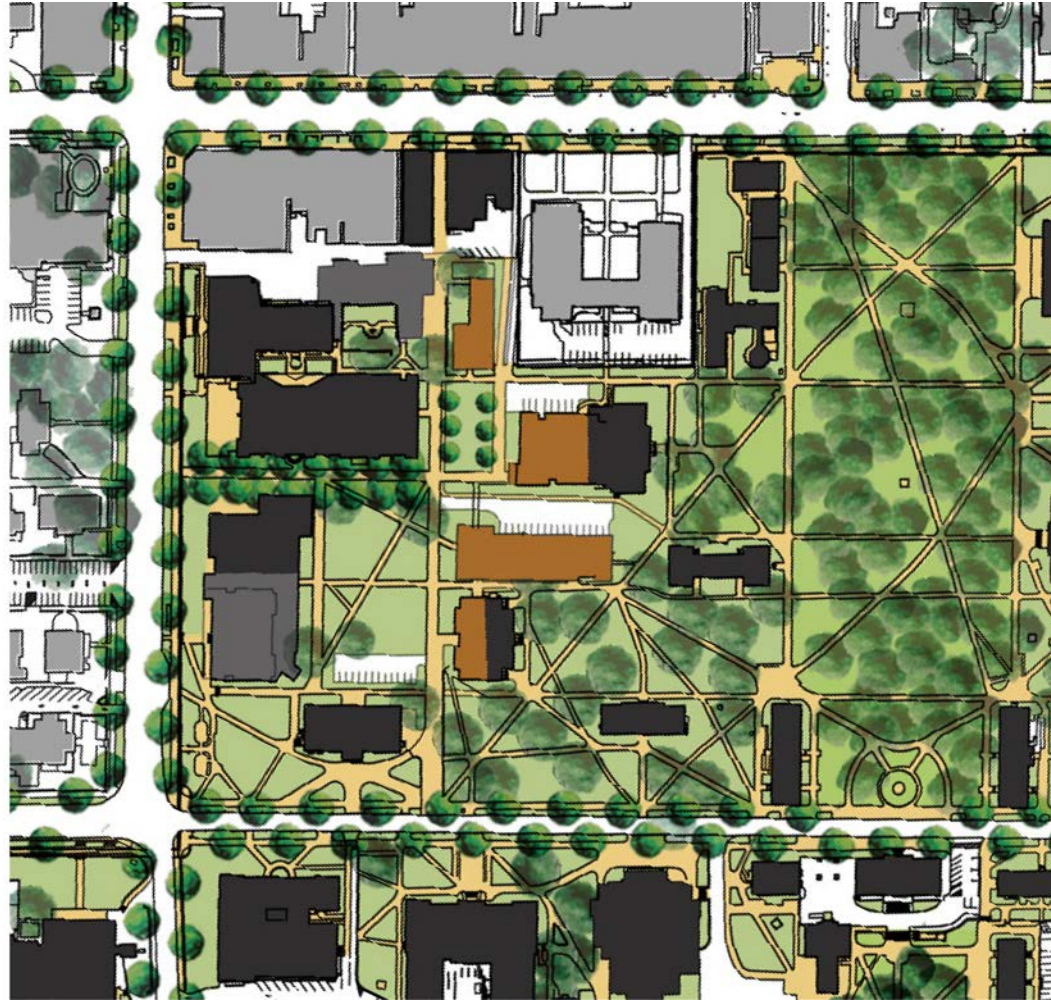
THE UNIVERSITY
of NORTH CAROLINA
at CHAPEL HILL

CAMPUS MASTER PLAN

BOARD OF TRUSTEES

NOVEMBER 2014

IMPROVE PEDESTRIAN, BICYCLE AND VEHICULAR ACCESS FROM FRANKLIN STREET TO CAMERON AVENUE (PORTHOLE ALLEY ENTRANCE)



CAMPUS MASTER PLAN

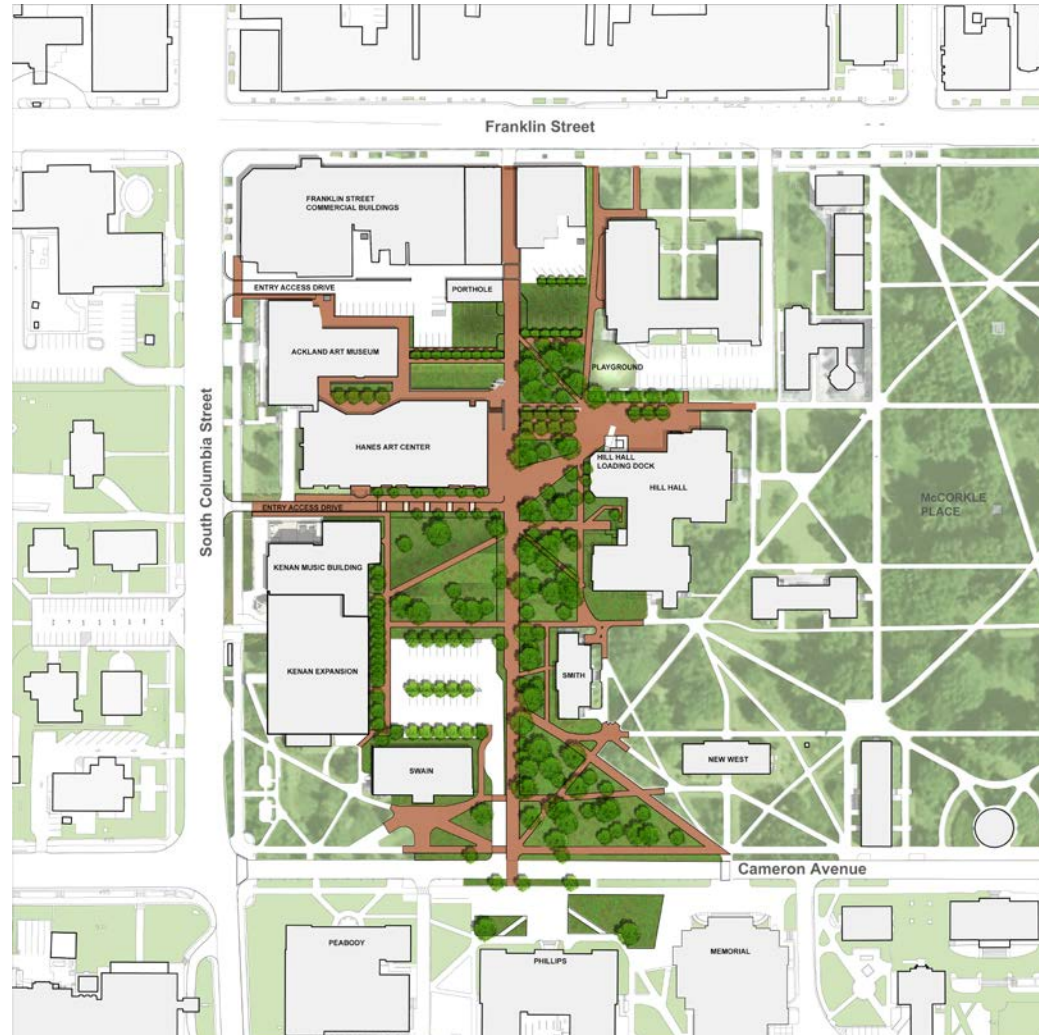
BOARD OF TRUSTEES

NOVEMBER 2014



THE UNIVERSITY
of NORTH CAROLINA
at CHAPEL HILL

IMPROVE PEDESTRIAN, BICYCLE AND VEHICULAR ACCESS FROM FRANKLIN STREET TO CAMERON AVENUE (PORTHOLE ALLEY ENTRANCE)

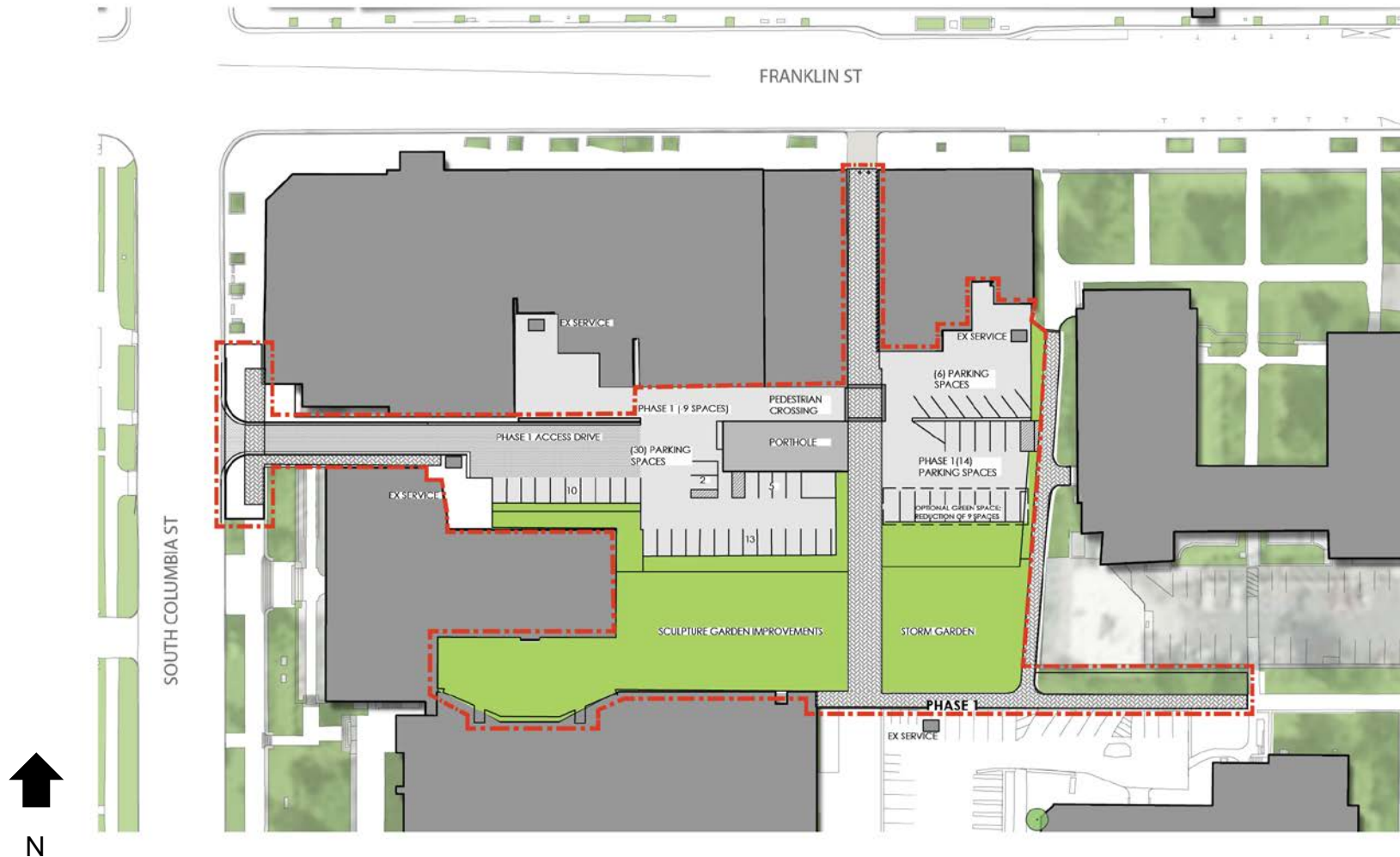


THE UNIVERSITY
of NORTH CAROLINA
at CHAPEL HILL

MASTER PLAN
BOARD OF TRUSTEES

NOVEMBER 2014

IMPROVE PEDESTRIAN, BICYCLE AND VEHICULAR ACCESS FROM FRANKLIN STREET TO CAMERON AVENUE (PORTHOLE ALLEY ENTRANCE)



PHASE ONE PLAN

BOARD OF TRUSTEES

NOVEMBER 2014



THE UNIVERSITY
of NORTH CAROLINA
at CHAPEL HILL

ATTACHMENT L

FOR INFORMATION – UNIVERSITY MASTER PLAN

The University Master Plan will establish principles and guidelines to align the University's vision of sustainability with a long term plan for its continued development. All University properties will be reviewed including the main campus, Carolina North, the Mason Farm/Friday Center property and smaller University owned parcels in the community. The planning process will include UNC Health Care System.

The new planning effort will take context from both the main campus master plan and the Carolina North plan and consider program needs, infrastructure, and connectivity.

Over the next several months, campus and local leadership will be advised of the upcoming planning effort. The University will develop the planning and engagement process with the selected consultant.

The schedule is presented to the Board of Trustees for information.

Proposed Schedule:

December 5, 2014

- UNC Board of Governors approval for planning.

December, 2014 through February, 2015

- Consultant Selection Process

March, 2015

- Consultant Recommendation to Chancellor's Buildings and Grounds
- Consultant Selection by Board of Trustees

April through May, 2015

- Contract negotiation with selected consultant

June, 2015 – November, 2016

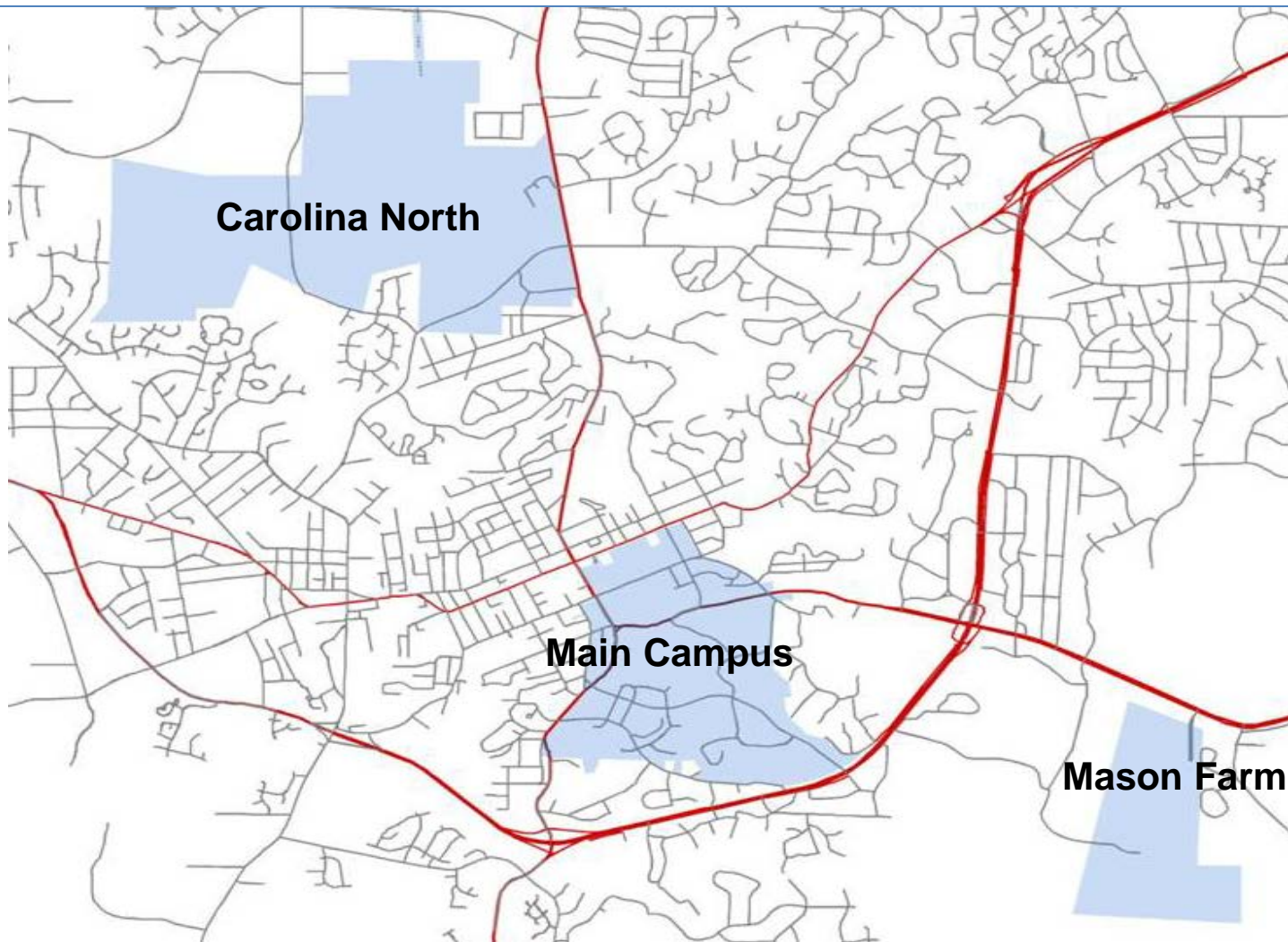
- Develop master plan

November, 2016

- Chancellor's Buildings and Grounds – Final Approval
- Board of Trustees – Final Approval

UNIVERSITY MASTER PLAN
FOR INFORMATION

UNIVERSITY MASTER PLAN





THE UNIVERSITY
of NORTH CAROLINA
at CHAPEL HILL

ATTACHMENT M

Division of Finance and Administration

Financial Update



Matthew Fajack
Vice Chancellor for Finance and Administration
November 19, 2014



Quarterly Actual Data

	FY 2012-2013	FY 2013-2014	FY 2014-2015	FY 2014-2015
	July-Sept Actual	July-Sept Actual	July-Sept Actual	Change from Prior Year
Revenues:				
State Appropriations	\$9,746	\$32,565	\$37,152	14%
Tuition and Fees	185,673	205,367	220,199	7%
Governmental Contracts and Grants	461,241	448,499	439,715	(2%)
Non-Governmental Con. And Grants	101,420	92,182	94,429	2%
Gifts	157,902	171,769	164,159	(4%)
Sales and Services	212,358	223,729	245,166	10%
Investment and Endowment Income	95,142	101,673	106,490	5%
Other Sources	42,607	47,561	23,548	(51%)
Total Revenues	\$1,266,089	\$1,323,345	\$1,330,858	1%



Quarterly Actual Data

	FY 2012-2013	FY 2013-2014	FY 2014-2015	FY 2014-2015
	July-Sept Actual	July-Sept Actual	July-Sept Actual	Change from Prior Year
Expenses/Transfers/Other				
Instruction	\$174,350	\$169,307	\$173,941	3%
Organized Research	156,276	176,981	189,556	7%
Public Service	28,269	31,228	32,077	3%
Student Services	7,517	8,757	8,546	(2%)
Student Financial Aid	145,628	157,217	164,077	4%
Academic Support	21,833	24,308	29,101	20%
Institutional Support	23,101	28,873	34,722	20%
Physical Plant Operations	31,469	34,139	35,807	5%
Auxiliary Enterprise & Internal Services	96,228	98,785	102,386	4%
Professional Clinical Services	105,674	101,699	113,075	11%
Transfers & Internal Deductions	12,981	13,823	28,847	109%
Total Expenses, Transfers & Other	\$803,326	\$845,117	\$912,135	8%



Quarterly General Fund Revenue Report

- 2013/14 General Fund revenues were \$450.3 million (2.2%) below the \$20.6 billion budgeted.
- General Fund collections for the first quarter of the 2014/15 fiscal year are \$62 million (1.3%) below the revenue target (\$4.7B) for that period. Year on year revenues are down 6.5%.
- Corporate income tax revenue is on target, sales tax revenue is above target, and personal income tax revenue is below target.



Quarterly General Fund Revenue Report

- The State's economy is expected to stay on the steady, upward trend it's been on since 2012, though the pace of growth remains below average.
- The unstable global economy continues to slow the pace of growth.
- The Fiscal Research Divisions entire report can be viewed at
http://www.ncleg.net/FiscalResearch/generalfund_outlook_pdfs/14-15%20Outlooks/2013-14_First_Quarter_Revenue_Outlook.pdf



UNC
DIVISION OF FINANCE
AND ADMINISTRATION

2014-15 UNC Budget Reductions



FY 2014-15 Reductions

- 2014/15 Budget included six reductions that required allocation by the Board of Governors:
 - Management Flexibility (\$12.2M)
 - Non-Resident Undergrad Tuition Increase and Reduction (\$27.2M)
 - Enrollment Model Change-Negative Factor Adjustment (\$5.3M)
 - Instructional Efficiencies (\$5.3M)
 - Operational Efficiencies (\$5M)
 - Program Consolidation (\$1.9M)



General Reductions by Category

	UNC-CH	System
Management Flexibility	(2,962,001)	(12,234,746)
Non-Resident Undergraduate Tuition Increase and Reduction	(10,571,045)	(27,243,157)
Enrollment Model Change- Negative Adjustment	(153,415)	(5,326,425)
Instructional Efficiencies	(1,118,211)	(5,300,000)
Administrative Efficiencies	(1,068,913)	(5,000,000)
Program Consolidations	(400,868)	(1,900,000)
Total Reduction	(16,274,453)	(57,004,328)



Reduction Allocation Methodology

- Management Flex Reduction
 - Eight measures factored into the management flexibility allocation method:
 - ❖ Freshman-to-Sophomore Retention
 - ❖ Graduation Rate
 - ❖ Degree Efficiency
 - ❖ UNC Fit Index
 - ❖ Weighted Education and Related Spending per Degree
 - ❖ No Tuition
 - ❖ Diseconomies of Scale
 - ❖ Pell Grant Recipients



Reduction Allocation Methodology

- Management Flex Reduction (Cont.)
 - Could not be allocated on an across-the-board basis
- Strategic Plan Related Reductions
 - Allocated on a pro rata basis



THE UNIVERSITY
of NORTH CAROLINA
at CHAPEL HILL

MEMO

Date: September 12, 2014
To: UNC Chapel Hill Board of Trustees Committee on Innovation and Impact
Chair, Phil Clay
From: Judith Cone, Special Assistant to the Chancellor-Innovation and Entrepreneurship
Re: Overview of Status Report on the UNC Chapel Hill Innovation Ecosystem

Barbara Entwisle, Vice Chancellor of Research, Joe DeSimone, Chancellor's Eminent Professor of Chemistry, UNC, and I have worked together on this Committee, and I am grateful to Vice Chancellor Entwisle for her input on these documents. As you know, Professor DeSimone is on leave as he is building a venture capital-based 3-D printing company in Silicon Valley.

Members of the Board of Trustees Committee on Innovation and Impact, together with UNC Chapel Hill senior leaders and campus colleagues, have been exploring how to build a superior ecosystem for innovation and entrepreneurship. The goal is to produce maximum social and economic impact for the citizens of North Carolina and beyond. This will require a fertile mix of programs, resources, and relationships to support and enhance innovative work by a wide variety of people in the University community as well as introduce major new initiatives.

And the creation of such an ecosystem has now reached a pivotal point. Much has been done; the campus is filled with existing and new activity. More needs to be done in order to build on early results and tap the University of North Carolina at Chapel Hill's full potential for impact. We are grateful to the Board for its committed leadership and look forward to continued work together.

The *Status Report on the UNC Chapel Hill Innovation Ecosystem*, which accompanies this memo, is framed as a set of responses to questions posed by Committee Chair Phil Clay in his June 10, 2014 memo. Chair Clay's document asked for updates and recommendations on a wide range of items related to the complex, campus-wide efforts in innovation. In the enclosed *Status Report*, the responses are grouped into five categories covering fourteen key questions. Each key question is answered in the same format: a summary of *Actions To Date*, a recap of *What We Have Learned*, and recommendations on what *Remains To Be Done*.

For a more focused view, this memo provides a brief on the full *Status Report*.

- It starts with a few short narrative sections outlining the nature of the work, where it stands, and major priority areas going forward.
- Then, since the Committee's main interest is in what lies ahead, informed by the past, the rest of the memo contains the forward-looking parts of the *Status Report*. For all key questions, the *Remains to Be Done* sections are included in this memo. They are presented in order, with only a minimal amount of introduction to each.

SUMMARY OF STATUS REPORT ON THE UNC CHAPEL HILL INNOVATION ECOSYSTEM

Strategy guides the work.

Innovation work at Carolina continues to be guided by the strategic direction described in the *Innovation Roadmap* of 2010. The *Roadmap* and *Two-Year Progress Report* (covering progress through 2012) are available at <http://innovate.unc.edu/impact/strategy>. Per the plan of conducting a formal review every other year, the second progress report will be released in a few months, and will go into greater detail about innovation and entrepreneurship work through 2014. The innovation vision and mission are:

Vision: With a special focus on urgent challenges, innovators and innovations launched at Carolina consistently translate important ideas for the public good.

Mission: Ensure that Carolina is a place where innovators thrive.

Chancellor Folt speaks in terms of the University being an excellent, accessible, innovative public institution that excels at research, teaching, and translating ideas into impact. It is now time to solidify the innovation infrastructure, continue to learn from others, better engage strategic partners, and dedicate the same relative level of investment that has been committed to the University's research and teaching missions.

We have a community of dedicated people working together.

It is appropriate to acknowledge all those who have advanced the innovation and entrepreneurship agenda as early adopters. Starting in 2003 with the Kauffman Campuses grant, through the 2010 strategic planning efforts to their implementation today, a small number of staff and unit leaders have worked tirelessly to create programs, run spaces, mentor others, file patents, secure licenses for intellectual property, help create ventures, and engage a wide community of supporters. Consequently, this campus is regularly lauded as a leader in entrepreneurship education, and as being in the vanguard of building a culture of innovation.

We are grateful to the Deans and their faculty and staff who not only initiated many programs, but have opened them to the entire campus and community. We applaud the students who

have championed practical innovation as a way to make a difference in the world. Finally, none of this would have been possible without the support of donors and the commitment of senior leadership and the Board of Trustees.

The University has made great strides, some highlights of which will be noted briefly in this memo. Evaluation and impact measurement continue to be important, as does communicating the multi-faceted value generated by Carolina. Much more attention to measurement and communication is needed.

The campus is at a pivotal moment.

Progress in innovation and impact at UNC Chapel Hill has reached a pivotal stage. The collaborative spirit of Carolina faculty, staff, and students has allowed many initiatives to thrive and grow with very few resources. Senior leaders are dedicated to ingraining innovation into the campus' identity, and to harnessing the resources needed to leap forward and become an exemplar university in this field. Donors have supported these activities and are ready to support more.

Several task forces and strategic planning efforts have articulated needs and solutions, providing the framework to move the innovation agenda forward. Areas receiving task-force (or task-force-quality) attention have included: industry relations, commercialization of University IP, support for new ventures, new curricula in applied physical sciences, biomedical engineering and data studies, and needs for physical space.

Many new programs already are nurturing their first fruits. More important, the combined efforts of many have moved UNC Chapel Hill to the threshold of next-level gains. It is worth stepping back briefly to consider the general nature of where we stand:

The University is poised for even greater impact.

The goal is to produce ever-increasing social and economic benefits for the State of North Carolina and beyond. This, in turn, requires an ecosystem with two main features: *excellent infrastructure*, and *a high level of human engagement*.

- *Excellent infrastructure* means a strong set of programs, processes, facilities and resources for translating ideas into practical form. It includes systems to move faculty along the path of developing their research for commercial use. It includes programs that prepare people to be innovators and entrepreneurs—such as by teaching startup skills and/or relevant technical skills—and that help new ventures take off. Beyond licensing and startups, there are myriad other ways of putting new ideas to use and some of these need supporting infrastructure as well.
- *A high level of human engagement* means bringing many people into the work. Large numbers of faculty, students, and people in the region need to become involved as

active innovators, while many more serve as advocates, helpers, or funders. Senior leaders need to align their resources and create supportive processes. Our efforts need active support from many external constituents such as partners from industry, the alumni base, and other funders.

These elements, when combined, can lead to powerful impact. And UNC Chapel Hill is now firmly on the road towards having a winning combination.

It is time to scale and sustain the work and seek disruptive opportunities.

One way to view the work to date is as a successful proof-of-concept stage. We have shown that the innovation ecosystem is feasible, desirable, viable and relevant to nearly every area of the campus. New programs are succeeding; more people are participating; some initial results (such as increased startup activity) are evident. And now the larger possibilities beckon. Like an emerging company that has validated its technology and its business model, this ecosystem is now ready for the investments that will move it to full-scale production mode. The ecosystem needs to be constantly improved and capable of producing both incremental and disruptive innovations.

To take innovation and impact to the next level, the entire agenda needs to be *institutionalized* and *resourced* at higher levels. Two pressing needs stand out.

- If technology commercialization and economic development are to be major strategic functions of the University, a dedicated office needs to be created to lead, coordinate and direct them. At present, direct responsibility for these functions is shared between a small OTD staff on a limited budget and various units across campus. While localized, grassroots efforts are both commendable and necessary, they must be balanced with central leadership and fully resourced.
- Funding is necessary to stabilize, expand, and create the missing pieces to the ecosystem. The University needs a budget for innovation and impact, and funding goals need to be part of the upcoming capital campaign. This would include funding for the new office just mentioned, as well as support to make various ground-level efforts *sustainable and scalable*, create missing programs, and build the needed spaces required.

Examples of Progress to Date and Emerging Needs

Some highlights of work done in recent years:

- In 2010, UNC Chapel Hill had *no* dedicated facilities for nurturing startups. Now it has a wide array with more planned, with associated education-and-support programs, all being heavily used: KickStart Labs, CUBE Social Innovation Incubator, Launch Chapel Hill, 1789 Venture Lab, and more. The new CreatorSpace is set to open next year in

Murray Hall. But limits have been reached. A number of these facilities and programs are either at their carrying capacities, and/or about to lose their physical spaces soon—at the very time when demand for them keeps growing rapidly.

- Under the Vice Chancellor of Research, operations of the Office of Technology Development have been upgraded and streamlined. However, it is unreasonable to expect the six licensing associates in OTD alone to make quantum-leap gains – indeed, other units on the campus have started their own, domain-specific commercialization efforts to complement the work of OTD. Creation of spinout companies has increased due to the work of OTD, Carolina KickStart, the Center for Entrepreneurial Studies, the CUBE, and the Frank Hawkins Kenan Institute of Private Enterprise, as well as school and department liaisons. Innovations like the Carolina Express License, designed to incentivize faculty and streamline the licensing process, have also contributed to increased technology spinouts. It would help greatly to put all of these under the aegis of the new office mentioned above so that there is central integration as well as distribution across the campus. The University community will continue to create new initiatives and to augment the agenda with further support.
- Since the Kauffman Campuses grant of 2003, UNC Chapel Hill has become a leader in entrepreneurship education. More recently, faculty working groups have led the creation of new or augmented programs in subject areas critical to innovation such as Applied Physical Sciences, Biomedical Engineering, and Data Studies. All of these need further funds in order to grow and flourish sustainably. Furthermore, new initiatives of this type such as examining how to strengthen the department of Computer Science need to be considered and coordinated strategically.

What remains to be done?

The remainder of this memo is dedicated to the third part of each of the responses in the longer *Status Report*: Itemizations of what *Remains To Be Done* in key areas. First the questions posed by Chair Clay are presented, followed by the next steps recommended to address them.

We look forward to discussing this with you.

**QUESTIONS POSED BY PHILIP CLAY
ON BEHALF OF THE INNOVATION & IMPACT COMMITTEE**

Key questions laid out in Chairman Clay's memorandum of June 10, 2014 are summarized here. Some are paraphrased and all are arranged into five main topic areas, which will serve as a template for the rest of the report.

A. Leadership, Strategy, and Alignment

- What are the optimum administrative structures and functions for leading our efforts in innovation and entrepreneurship? What are the roles of other senior officers and deans? How is the faculty mobilized for various roles?

B. Carolina's Innovation Assets

- How does research connect throughout all of our programs and work in innovation and entrepreneurship?
- What does an innovation agenda mean for various segments of the UNC Chapel Hill community and their activities? (education programs, student activities, faculty, staff, alumni, town-gown relations)
- How can we best address design (and cultivate "design thinking") in innovation and entrepreneurship?
- What are the space requirements to support a robust innovation ecosystem? What is our strategy for Carolina North? Does the existing plan hold up? If not, how will we determine what to do?
- How can we leverage Carolina's global brand for maximum impact?

C. External Engagement

- How can we engage industry partners in building a strong innovation ecosystem?
- How can we form a strong regional infrastructure of support for our innovation agenda in the Triangle?
- How can we build and maintain an innovation ecosystem that supports both broad and deep engagement with the state?

D. Funding

- How will we adequately fund our research and its application, in light of declining federal and state dollars?
- How can we engage the venture community in support of new ventures?
- How does an innovation agenda relate to a university development campaign – and to other possible opportunities for funding?

E. Learning and Communicating

- How can we continually learn from others while also leading in innovation and entrepreneurship?
- What communication strategies are needed to bring the University community and the public on board with our innovation agenda – and to tell the story of impact?

WHAT REMAINS TO BE DONE
Responses from the Status Report

A. LEADERSHIP, STRATEGY, AND ALIGNMENT

Q: What are the optimum administrative structures and functions for leading our efforts in innovation and entrepreneurship? What are the roles of other senior officers and deans? How is the faculty mobilized for various roles?

Remains to Be Done — I&E OFFICE

Recommendations

- Continue to be a catalyst. Articulate the vision and mission, engage a wide variety of internal and external stakeholders, and advocate for a culture of innovation and entrepreneurship campus-wide.
- Continue to evaluate the ecosystem, advocate for necessary changes and promote new advancements in how our campus accomplishes this work.
- Implement tools that can be shared within the *Carolina I&E Network* such as the adoption of Salesforce, which is under way.
- Celebrate successes and tell the stories of innovators and their impact.
- Help raise funds for campus initiatives.

Remains To Be Done — OFFICE OF RESEARCH

Recommendations

- Continue the mission of growing research and maximizing its impact. Work closely with the Offices of Development, Communication, Innovation & Entrepreneurship, and the proposed Office of Commercialization and Economic Development, as well as with departments, centers, and institutes, to help increase research funding and facilitate the translation of research into practical benefit.
- Provide streamlined services for sponsored research proposals and agreements with private industry through the Office of Industry Contracting.
- Enhance communication research benefits through the Office of Research Communications.

Remains To Be Done — PROPOSED OFFICE OF COMMERCIALIZATION AND ECONOMIC DEVELOPMENT

Recommendations

- Create the Office of Commercialization and Economic Development to fulfill the following two missions:

Mission for Commercialization – From Invention to Impact: Provide maximum benefit to the people of North Carolina and beyond by optimizing the University’s systems for practical innovation, and by licensing university intellectual property promptly to those who will most effectively and appropriately propagate it into use for society.

Mission for Economic Development: Grow North Carolina's economy and competitiveness by engaging key faculty/staff experts and students to develop and implement a strategy to address economic development drivers in our State.

Remains To Be Done — SENIOR OFFICERS AND DEANS

Recommendations

- Continue to include goals related to innovation and impact in their strategies and actions. Senior leaders need to align institutional resources and processes accordingly. Since the Chancellor and Provost are working closely with administrative leaders and deans on strategic planning and the Development Office is preparing for the new capital campaign, this is the time to incorporate innovation goals.
- Articulate to their constituents how and why the University is building an innovation ecosystem and how it is relevant to their areas of responsibility or research. Specifically encourage their faculty, staff, and students to consider the rewards of converting ideas into practical benefit.
- Balance central services and unit programs to keep them strategically aligned and fully integrated.
- Deans: Continue creating structures and environments that support innovation. Prioritize innovation initiatives in development goals as well as in communication strategies. Following the lead of some deans, it is helpful if each assigns an innovation and entrepreneurship liaison officer to join the university's I&E Network group, and to serve as an internal contact person and champion. The Schools of Medicine and Pharmacy and the Department of Computer Science have associate deans/chair with titles related to entrepreneurship.
- Deans: Ensure that their faculty feel supported in undertaking scholarly work in ways that benefit non-academic sectors and have impact. Align incentives and rewards.

Remains To Be Done — MOBILIZING FACULTY FOR VARIOUS ROLES

Recommendations

- More effectively help faculty understand that translation is an extension of their scholarly pursuits.
- Find ways the University can incentivize and facilitate translational work. For instance, faculty need time to invest in the translation process.
- Effectively guide faculty through the translation process.
 - Expand the Faculty Bootcamp or some such equivalent(s).
 - Use successful, respected faculty innovators as mentors and guides for others. Expand on the KickStart Faculty Fellows program – which is modeled after a University of Utah program.
- Streamline the Conflict of Interest Review process.
- Create a cross-campus entrepreneurship education curricular committee to continue refining how faculty teach entrepreneurship to various audiences.
- Better engage with Carolina faculty who are noted scholars in innovation and entrepreneurship to learn from them and extend their scholarly work.

B. CAROLINA'S INNOVATION ASSETS

Q: How does research connect throughout all of our programs and work in innovation and entrepreneurship?

Remains To Be Done — RESEARCH

Recommendations

- Given the focus at Carolina (and, indeed, nearly everywhere) on interdisciplinary work, continue to promote collaboration and research across disciplines as a fertile source of potential innovations.
- Develop more integrated, clearer systems and support for faculty interested in commercializing their research including allocating time for faculty to become involved.
- Create and implement a comprehensive plan to educate and involve graduate students and post docs in the translational work of the campus, while also pursuing studies within their disciplines. Include connections between MBAs and graduate students and post docs in the sciences.
- Within the general structure of federal and state regulations, resolve conflicts of interest in an expedient, fair, and respectful manner so that faculty and graduate students are able to appropriately engage in innovation activities.

Q: What does an innovation agenda mean for various segments of the UNC Chapel Hill community and their activities?

Remains To Be Done — EDUCATIONAL PROGRAMS

Recommendations

- Continue developing and enhancing the entrepreneurship curriculum in units across campus to include methodologies for the entire innovation process: imagine-design-build-grow. Incorporate creativity and design thinking more fully in the existing entrepreneurship programs.
- Strengthen entrepreneurship educational programs for graduate students and post docs. Identify funding that could facilitate participation in these programs.
- Continue creating/expanding courses in Applied Physical Science, Biomedical Engineering, Data Studies, and Computer Science.
- Create targeted programs to best meet the needs of faculty in learning how to translate their work. Focus on just-in-time learning with a mixture of online tutorials, mentoring, and small groups.
- Market the educational programs more effectively, and in general make it easier for all audiences to find the resources and people they need.

Remains To Be Done — STUDENT ACTIVITIES

Recommendations

- Better align student innovation activities with the research agenda of the University, exposing students to problems and potential solutions in areas outside their personal knowledge, and

attuning them to the University's efforts to address pressing global challenges. This will help to expand students' thinking, so that when they generate their own ideas for startups (as many now do), they can see possibilities beyond the limited scope that is often typical of student enterprises.

- Engage graduate students more fully in the innovation agenda.
- Find ways to harness the expertise of post docs and when appropriate, engage them with faculty spinouts.
- Better market campus resources to all students.
- Expand the Innovation Scholars program.

Remains To Be Done — ALUMNI RELATIONS

Recommendations

- Develop a high-level strategy for engaging alumni support for the innovation agenda. Segment the alumni and call upon them for their expertise as entrepreneurs, investors, and subject-matter experts as well as donors.
- Create an Innovation Fund for the campus that would support all aspects of the innovation agenda.
- Tie in alumni through regional innovation hubs.

Remains To Be Done — TOWN-GOWN RELATIONS

Recommendations

- Continue working with Chapel Hill and Orange County officials on how to attract, support, and retain entrepreneurs and harness innovation for the economic and social benefit of the community. Good relations have been established and talks are underway for next phases of this work.
- Encourage landlords who own office space to offer flex terms and lower rents for startups.
- Build a world-class Innovation Center in Downtown. (see Space section)
- Create a strategy to engage local influential individuals in this work.

Remains To Be Done — FACULTY

Recommendations

- Reach more faculty with the opportunities of the innovation agenda.
- Develop an integrated network of innovation liaisons working with a core staff to be closely in tune with all faculty work and to educate faculty about Carolina's innovation agenda and resources.
- Create integrated, comprehensive systems that support faculty from early-stage innovation through all phases of translating knowledge into practical use. Build bridges of assistance across gaps in the process that are hard for faculty innovators to traverse on their own.
- Streamline all systems to remove resistance to the process, especially conflict of interest and facilities use.
- Find the resources needed for faculty to pursue innovations.

Remains To Be Done — STAFF

Recommendations

Garner resources to bring additional staff support to the innovation ecosystem. Develop clear linkages between the offices and programs that provide staff support and guides to help others navigate the landscape.

Q: How can we best address design (and cultivate “design thinking”) in innovation and entrepreneurship?

Remains To Be Done — DESIGN

Recommendations

- For faculty entrepreneurs, integrate ideation and design methods into the full-service technology development approach that begins in the lab, well prior to invention disclosure. Lean Startup methods for the life sciences are made available through an NIH program, but our campus needs to create its own version.
- For students, support full integration of design methods into areas where this is already being done or planned—notably APS, BME, the proposed Data Studies competencies, and the CreatorSpace – while exploring potential uses of the methods in other curricular and co-curricular offerings.
- Expand the University’s educational programs in design thinking for faculty and University program leaders, and continue exploring ways to ingrain design on our campus, especially as we create new spaces for innovation.

Q: What are the space requirements to support a robust innovation ecosystem? What is our strategy for Carolina North? Does the existing plan hold up? If not, how will we determine what to do?

Remains To Be Done — SPACE

Recommendations

- Allocate adequate space for Applied Physical Sciences, Biomedical Engineering, and maker space: The Chancellor, Provost, Dean of Medicine and Dean of Arts and Sciences are addressing these needs and have made significant investments.
- Find permanent wet lab and office space on campus for faculty entrepreneurs and their spinouts. The need is immediate and urgent, with the current space at the Genome Sciences Building due to be vacated by February 2015.
- Create an Innovation Headquarters on central campus. Having such a physical location would present a strategic opportunity. It would serve as a front door for the campus where people can come for assistance, and donors could be inspired by a tangible reminder of the impact Carolina is having. The proposed Commercialization and Economic Development Office could also use this space for some of its activities.
- Build a world-class Downtown Innovation Center. A proposed downtown Chapel Hill Innovation Center (CHIC) would bridge the campus and community while becoming home to the already-successful accelerator, Launch Chapel Hill, and the popular 1789 Venture Lab. (With its current lease expiring in December 2015, Launch Chapel Hill is considering its

options.) In addition to event and ideation space and a design center, CHIC would provide new spaces for growing companies that want to stay in Chapel Hill, including potentially those requiring web lab space, as well as space for investors and professional service providers, and for strategically chosen industry partners such as the local Google office. The groups of people involved in creating Launch Chapel Hill and 1789 are actively engaged in conversations about CHIC.

- Investigate building a Life Science Innovation Center. There are several reasons to build an innovation center for the life sciences: 1) It will be a place where industry can interface with faculty and graduate students; 2) Commercialization staff can have offices near a large portion of the University's innovation portfolio; and 3) It will provide much-needed faculty access to wet-lab space, offices, and equipment as they remain full-time professors/researchers but also start a company. Once the Genome Sciences space is unavailable come February 2015, faculty startups will have no space on campus. New resources need to be available to all faculty, even if they are administered by an academic unit.

Q: How can we leverage Carolina's global brand for maximum impact?

Remains to be done — GLOBAL BRAND

Recommendations

- The choice of *Water in our World* as the University's first cross-campus theme, three years ago, has proven successful on several fronts. Decide if there will be another cross-campus theme, or perhaps a series of smaller themes, that draws together the Carolina community to addresses major issues.
- Recruit top faculty and graduate students who are globally oriented and have a strong translational bias.
- Leverage the power of Carolina's alumni and families to grow a global innovation ecosystem.
- Explore the idea of regional hubs and how they might support the innovation agenda.

C. EXTERNAL ENGAGEMENT

Q: How can we engage industry partners in building a strong innovation ecosystem?

Remains To Be Done — INDUSTRY RELATIONS

Recommendations

- In the next few months, the Offices of Research, Development, and the proposed Commercialization and Economic Development Office will work with the Chancellor and Provost, Career Services, deans and others to develop a common shared plan for UNC Chapel Hill's collaborations with industry.
- Better coordinate within the University.
- Pursue (and, where necessary, expand) efforts to align University policies and procedures with industry practices and expectations.

- Communicate to industry that UNC Chapel Hill is actively seeking partnerships.
- Make it easy for industry to know how to enter the University's "front door," and smooth the way for industry partners to work with us.

Remains To Be Done — REGIONAL

Recommendations

Create a comprehensive strategy for maximizing local industry-university partnerships. The Offices of Development, Research, proposed Commercialization and Economic Development, Career Services, and unit representatives will need to work together on the plans and their execution.

Remains To Be Done — WORKFORCE

Recommendations

- UNC Chapel Hill has an opportunity to partner with industry and to gain synergies by better understanding workforce needs across industry sectors. University-industry relations should include mechanisms for engaging external stakeholders in the development of ways to ensure that our graduates have critical skillsets, which will vary by discipline but also include core strengths in areas such as data and innovation processes.
- Develop alternative career tracks for PhDs, including working in faculty spinouts and/or starting their own ventures. Strengthening this area will give the University a platform to better understand statewide needs and develop new strategies for addressing them.
- As UNC Chapel Hill forms its economic development strategy, there will be opportunities to leverage engagements with the nine regional economic development partnerships in the state and NC Business Development in the Department of Commerce.

Q: How can we form a strong regional infrastructure of support for our innovation agenda in the Triangle?

Remains To Be Done — REGIONAL

Recommendations

- Continue to build on established relationships with NC State, Duke and NC Central and identify specific opportunities for multi-institution collaboration on projects related to innovation and entrepreneurship.
- Develop Blackstone 2.0, taking the Blackstone Entrepreneurs Network to the next level.
- As noted elsewhere in this memo, the University needs to invest in end-to-end support for commercializing IP from faculty research. Not only would this stimulate startups and venture investment within the region, it is crucial for increasing impact generally.
- Accelerate involvement of potential investors early in the idea development stage.
- Communicate and engage more effectively with alumni who can help with these goals.

Q: How can we build and maintain an innovation ecosystem that supports both broad and deep engagement with the state?

Remains To Be Done — ENGAGEMENT WITH THE STATE

Recommendations

- Enhance the benefits that the University provides to the state, and raise the perception of them through more effective communication.
- Create an economic development strategy in the proposed Office of Commercialization and Economic Development. This office will coordinate with senior leaders at UNC Chapel Hill to help build the innovation ecosystem. It will also play a key role in developing and articulating new strategies to work with (and for) people across the state. In every sense, it will raise the profile of UNC Chapel Hill as an engaged collaborator in building the State's future.
- Develop a data-driven strategy and approach to understand the true impact of UNC Chapel Hill and the UNC system on North Carolina.
- Create a dashboard to communicate Carolina's impact.

D. FUNDING

Q: How will we adequately fund our research and its application, in light of declining federal and state dollars?

Remains To Be Done — FUNDING RESEARCH

Recommendations

- Continue to support researchers as they seek research funding.
- Continue developing a comprehensive, diversified campaign with innovation and impact as top priorities.
- Become more engaged with venture philanthropy.

Q: How can we engage the venture community in support of new ventures?

Remains To Be Done — VENTURE FUNDING

Recommendations

Create a comprehensive strategy to engage the venture community and fund the full development cycle. As currently envisioned, key components of the strategy would be:

- Expand and coordinate (or consolidate) the University's Technology Development Grant programs to fund proof-of-concept studies across all schools and disciplines and then into investment. Many university technologies never reach the marketplace because no commercial relevance has been demonstrated which would attract both people and funding. These technologies need proof-of-concept or validation studies showing whether they do, in fact, have potential for becoming products or solutions that users would buy. Funding for such studies is extremely difficult to acquire, as these activities are beyond the scope of typical federal research grants, but too risky for investors or industry partners to fund. The proposed grants will range from \$25K to \$75K and will be awarded to projects on a competitive basis. Project applications will be evaluated by a panel of industry-relevant

experts. Beyond allocating funds, this panel will provide feedback to the OTD and the faculty member(s) as part of the review process.

- Create an SBIR Gap Fund. One of the greatest opportunities for unlocking university technologies is through Small Business Innovation Research (SBIR) grants if the timing issue can be addressed. Startups built around university innovations can seek SBIR funds to demonstrate feasibility (Phase I) and to develop the product (Phase II). However, many companies struggle because of the time gap of SBIR funding. A successful Phase I SBIR grant (usually of about \$250K) is followed by the submission and review of an application for a Phase II grant (about \$750K to \$1M). The time from completion of Phase I to the funding of Phase II can be 9 to 12 months. Many startups do not have the resources to continue to pay scientific staff or rent space during this period and waste valuable time waiting for the evaluation of the application. The proposed SBIR Gap Fund will bridge this gap for university startups. The funding will be on the order of \$100K to \$150K to help the company remain viable while it seeks additional funds. Stringent review will be critical to the wise investment of these funds.
- Connect to local VCs. The Blackstone Entrepreneurs Network was formed to activate connections among startups, successful entrepreneurs, and investors (or “dealmakers”). From University research on dealmakers, we know that North Carolina, and the Triangle region in particular, has investor activity that is not as maximized as it is in other locations due to a lack of connectivity. UNC Chapel Hill will need to intentionally build more ways of connecting local funders to University opportunities, including through local alumni.
- Connect to key hubs to create relationships with VCs and other constituents. Investment from outside North Carolina will be critical to UNC Chapel Hill’s ability to commercialize research and realize impact. Our undergraduate entrepreneurship programs and VCIC program for MBAs have established activities in Silicon Valley and New York City, exposing students to the investment communities in those hubs. However, the University needs to build more direct connections and opportunities for engaging investors from other regions with our most promising emerging companies. Additionally, alumni who are investors can be made aware of University IP and invited to provide advice. There have been discussions by some alumni about creating an alumni seed fund.
- Provide needed technical and administrative assistance. This strategy would include integrating startup services for faculty across the campus, including Carolina KickStart and the Concierge Service for Entrepreneurs, with leadership from the proposed Office of Commercialization and Economic Development (which would include OTD).
- Fully implement the Carolina Research Venture Fund.

Q: How does our innovation agenda relate to a University development campaign – and to other possible opportunities for funding?

Remains To Be Done — CAMPAIGN

Recommendations

- As noted earlier in this report, assure that fundraising for innovation is a significant component of the next campaign.

- Work with Development and senior leaders (such as deans and directors) across campus to support their individual I&E fundraising goals.
- Explore various foundation models for supporting I&E work on university campuses.
- Continue conversations with alumni who have expressed interest in a venture philanthropy fund for the University.
- Create a central Innovation Fund.

E. LEARNING AND COMMUNICATING

Q: How can we continually learn from others while also leading in innovation and entrepreneurship?

Remains To Be Done — LEARNING AND LEADING

Recommendations

- After studying many commercialization operations, UNC Chapel Hill leaders stepped back to ask an intriguing question: How would the University commercialize IP if it were the first ever to attempt this type of function? The conversation was between experts on campus and those outside. Once the leaders settled on an approach, they again sought feedback from a wide audience to test assumptions and make modifications. The result is the proposed Office of Commercialization and Economic Development, which will give the University the opportunity to implement the new approach in an iterative process – taking steps, testing those steps and the assumptions behind them, making corrections, and then moving forward. Leaders will continue to call upon their wide network of external expert practitioners as well as the University’s own experts to develop improved practices that can inform the field.
- To fully realize the potential of the University’s innovation ecosystem, individual I&E spaces, programs, and curricular activities need the resources to adopt best practices and apply lessons learned.
- UNC Chapel Hill needs to carefully consider the pros and cons of a closely held separate structure for certain innovation activities.

Q: What communication strategies are needed to bring the University community and the public on board with our innovation agenda – and to tell the story of impact?

Remains To Be Done — COMMUNICATION

Recommendations

Under the direction of the Vice Chancellor for Communications, a new communications team and structure (Carolina Compass) brings the opportunity for added resources, direction and collaboration around innovation communications. Some areas for action include:

- Formalize a system for effectively gathering and pooling information (content) on innovation and entrepreneurship activities at UNC Chapel Hill. This will require having a network of campus communicators team up with the central communications office.
- Create portals and pathways for faculty, students, and external audiences to learn about innovation and entrepreneurship programs specific to their needs, so they can find help quickly and easily. This work would be executed through the I&E Office.

- Create a national strategy for raising UNC Chapel Hill's profile as a thought leader in this area through key story placements, rankings, etc.
- Provide resources, tools, and guidance to stakeholders, e.g., faculty, staff, student innovation groups and working group members – so that they, in turn, can communicate consistently with audiences.
- Create an easy-to-understand dashboard of the University's economic impact on the State of North Carolina. This should include the direct impact of research, commercialization statistics, and other direct economic benefits.
- Develop and execute investor- and industry-specific communication strategies.
- Develop and execute alumni-specific communication strategies.
- Develop and execute a communication strategy for other key stakeholders.



UNC Chapel Hill Board of Trustees Innovation and Impact Committee

Response to Questions Posed in June 2014 Memo

Judith Cone

September 2014

This paper responds to the questions posed to the Administration by Board of Trustees' Committee on Innovation and Impact Chair Phil Clay in his memorandum of June 10, 2014. Administrative liaisons to the Committee are Vice Chancellor of Research Barbara Entwisle, Joe DeSimone, Chancellor's Eminent Professor of Chemistry, and Judith Cone, Special Assistant to the Chancellor for Innovation and Entrepreneurship, who was asked to write the response in consultation with Vice Chancellor Entwisle.

The Innovation and Impact Committee is exploring ways to maximize the volume and quality of innovations from UNC Chapel Hill by strengthening the innovation ecosystem to benefit North Carolina and beyond. The University wants to fuel transformation at Carolina and make it a vibrant place of research, teaching, and innovation, addressing the most challenging issues of our time.

In the June 10 Memo the Committee presented the following questions to University Administration and asked for each to be answered in three parts 1) actions to date, 2) what have we learned, 3) what remains to be done. Questions and responses are arranged here under five main headings.

A. Leadership, Strategy, and Alignment

- What are the optimum administrative structures and functions for leading our efforts in innovation and entrepreneurship? What are the roles of other senior officers and deans? How is the faculty mobilized for various roles?

B. Carolina's Innovation Assets

- How does research connect throughout all of our programs and work in innovation and entrepreneurship?
- What does an innovation agenda mean for various segments of the UNC Chapel Hill community and their activities? (education programs, student activities, faculty, staff, alumni, town-gown relations)
- How can we best address design (and cultivate "design thinking") in innovation and entrepreneurship?
- What are the space requirements to support a robust innovation ecosystem? What is our strategy for Carolina North? Does the existing plan hold up? If not, how will we determine what to do?
- How can we leverage Carolina's global brand for maximum impact?

C. External Engagement

- How can we engage industry partners in building a strong innovation ecosystem?
- How can we form a strong regional infrastructure of support for our innovation agenda in the Triangle?
- How can we build and maintain an innovation ecosystem that supports both broad and deep engagement with the state?

D. Funding

- How will we adequately fund our research and its application, in light of declining federal and state dollars?
- How can we engage the venture community in support of new ventures?
- How does an innovation agenda relate to a university development campaign – and to other possible opportunities for funding?

E. Learning and Communicating

- How can we continually learn from others while also leading in innovation and entrepreneurship?
- What communication strategies are needed to bring the University community and the public on board with our innovation agenda – and to tell the story of impact?

A. LEADERSHIP, STRATEGY, AND ALIGNMENT

Q: What are the optimum administrative structures and functions for leading our efforts in innovation and entrepreneurship? What are the roles of other senior officers and deans? How is the faculty mobilized for various roles?

CONTEXT: ABOUT IMPACT

In responding to this question, it is helpful to make a distinction between commercialization of technology, and innovation as a process of putting important ideas to use for the public good. Bringing new technologies to market through startups or licensing is very important – but is only one way to be innovative and have impact. The University has taken a broad approach to innovation and has described three key translational methods used by faculty, students, and staff:

1. *Launch innovators into the world.* Graduates armed with technical knowledge, grounded in the liberal arts, and inspired to action by example are powerful ongoing contributors to impact. Carolina wants its students to graduate with the tools and confidence to apply entrepreneurial thinking and action throughout their lives. Many parties at the University have been working together to identify – and then cultivate – new skills and attributes that students will need in order to have positive impact in a fast-changing world. For example, a recent Faculty Working Group on Data Studies recommended that all students graduate data literate.
2. *Influence based on research.* Many faculty use the knowledge derived from their research to develop cases that influence government and corporate policy, inform the development of programs and interventions to influence attitudes and behaviors, or to advance the state of practice in fields including science, medicine, government, and education. Through artistic and social endeavors, other faculty, students, and staff create broader understanding of issues and provoke new insights into human affairs.
3. *Create social and commercial enterprises.* This encompasses the *formal* technology commercialization process (based on university-owned intellectual property) as well as *informal* enterprise creation (the starting of ventures that do not depend on university IP). Due to patent tracking, the formal type is officially recorded, while many of the informal type go uncounted. Students are particularly active in informal enterprise creation, although of course, faculty participate in this space also.

While the Board of Trustees Innovation and Impact Committee is broad in its vision, the focus so far has been largely, although not exclusively, on innovation in relation to commercialization and economic development.

All types of innovation require leaders to:

- Make innovation and impact a top priority and build a supportive climate.

- Communicate with multiple audiences inside and outside the University about why this is important and involve them.
- Provide sophisticated guidance and education through formal and informal programs.
- Engage strategic partners to facilitate innovative endeavors.
- Provide incentives and rewards; remove barriers.
- Fully resource the efforts.
- Ensure that the building blocks of innovation are in place (APS, BME, Data studies, Computer Science).
- Promote diversity in interdisciplinary work (team science, convergence, implementation science).
- Communicate Carolina's impact on North Carolina and on the world.

The above-listed fundamentals of an innovation ecosystem will appear in various sections throughout this document. In myriad ways, UNC Chapel Hill leaders demonstrate their commitment to innovation through their actions.

Regarding the senior administration team:

Some major steps have been taken since 2010 in terms of creating, and enhancing the work of, key offices. These offices, in turn, have done much to help build (or to revamp) systems and programs for innovation. Some critical next steps are being planned. While several offices could be highlighted, two existing and a proposed new one are discussed:

Chancellor's Office of Innovation & Entrepreneurship:

Actions To Date — I&E OFFICE

Established in 2010, this office leads campus-wide efforts to strengthen a culture of innovation and entrepreneurship and encourages all three translational approaches. Early on it engaged faculty, students, and external groups (including five Board of Trustee members) to create a strategy (the *Innovation Roadmap*) and then to implement it (documented in the *Two-Year Progress Report*). The *Roadmap* called for actions such as having the campus adopt a central major global issue such as water. It also highlighted the need for diversity in interdisciplinary approaches to help solve complex problems. It recommended creating and/or strengthening the building blocks of innovation: Applied Physical Sciences, Biomedical Engineering, Data Studies, and Computer Science.

Using the *Roadmap* as a guide and iterating along the way, the I&E Office has advocated for the issues stated above and has encouraged advancements in teaching entrepreneurship and building innovation spaces. One of the most important tasks has been to identify roadblocks and then collaborate with administrators and staff members to remove or at least lessen them. Whether people wish to pursue social, artistic, commercial, sports, health, or scientific innovations, the I&E Office monitors programs and services to ensure everyone is well served by the University community. The Office publishes progress reports on the University's innovation ecosystem every two years.

From the beginning, the Office has turned to student leaders to help set the agenda and implement the work. The Chancellor's Student Innovation Team, created in 2010, has been an integral part each step along the way, followed by a more recent graduate-student team.

Further, the I&E Office works with units across campus to start and/or improve their work, involves students as leaders in these initiatives, helps to raise funds, and provides seed grants for projects. The Office, along with the Center for Entrepreneurial Studies, co-founded Launch Chapel Hill, and it helped establish 1789 Venture Lab and the CUBE Social Innovation Incubator in collaboration with the Campus Y. It established a campus-wide community of faculty, staff, and students involved as leaders in innovation and entrepreneurship, the *Carolina I&E Network*, to grow the ecosystem. The Network has approximately 125 on the mailing list and an average attendance of 85 at monthly meetings. The I&E Office has organized these meetings to introduce the group to each other, further integrate the campus's work, provide connections to senior leaders (Chancellor Folt was the kickoff speaker), present informational sessions, bring up issues that need to be addressed, and pursue new opportunities.

The Office communicates the stories of innovation through its innovate.unc.edu website and social media. It represents the University in developing the Triangle entrepreneurship ecosystem, in the State, and on the national stage.

Finally, the I&E Office has helped raise millions of dollars for innovation and entrepreneurship. (The *Roadmap* goal was \$125 million, and that target is close to being reached with one year left in the plan.) In turn, the University has helped social ventures, student startups, and faculty spinoffs get started. Thousands of students have engaged in experiential education to learn what it means to think and act entrepreneurially.

What We Have Learned — I&E OFFICE

The strategic and catalytic role of this Office is important to drive innovation in myriad ways on campus and to ensure that resources and processes are aligned with the vision. Singularly, it works across all dimensions of the University: Administrative and academic leadership, research, teaching, service, undergraduates, graduate students, post docs, faculty, staff, donors, and the community. This type of panoramic view allows Carolina, as a large complex organization, to make the type of strategic decisions necessary to be a vibrant innovation hub that tackles the biggest challenges of our time.

Much progress has been made; much important work remains. Culture building requires consistency over time.

Remains to Be Done — I&E OFFICE

Recommendations

- Continue to be a catalyst. Articulate the vision and mission, engage a wide variety of internal and external stakeholders, and advocate for a culture of innovation and entrepreneurship campus-wide.
- Continue to evaluate the ecosystem, advocate for necessary changes and promote new advancements in how our campus accomplishes this work.

- Implement tools that can be shared within the *Carolina I&E Network* such as the adoption of Salesforce, which is under way.
- Celebrate successes and tell the stories of innovators and their impact.
- Help raise funds for campus initiatives.

Office of the Vice Chancellor for Research:

Actions To Date — OFFICE OF RESEARCH

The Office of the Vice Chancellor for Research represents the front end of the innovation pipeline. Despite the sequester and the federal shutdown, Carolina has continued to increase its research and it now ranks 9th nationally in federal funding, and 11th from all sources. Federal sponsors account for most of this funding. Accordingly, the Office of Research has had a strategic focus on diversification, making investments and organizational changes to support funding from industry, including our own spinouts. It has also made investments to help maximize the impact of Carolina's research through support for the CTSA, and through the research centers and institutes, where applied research related to policy, programs, and practices is largely based. It is these accomplishments that highlight even more graphically the underperformance on the other end of the pipeline.

With respect to commercialization specifically, the Office of Research has made improvements in the Office of Technology Development (OTD) through personnel and budget changes and better systems. It created a patent review process and a Technology Development Grant program as well as waived indirect charges on Phase I SBIR/STTR grants. OTD is performing much more effectively than previously.

As background, prior to 2010, for many years the Office of Technology Development, reporting to the Vice Chancellor for Research, was the only organization on campus commercializing research. It seemed unable to fill that role adequately, as shown by weak indicators of performance compared with peer institutions. As a consequence, in 2004 the School of Medicine started the Carolina KickStart initiative with funds from a NC TraCS CTSA award. During that same time, the Carolina Express License was created by a faculty task force and went into use in 2010.

What We Have Learned — OFFICE OF RESEARCH

The Research Office has a large and growing portfolio that now includes nearly \$800 million in research. It has 11 offices that support research development, compliance, and impact, is responsible for 16 university centers and institutes, and works with all faculty to advance their research. Carolina's research portfolio is more than twice the size of the next largest in the UNC system (NCSU) and, because the portfolio is dominated by the life sciences, is highly regulated.

Throughout the University's history, research and teaching have received the majority of resources, while service was lauded but certainly not an equal partner in allocations. Now that impact has risen to a priority, innovation will need to be supported accordingly.

The size and complexity of the Research Office's portfolio is important because Carolina is in a time of transformation. The services offered by OTD have improved, but those advances in

themselves will not be sufficient to deliver the types and quality of services needed across multiple audiences quickly enough to close the innovation performance gap. Take the sum of our good actions, and we improve. Take the vision of what we could become, and it means we have to be disruptive for the public good.

There are plans to create a separate office for commercialization and economic development (discussed in the next section).

Remains To Be Done — OFFICE OF RESEARCH

Recommendations

- Continue the mission of growing research and maximizing its impact. Work closely with the Offices of Development, Communication, Innovation & Entrepreneurship, and the proposed Office of Commercialization and Economic Development, as well as with departments, centers, and institutes, to help increase research funding and facilitate the translation of research into practical benefit.
- Provide streamlined services for sponsored research proposals and agreements with private industry through the Office of Industry Contracting.
- Enhance communication research benefits through the Office of Research Communications.

Proposed Office of Commercialization and Economic Development:

This proposed new office will report to the Chancellor and provide the needed focus on end-of-the-pipeline impact. It will be nimble and experimental, give visibility to the goals, and be able to hire the type of additional talent needed. Most important, it will enable the University to take next-level steps to become a leader in these fields.

Actions To Date/What We Have Learned — PROPOSED OFFICE OF COMMERCIALIZATION AND ECONOMIC DEVELOPMENT

Presentations to the Committee highlighted the underperformance of Carolina in commercialization. While the University is much improved due to the investments of the Office of Research and those of other units around campus, incremental improvements will not catapult Carolina into becoming a global leader in this area.

Since commercialization is a critical component of the innovation ecosystem, University leaders believe this proposed office is needed to integrate the various entities on campus (including the OTD) into a unified effort and add additional services. It would build on the solid base that has been developed since 2010 and make Carolina a highly effective university in commercialization. A great deal of analysis and planning has gone into how such an office could be designed.

Economic development has been covered during the Committee meetings in relationship to the impact Carolina has on the state. The economic strength of North Carolina is of utmost importance to the University. This is our State, and we are dedicated to serving its citizens.

Having a senior-level position dedicated to economic development will harness campus-wide efforts, draw on the strengths of our research, and leverage faculty, staff, and students in a

coordinated way to make lasting and significant improvements. The proposed office would work with experts in economic development across campus to create and implement a strategy for maximizing UNC Chapel Hill's efforts, in partnership with local, regional, and state leaders from business, government, and support organizations. Further, this Office would, in partnership with Development and Research, help lead a major focus on developing industry relations.

Multiple factors are now converging that make this the time to create the proposed office:

- The Board of Governors, Board of Trustees, Chancellor and Provost are aligned behind making innovation and impact a top priority and increasing benefits to the State from UNC Chapel Hill research.
- The campus has been building a culture of innovation and has made progress in commercialization. Deans who lead units that engage in commercialization, as well as academic entrepreneurs, want the University to take the needed actions to make Carolina an exemplar in these areas.
- State government officials are encouraging universities to increase their commercialization efforts.
- Federal funding agencies increasingly favor research geared to translation and commercialization of basic science.
- Millions of people in North Carolina already benefit from the economic impetus that Carolina, as a major research university, provides, but the need is great.
- UNC Chapel Hill has not had a university-level representative for economic development since 2010, when the two-person Office of Economic and Business Development closed upon Director Jesse White's retirement. Faculty and staff working on topics related to economic development continue to meet monthly during the academic year to discuss issues, but there is no comprehensive framework for advancing their efforts.
- The Office of Research is large and complex, dealing with a budget of nearly \$800 million that is concentrated in the highly complex fields of human life sciences. Having a separate office that works closely with Research, but is focused on commercialization, could help in managing all aspects of the work more effectively.

Remains To Be Done —PROPOSED OFFICE OF COMMERCIALIZATION AND ECONOMIC DEVELOPMENT

Recommendations

- Create the Office of Commercialization and Economic Development to fulfill the following two missions:

Mission for Commercialization – From Invention to Impact: Provide maximum benefit to the people of North Carolina and beyond by optimizing the University's systems for practical innovation, and by licensing university intellectual property promptly to those who will most effectively and appropriately propagate it into use for society.

Mission for Economic Development: Grow North Carolina's economy and competitiveness by engaging key faculty/staff experts and students to develop and implement a strategy to address economic development drivers in our State.

The roles of other senior officers and deans:

Actions To Date — SENIOR OFFICERS AND DEANS

Strengthening a culture of innovation that maximizes Carolina's impact on the citizens of North Carolina and beyond is the responsibility of every leader.

Senior leaders throughout the campus have contributed to the innovation agenda. The Provost and Vice Provosts, along with the Vice Chancellors for Research, Development, Student Affairs, Administration/Finance, Workforce Strategy, Legal Affairs, Communications, and Special Assistant for I&E have been instrumental in the advances to date. Some deans lead units that have more a direct relationship to commercialization, but all can and do drive innovation and impact.

Frustrated by inadequate commercialization services offered by central administration prior to 2010, and motivated by a vision of what was possible, a few deans, whose schools are most prolific in generating patentable intellectual property, took the lead. Wanting to close the commercialization gap, they created their own programs and shared them with others across the campus. Most notable in this regard are the deans of the School of Medicine, Kenan-Flagler Business School, the Eshelman School of Pharmacy and the College of Arts & Sciences, working with the Departments of Computer Science and Chemistry. Some have included innovation in plans for the upcoming campaign.

What We Have Learned — SENIOR OFFICERS AND DEANS

To have a robust, highly effective, and sustainable innovation and entrepreneurship ecosystem, the University's related goals and strategies need to be fully integrated by each senior administrative leader and dean, and resources and processes need to be aligned.

The University's commercialization efforts are now distributed between central services and localized programs. Carolina KickStart, UNC Kenan-Flagler's Frank Hawkins Kenan Institute of Private Enterprise and the Center for Entrepreneurial Studies provide important services to augment the work of OTD, especially around the creation of new businesses based on university IP. Finding the optimal mix between centralized leadership and decentralized services will fully leverage campuses resources.

Remains To Be Done — SENIOR OFFICERS AND DEANS

Recommendations

- Continue to include goals related to innovation and impact in their strategies and actions. Senior leaders need to align institutional resources and processes accordingly. Since the Chancellor and Provost are working closely with administrative leaders and deans on strategic planning and the Development Office is preparing for the new capital campaign, this is the time to incorporate innovation goals.
- Articulate to their constituents how and why the University is building an innovation ecosystem and how it is relevant to their areas of responsibility or research. Specifically encourage their faculty, staff, and students to consider the rewards of converting ideas into practical benefit.
- Balance central services and unit programs to keep them strategically aligned and fully integrated.

- Deans: Continue creating structures and environments that support innovation. Prioritize innovation initiatives in development goals as well as in communication strategies. Following the lead of some deans, it is helpful if each assigns an innovation and entrepreneurship liaison officer to join the university's I&E Network group, and to serve as an internal contact person and champion. The Schools of Medicine and Pharmacy and the Department of Computer Science have associate deans/chair with titles related to entrepreneurship.
- Deans: Ensure that their faculty feel supported in undertaking scholarly work in ways that benefit non-academic sectors and have impact. Align incentives and rewards.

Mobilizing faculty for various roles:

Actions To Date — MOBILIZING FACULTY FOR VARIOUS ROLES

Faculty are at the heart of the innovation effort, whether they contribute by creating intellectual property, starting enterprises, or maximizing impact in other ways. A variety of programs and initiatives are under way to spur faculty involvement in commercialization and entrepreneurship more broadly. For example:

- Carolina KickStart, the Center for Entrepreneurial Studies, the Office of Technology Development, the Kenan Institute of Private Enterprise, the CUBE, Launch Chapel Hill and unit programs all help faculty with commercialization. Carolina KickStart has created a faculty mentor program whereby faculty seasoned in commercialization coach those new to the process. Other formal training programs are available, such as Launching the Venture, as well as many mentoring programs such as the Concierge program at the Kenan Institute and the ongoing assistance provided by OTD staff. Entrepreneurs-in-Residence are in place throughout the University and work closely with administrators, faculty, staff, and students.
- Faculty have a role on the OTD Advisory board, have been on task forces for commercialization and industry relations, and speak at the OTD Innovations Seminar Series.
- Carolina KickStart has consistently advocated for incubation space. It spearheaded the use of part of the second floor of the Genome Sciences Building for office and wet-lab space for faculty ventures, and pre-negotiated conflict of interest and facilities use agreements.
- The Faculty Entrepreneurship Bootcamp, hosted by the Economics Department's Minor in Entrepreneurship and staffed with facilitators from on and off the campus, is a four-day program for faculty who want to learn the principles of moving their ideas forward to application. This past year, several faculty from other UNC universities attended, and there are conversations about expanding it further.
- Other programs focus on innovative engagement and outreach, such as the Felix Harvey Award. As formally stated, this award is meant to *recognize exemplary faculty scholarship that reflects the University's commitment to innovation.*

What We Have Learned — MOBILIZING FACULTY FOR VARIOUS ROLES

Not all faculty wish to be involved in the innovation work of the campus. Some perceive innovation in the narrow sense to mean commercialization of IP, and think that such activity is not relevant to them. Communicating that innovation is about impact engages more faculty. For faculty who do wish to commercialize their work, there is an awareness gap in terms of knowing where to turn for help and how to navigate the process. Some find the task too daunting to even begin. Among those faculty already engaged in commercialization, the majority are not seasoned in this type of work and would benefit from added guidance and services. The process of managing conflict of interest remains a major barrier to this work at Carolina.

Remains To Be Done — MOBILIZING FACULTY FOR VARIOUS ROLES

Recommendations

- More effectively help faculty understand that translation is an extension of their scholarly pursuits.
- Find ways the University can incentivize and facilitate translational work. For instance, faculty need time to invest in the translation process.
- Effectively guide faculty through the translation process.
 - Expand the Faculty Bootcamp or some such equivalent(s).
 - Use successful, respected faculty innovators as mentors and guides for others. Expand on the KickStart Faculty Fellows program – which is modeled after a University of Utah program.
- Streamline the Conflict of Interest Review process.
- Create a cross-campus entrepreneurship education curricular committee to continue refining how faculty teach entrepreneurship to various audiences.
- Better engage with Carolina faculty who are noted scholars in innovation and entrepreneurship to learn from them and extend their scholarly work.

B. CAROLINA'S INNOVATION ASSETS

Q: How does research connect throughout all of our programs and work in innovation and entrepreneurship?

CONTEXT

As a leading research university, Carolina is connected to local, national and global communities. Society often looks to the top talent at universities – scientists, innovators, program leaders – to produce new solutions to pressing local and global challenges. Such complex problems require diversity of thought and collaboration in finding solutions based on interdisciplinary research. Research, especially research that brings together diverse talent, is at the heart of our innovation agenda.

Actions To Date — RESEARCH FUNDING

The steady growth of research funding at the University over the past 15 years is a tribute to the talent, hard work, and success of the faculty (a product of earlier as well as current investments) and an interdisciplinary approach to advancing knowledge and understanding. UNC Chapel Hill faculty are part of an internationally-recognized research enterprise that draws from five health sciences schools (Dentistry, Medicine, Nursing, Pharmacy, and Public Health), plus UNC Health Care and its teaching hospitals, as well as the College of Arts and Sciences and the other professional schools. UNC Chapel Hill is particularly known for its collaborative and interdisciplinary culture, as evidenced by the centers and institutes that are vital to its research program. Team science is the norm.

The 2011 Academic Plan identified *interdisciplinarity* in teaching, research and public service as a central focus, and outlined action steps to build support for it across campus, thus leveraging a comparative advantage the University already enjoys. Fully half of the external funding received supports projects that include faculty from more than one department, often from more than one school within the University. Institutes and centers have a particular role in supporting interdisciplinary collaboration and helping to leverage impact. For example:

- The North Carolina Translational and Clinical Sciences (NC TraCS) Institute combines the research strengths, resources and opportunities of UNC, partner institution RTI International and planning partner North Carolina Agricultural and Technical State University (NC A&T). The mission of NC TraCS is to accelerate clinical and translational research in health science, from discovery to dissemination to patients and communities. It seeks to overcome barriers to translation by improving efficiency, training the research workforce and sharing successful research methods. It is the sponsor of Carolina KickStart, 4D, and other relevant programs.
- The Cecil G. Sheps Center for Health Services Research seeks to improve the health of individuals, families, and populations by understanding the problems, issues and alternatives in the design and delivery of health care services. This is accomplished through an interdisciplinary program of research, consultation, technical assistance and training that focuses on timely and policy-relevant questions concerning the accessibility,

adequacy, organization, cost and effectiveness of health care services and the dissemination of this information to policy makers and the general public.

- The Asia Center works with the College of Arts and Sciences, professional schools, and various departments, centers and student organizations at UNC Chapel Hill, and collaborates with other regional and international institutions to develop and implement educational programs about Asia.

UNC Chapel Hill is leading a national conversation on convergence. Chancellor Folt and Joe DeSimone, Chancellor's Eminent Professor of Chemistry, helped organize a National Academies conference on the topic, and the conference report stated:

"Convergence" of the life sciences with fields including physical, chemical, mathematical, computational, and engineering sciences is a key strategy to tackle complex challenges and achieve new and innovative solutions. For example, researchers draw on contributions across these disciplines to advance our understanding of health and disease at genetic, cellular and systems levels and to develop and deliver novel therapeutics designed to treat diseases earlier, more successfully, and with fewer side effects.

Numerous reports have explored advances that are enabled when multiple disciplines come together in integrated partnerships (e.g., A New Biology for the 21st Century (NRC 2009); Research at the Intersection of the Physical and Life Sciences (NRC 2010); The Third Revolution: The Convergence of the Life Sciences, Physical Sciences, and Engineering (MIT, 2011); and the National Bioeconomy Blueprint (White House, 2012). As a result, institutions have increasingly moved to implement programs that foster such convergence or are interested in how they can better facilitate convergent research.

Research-based interdisciplinary work, often carried out in collaboration with colleagues at other institutions around the world and/or in the private sector, has been fertile ground for innovative, applied solutions. For example, the exceptional work of the Water Institute under the leadership of Jamie Bartram, together with the Institute for the Environment under the leadership of Larry Band, has drawn experts from around the world to its annual water conference, and has launched multidisciplinary efforts to solve issues of access to safe, clean water sources.

Programs to help faculty translate their research into innovations include Carolina KickStart and the Concierge Program for Entrepreneurs (including patent landscape analysis) at the Kenan Institute of Private Enterprise. OTD Associates assist faculty on an individual basis.

What We Have Learned — RESEARCH FUNDING

An innovation and entrepreneurship agenda that prioritizes commercialization and other translational methods is, by definition, one that depends on excellent interdisciplinary research to initiate the process. Yet, faculty who want to explore ways to apply their research struggle to find the time. They also need the right mentorship. Waiting until a faculty member files an invention disclosure with OTD misses opportunities to work on research ideas in their earliest stages and help guide their development.

With the exception of graduate students in the Kenan-Flagler Business School, graduate students and postdocs have few educational or co-curricular opportunities to build their entrepreneurial capacity. A major challenge has to do with conflict of interest issues around the participation of students in startups based on faculty IP.

Remains To Be Done — RESEARCH FUNDING

Recommendations

- Given the focus at Carolina (and, indeed, nearly everywhere) on interdisciplinary work, continue to promote collaboration and research across disciplines as a fertile source of potential innovations.
- Develop more integrated, clearer systems and support for faculty interested in commercializing their research including allocating time for faculty to become involved.
- Create and implement a comprehensive plan to educate and involve graduate students and post docs in the translational work of the campus, while also pursuing studies within their disciplines. Include connections between MBAs and graduate students and post docs in the sciences.
- Within the general structure of federal and state regulations, resolve conflicts of interest in an expedient, fair, and respectful manner so that faculty and graduate students are able to appropriately engage in innovation activities.

Q: What does an innovation agenda mean for various segments of the UNC Chapel Hill community and their activities?

CONTEXT

UNC Chapel Hill has many stakeholders pursuing a myriad of activities. To carry out the innovation and entrepreneurship agenda with maximum effect, it is worthwhile to consider how that agenda is being expressed in and integrated with the following:

- Educational programs
- Student activities
- Alumni relations
- Town-gown relations
- Faculty
- Staff

Good work has been done on all fronts but many needs remain. Below is a review of each area:

Educational programs:

Actions To Date — EDUCATIONAL PROGRAMS

UNC Chapel Hill has developed outstanding programs for faculty and students in innovation and entrepreneurship, with varying degrees of saturation depending on the target audience. Curricular offerings include: undergraduate and graduate entrepreneurship concentrations

through courses at the Business School, the Entrepreneurship Minor led by the Economics Department in the College of Arts & Sciences, a joint MBA/MD program, the Reese News Lab in the School of Journalism, a new Education Innovation Masters program in the School of Education, and courses in schools and departments across campus such as Public Health and Social Work.

Curriculum in the building blocks of innovation (APS, BME, Data Studies, Computer Science) is being created and/or strengthened. A new CreatorSpace will be tied into the APS and BME courses and open next year in Murray Hall.

Programs outside the classroom for faculty and students include: Carolina KickStart and 4D, Concierge Service for Entrepreneurs, Blackstone Entrepreneurs Network, Launch Chapel Hill, 1789 Venture Lab, the Campus Y CUBE Social Innovation Incubator, and UNC Health Innovations. Depending on the level of interest and point in the innovation process (imagine-design-build-grow), UNC Chapel Hill has a program that will help develop innovation skills and provide connections to other resources.

What We Have Learned — EDUCATIONAL PROGRAMS

As a recent survey revealed, many faculty are unaware of the services and educational programs available. When faculty do use these, they report benefits from formal programs like the Faculty Bootcamp and Launching the Venture, and from co-curricular workshops through programs like the Carolina Challenge and CUBE.

Students are looking for ways to combine their innovative and entrepreneurial passions with their formal studies. At the same time, students in areas that are not necessarily thought of as entrepreneurial benefit from exposure to the fundamentals of an innovation toolkit. These include the abilities to work in multidisciplinary teams, see opportunities and design imaginative solutions, communicate and execute on goals, be literate in data, have exposure to design methodologies, and navigate a rapidly-changing global environment.

Remains To Be Done — EDUCATIONAL PROGRAMS

Recommendations

- Continue developing and enhancing the entrepreneurship curriculum in units across campus to include methodologies for the entire innovation process: imagine-design-build-grow. Incorporate creativity and design thinking more fully in the existing entrepreneurship programs.
- Strengthen entrepreneurship educational programs for graduate students and post docs. Identify funding that could facilitate participation in these programs.
- Continue creating/expanding courses in Applied Physical Science, Biomedical Engineering, Data Studies, and Computer Science.
- Create targeted programs to best meet the needs of faculty in learning how to translate their work. Focus on just-in-time learning with a mixture of online tutorials, mentoring, and small groups.
- Market the educational programs more effectively, and in general make it easier for all audiences to find the resources and people they need.

Student Activities:

Actions To Date — STUDENT ACTIVITIES

In addition to curricular and co-curricular programs, the University has seen an increase in student-led activities to engage and build participation in an innovation ecosystem. Examples include: TEDxUNC, hackathons organized by student groups in Computer Science, Global Entrepreneurship Week activities, Carolina Creates, Kairos (featuring top student startup leaders), Design for America, University Innovation Fellows, CreatorSpace Student Leaders, the Chancellor's Student Innovation Team (CSIT) and Chancellor's Graduate Student Innovation Team (CGSIT). The I&E Office works with these student groups to plan and execute activities throughout the year, including a recent Innovation Fair and Maker Fair during Week of Welcome.

Some graduate students work closely with their faculty advisors to develop potential innovations, consult via student teams, and serve in such paid internships as the Blackstone Fellows. On a limited basis, a few graduate students work as interns in OTD and receive two-year fellowships to work on a faculty spinout.

Each year the University actively recruits a few top students to come to Carolina on a four-year full scholarship as undergraduate Innovation Scholars. These students are automatically part of the Entrepreneurship Minor and are invited to join the related campus leadership organizations.

What We Have Learned — STUDENT ACTIVITIES

Students are drawn to activities that allow maximum room for creativity, exploration and growth. UNC Chapel Hill has successfully built an innovation culture among undergraduate students across disciplines. Students who have ideas for forming startups can find support through various programs. Most of their startup ideas tend to be disconnected from significant areas of expertise and research on our campus, however. Student engagement with some of those areas, and with the faculty leads, could potentially be a source for more entrepreneurial solutions to the challenges that Carolina is taking the lead in addressing.

Remains To Be Done — STUDENT ACTIVITIES

Recommendations

- Better align student innovation activities with the research agenda of the University, exposing students to problems and potential solutions in areas outside their personal knowledge, and attuning them to the University's efforts to address pressing global challenges. This will help to expand students' thinking, so that when they generate their own ideas for startups (as many now do), they can see possibilities beyond the limited scope that is often typical of student enterprises.
- Engage graduate students more fully in the innovation agenda.
- Find ways to harness the expertise of post docs and when appropriate, engage them with faculty spinouts.
- Better market campus resources to all students.
- Expand the Innovation Scholars program.

Alumni relations:

Actions To Date — ALUMNI RELATIONS

The University's innovation agenda has sparked new relationships with alumni and parents who are themselves entrepreneurs, investors, or generally supportive of the work. Beginning with the Innovation Circle (a group of external stakeholders assembled to help create strategy for the campus), potential supporters have been provided many ways to become involved in the University's work in innovation. Alumni and parents as well as foundations have funded needs outlined in the *Roadmap*, including the endowment for the Entrepreneurship Minor, funding for innovation in the arts and humanities, social entrepreneurship, programs in the Business School, Innovation Scholars, and for many other initiatives across campus. In addition to giving, UNC alumni are working diligently to support the innovation agenda through mentorship in programs such as Launching the Venture, Blackstone Entrepreneurs Network, and Carolina KickStart, as well as through efforts to build the student innovation ecosystem. (For example, a local entrepreneur who is an alumnus founded and provides the majority of funds for the 1789 Venture Lab on Franklin Street).

What We Have Learned — ALUMNI RELATIONS

Despite much progress in this area to date, UNC Chapel Hill has just scratched the surface of the potential that exists in engaging alumni as donors, mentors, investors and often as creative forces in the University's projects and people. The Office of Development is eager to work more systematically towards alumni relationships that can yield significant future support for innovation work.

Remains To Be Done — ALUMNI RELATIONS

Recommendations

- Develop a high-level strategy for engaging alumni support for the innovation agenda. Segment the alumni and call upon them for their expertise as entrepreneurs, investors, and subject-matter experts as well as donors.
- Create an Innovation Fund for the campus that would support all aspects of the innovation agenda.
- Tie in alumni through regional innovation hubs.

Town-gown relations:

Actions To Date — TOWN-GOWN RELATIONS

For some time, talks with the Town of Chapel Hill about economic development centered around Carolina North, which called for innovation space particularly for faculty. As plans for Carolina North slowed, the University continued looking for ways to work with the Town to further support local economic development in addition to the University being a major employer and consumer of services and products. Helping develop and be home to Carolina startups is now part of the Town's and County's agenda. The Launch Chapel Hill business accelerator is a joint project among the Town of Chapel Hill, Orange County Economic Development, successful

entrepreneurs, and the University to support and accelerate startups of both UNC alumni and local residents. This partnership has been tremendously successful.

What We Have Learned — TOWN-GOWN RELATIONS

The Town of Chapel Hill and Orange County are pleased with the Launch Chapel Hill project and are eager to continue working together to support entrepreneurs. There are a number of challenges in creating a thriving startup scene in Chapel Hill. Rents are high and space is sparse near campus. There is not a major Chapel Hill corporation that is championing the startup ecosystem, such as occurs in Durham with Capital Broadcasting.

Remains To Be Done — TOWN-GOWN RELATIONS

Recommendations

- Continue working with Chapel Hill and Orange County officials on how to attract, support, and retain entrepreneurs and harness innovation for the economic and social benefit of the community. Good relations have been established and talks are underway for next phases of this work.
- Encourage landlords who own office space to offer flex terms and lower rents for startups.
- Build a world-class Innovation Center in Downtown. (see Space section)
- Create a strategy to engage local influential individuals in this work.

Faculty:

Actions To Date — FACULTY

The innovation agenda has resonated with the majority of faculty, especially when discussed in more general terms as a means of extending their scholarly work to have practical benefits and impact beyond the academic realm. Some faculty come and stay at Carolina because of its ethos of research-based service. Even so, innovation themes are more readily embraced by faculty whose work is obviously translational (especially in computer science and the health sciences). UNC Chapel Hill has worked to recruit and retain noted innovative faculty members and to celebrate their work, striving to be a University where innovators thrive. Only a small percent of faculty have patentable discoveries, and not all of them want to commercialize those discoveries. In the latter case, OTD waits for invention disclosures from faculty while KickStart and unit liaisons start to work with faculty as early as possible to better move discoveries into the commercialization pipeline.

Two examples of faculty work show the diversity in types of impact. Both received much support from innovation team members on campus. As then chair of Music in Arts & Sciences, Mark Katz was asked to create the arts entrepreneurship track in the Entrepreneurship Minor, and he also received funds and support through an IAH Innovation award. Professor Katz created several new courses, including The Art and Culture of the DJ, Beat Making Lab, Rap Lab, and Rock Lab. With Professor Katz's assistance, his two adjunct faculty took Beat Making around the world and created an independent company to promote Beat Making and art activism. Professor Katz leveraged this work to win a U.S. Department of State grant for \$1 million to create *Next Level*, a program that sends American artists abroad to foster cultural exchange, conflict resolution, and entrepreneurship.

On a different front, faculty members Shelley Earp and Stephen Frye are commercializing their discoveries. Their firm Meryx is a new spinout company from Lineberger Comprehensive Cancer Center and the Eshelman School of Pharmacy. In partnership with the National Cancer Institute (NCI), they are developing a novel therapeutic treatment for acute lymphoblastic leukemia (ALL). They have a platform of small-molecule drugs for a wide range of clinical indications; cancer, anti-viral, and anti-thrombotic. The team is led by co-founders Stephen Frye, PhD; H. Shelton "Shelley" Earp, III, MD along with Seth Rudnick, MD, Chairman of the Meryx board and Mary Napier, PhD Operations Lead.

Specific support for faculty who wish to commercialize their technology is handled by the Office of Technology Development, the Carolina KickStart program, the Concierge Service for Entrepreneurs at the Kenan Institute of Private Enterprise, and through I&E liaisons within the schools themselves.

What We Have Learned — FACULTY

Those faculty already inclined toward translating their research into practical application tend to find the resources that they need to be successful. Many faculty remain confused about the best pathways to take and are not well informed about the opportunities that are available. Often they are unsure about how to handle such issues as conflict of interest. Some have not recognized or found the linkages between their research/careers and translation to non-academic audiences.

Remains To Be Done — FACULTY

Recommendations

- Reach more faculty with the opportunities of the innovation agenda.
- Develop an integrated network of innovation liaisons working with a core staff to be closely in tune with all faculty work and to educate faculty about Carolina's innovation agenda and resources.
- Create integrated, comprehensive systems that support faculty from early-stage innovation through all phases of translating knowledge into practical use. Build bridges of assistance across gaps in the process that are hard for faculty innovators to traverse on their own.
- Streamline all systems to remove resistance to the process, especially conflict of interest and facilities use.
- Find the resources needed for faculty to pursue innovations.

Staff:

Actions To Date — STAFF

UNC Chapel Hill students and faculty are supported in their innovation work by a small cadre of program staff, distributed across campus. These staff members work with each other and with faculty and students who are not directly engaged in the innovation agenda but have critical roles to play. Staff from the Office of Technology Development, KickStart, Kenan Institute of Private Enterprise, unit liaisons, those who operate the innovation spaces as well as offer the accompanying programs, and many others work tirelessly.

What We Have Learned — STAFF

Innovation often requires flexible thinking and approaches that challenge bureaucratic systems. University staff have worked to find ways through roadblocks and to expedite processes that are critical to advancing innovation, although there is still more to be done. Staff members in this area are too few and are under-resourced.

Remains To Be Done — STAFF

Recommendations

Garner resources to bring additional staff support to the innovation ecosystem. Develop clear linkages between the offices and programs that provide staff support and guides to help others navigate the landscape.

Q: How can we best address design (and cultivate “design thinking”) in innovation and entrepreneurship?

CONTEXT

Those involved with design thinking promote methodologies that include: seeing a problem or opportunity in the world, targeting the need, ideating possible solutions, and then ultimately designing a solution – all from a customer-driven or user-driver perspective. Increasingly, these methods are being used not only to design products but to design new businesses, whether they are startups or new arms of existing firms, and to design not-for-profit ventures that address social issues. The process centers around answering three key questions: Is this desirable? Feasible? Viable?

Design thinking may be combined with other concepts such as the lean startup model, which emphasizes building a new company iteratively, with feedback from customers, before scaling to each next step. The result is a highly-adaptable approach, which (when executed well) can produce startups that truly meet needs, while reducing the cost and risk involved. This is a departure from traditional business plan approaches in which entrepreneurs first map out a detailed master plan for their startups and try to find financing.

Actions To Date —

UNC Chapel Hill has shifted to teaching entrepreneurship on the basis of design thinking, lean startup, and business models with a focus on guided ideation as an integral part of design. The Human-Centered Design Toolkit, funded by the Gates Foundation, shows how to use the same methodologies in not-for-profits and social enterprises. Human-centered design is used by the Reese News Lab in the School of Journalism to generate solutions such as Capitol Hound, a social enterprise that provides a searchable audio archive and alert system for people following the North Carolina General Assembly floor sessions and committee meetings. In the Business School and the Entrepreneurship Minor, design thinking and lean startup methods are being integrated into the curriculum. Co-curricular support teams like Design for America (undergraduate-led), the Biomedical Engineering Club (graduate-student led), Carolina Creates (undergraduate-led) and

the new Carolina Makers club (graduate and undergraduate student-led) conduct events and workshops that provide opportunities for idea development and solution design. Formally, design methodologies are integrated into the BME curriculum and will be a component of the curriculum in the new department of Applied Physical Sciences (APS).

APS also has led in the development of a new maker space (with the working title Carolina CreatorSpace) scheduled to open in the fall of 2015. A faculty working group of more than 25 members met during the past year to make recommendations for a 3500 ft² central space that will provide tools, technology and instruction for students and faculty in making physical objects. The space will support both curricular and co-curricular programming. It will be a hub that connects existing spaces on campus where design and making already occur, such as the Environmental Science Engineering (ESE) Design Center in the Gillings School of Global Public Health, the Art Lab in the Art Department, the Playmakers Theater Shop in the Paul Green Theatre, the University Libraries' 3-D printing hub in the Kenan Science Library, and the new children's maker space in the Morehead Planetarium.

What We Have Learned —

Methodologies for seeing problems, targeting need, ideating possibilities, and designing customer-driven solutions are effective means of innovation. Design thinking, human-centered design, improvisation and other creative methodologies add value to the entrepreneurial process, generating more actionable and successful ideas.

The campus program leaders and faculty are in the process of incorporating these methods in their offerings. Design is at the forefront in the discussion of I&E spaces.

Remains To Be Done — DESIGN

Recommendations

- For faculty entrepreneurs, integrate ideation and design methods into the full-service technology development approach that begins in the lab, well prior to invention disclosure. Lean Startup methods for the life sciences are made available through an NIH program, but our campus needs to create its own version.
- For students, support full integration of design methods into areas where this is already being done or planned—notably APS, BME, the proposed Data Studies competencies, and the CreatorSpace – while exploring potential uses of the methods in other curricular and co-curricular offerings.
- Expand the University's educational programs in design thinking for faculty and University program leaders, and continue exploring ways to ingrain design on our campus, especially as we create new spaces for innovation.

Q: What are the space requirements to support a robust innovation ecosystem? What is our strategy for Carolina North? Does the existing plan hold up? If not, how will we determine what to do?

Space requirements:

Actions To Date — SPACE

In 2010 there were no formal spaces on campus dedicated to hosting and supporting startups. Since then, programs and spaces have opened and are essential infrastructure for the University's burgeoning innovation ecosystem. The Campus Y has created and has even increased its services for social entrepreneurs. The Entrepreneurship Minor is in the process of opening its new space in Gardner Hall. Faculty, staff, students, and donors have made numerous trips to visit innovation spaces. Teams have visited many spaces in Boston, Chicago, Stanford, California, Las Vegas, New York City, and others.

The spaces now available on and adjacent to campus include:

Launch Chapel Hill – Opened May 2013

Type: Student, faculty, alumni, community; edge of campus.

Capacity: Approx. 12-15 ventures (depending on size of teams).

Funding: Three-year co-investment from Chancellor's Office (\$300K), Town of Chapel Hill (\$150K), Orange County (\$150K) and the Becker Family (\$300K). In-kind donations from Triangle Office Equipment and 3 Birds Marketing.

Benefits: Bridges gap in support for recent UNC alums; keeps them in the Chapel Hill community. Great for town/gown relationship.

Limitations: Capacity is limited and space is challenging for events. Lease ends in December 2015.

KickStart Labs Faculty Entrepreneurs Office and Wet Lab Space – Opened December 2012

Type: Faculty commercialization of scientific research.

Capacity: 2000 ft² office/meeting space; 4000 ft² lab with pre-established terms for faculty use, as well as clear conflict of interest terms, capacity to incubate 10-12 startups

Benefits: Proximity for faculty to go between their work and a startup in its earliest stages. UNC has the ability to house startups on campus using a Facility Use Agreement (FUA) usually in the faculty founder's lab. FUAs have been a good stop-gap solution but have drawbacks including: (a) poor oversight and management (b) poor optics, and (c) no interactions and synergies between companies. Dedicated incubation space addresses these challenges.

Funding: Carolina KickStart

Limitations: Control of the space in the Genome Science Building transfers from SOM to College of Arts and Sciences in February 2015. All indications are that the KickStart Labs will need to move. No appropriate future space has been identified.

Campus Y CUBE Social Innovation Incubator – Opened December 2012

Type: Student, faculty startups that are non-scientific commercial, social, or artistic.

Capacity: 6 ventures plus ability to host workshops and events.

Funding: Investment from Chancellor's I&E Office for staff position; private fundraising for remainder.

Benefits: Supports the campus-wide social innovation and public service community. Provides entrepreneurial skill development, as well as space, through mentoring, workshops, and other co-curricular programs open to the campus.

Limitations: Programs and space are at capacity. Growth upside is high but without resources to capitalize.

1789 Venture Labs – Opened May 2013

Type: Student non-scientific commercial, social, artistic; edge of campus

Capacity: 40+ ventures currently working out of the space, plus ability to host workshops and events for up to 100 people.

Funding: Currently funded by alum Jim Kitchen with some University support through the CES.

Benefits: Popular space for entrepreneurs on Franklin Street; bridge to the community.

Limitations: Budget

Entrepreneurs Lounge CS (Computer Science)

Capacity: Meeting space for up to 15; no permanent workspace.

Benefits: Provides space for groups to meet around a common theme.

Limitations: Not a hackerspace (with equipment). No dedicated workspace for teams to use.

Kenan Institute Reading Room

Capacity: Meeting space for up to 3 teams of 4-6 people; no permanent workspace.

Benefits: Provides much needed co-working space at the Kenan Center.

Limitations: Space can only be used on a temporary basis; no dedicated space.

What We Have Learned — SPACE

For a dynamic, fully-functioning innovation ecosystem, UNC Chapel Hill needs a portfolio of spaces that serve faculty and students and are woven together to form an integrated whole. Executing a well-considered space plan is key to institutionalizing innovation and entrepreneurship on campus and ensuring that Carolina's efforts are world class, achieving impact on par with or exceeding other leading universities. Physical spaces present a thoughtful way to centralize some activities with nodes spread throughout the ecosystem, taking advantage of the benefits of diffusion while realizing the opportunities of integration. Programs on campus have bootstrapped through proof-of-concept and have proven the need for, and effectiveness of these spaces.

Remains To Be Done — SPACE

Recommendations

- Allocate adequate space for Applied Physical Sciences, Biomedical Engineering, and maker space: The Chancellor, Provost, Dean of Medicine and Dean of Arts and Sciences are addressing these needs and have made significant investments.

- Find permanent wet lab and office space on campus for faculty entrepreneurs and their spinouts. The need is immediate and urgent, with the current space at the Genome Sciences Building due to be vacated by February 2015.
- Create an Innovation Headquarters on central campus. Having such a physical location would present a strategic opportunity. It would serve as a front door for the campus where people can come for assistance, and donors could be inspired by a tangible reminder of the impact Carolina is having. The proposed Commercialization and Economic Development Office could also use this space for some of its activities.
- Build a world-class Downtown Innovation Center. A proposed downtown Chapel Hill Innovation Center (CHIC) would bridge the campus and community while becoming home to the already-successful accelerator, Launch Chapel Hill, and the popular 1789 Venture Lab. (With its current lease expiring in December 2015, Launch Chapel Hill is considering its options.) In addition to event and ideation space and a design center, CHIC would provide new spaces for growing companies that want to stay in Chapel Hill, including potentially those requiring wet lab space, as well as space for investors and professional service providers, and for strategically chosen industry partners such as the local Google office. The groups of people involved in creating Launch Chapel Hill and 1789 are actively engaged in conversations about CHIC.
- Investigate building a Life Science Innovation Center. There are several reasons to build an innovation center for the life sciences: 1) It will be a place where industry can interface with faculty and graduate students; 2) Commercialization staff can have offices near a large portion of the University's innovation portfolio; and 3) It will provide much-needed faculty access to wet-lab space, offices, and equipment as they remain full-time professors/researchers but also start a company. Once the Genome Sciences space is unavailable come February 2015, faculty startups will have no space on campus. New resources need to be available to all faculty, even if they are administered by an academic unit.

Regarding Carolina North:

The future of Carolina North is being discussed by others and will not be covered in this document.

Q: How can we leverage Carolina's global brand for maximum impact?

Actions To Date — GLOBAL BRAND

At the core of UNC Chapel Hill's innovation agenda is the desire to put the resources of the University to use in solving some of the most pressing challenges of our time – in North Carolina and globally.

The University leverages its global reach and distinguished reputation in a number of ways, such as to recruit and retain faculty, staff, and students and convene international leaders around complex issues. The brand helps position UNC faculty as leaders in setting strategic agendas with federal agencies and other policy and funding groups. The brand is important in securing strategic partnerships as well.

An outstanding example of global leverage is *Water in Our World*, UNC's first cross-campus theme. It has been co-led over the past three years by Jamie Bartram, director of the internationally-recognized Water Institute in the Gillings School of Global Public Health and Terry Rhodes, Senior Associate Dean for Fine Arts and Humanities in the College of Arts & Sciences, home to some of the nation's best programs in the arts and humanities. A key feature of the water theme was its breadth and ability to engage these disciplines as well as the sciences. It has advanced understanding of the issue, raised Carolina's already-strong global profile in water research, built relationships on campus as well as beyond, and led to developing new knowledge and solutions. The exceptional work of the Water Institute, together with the Institute for the Environment under the leadership of Larry Band, has drawn experts from around the world to its annual water conference, and has launched multidisciplinary efforts to solve issues of access to safe water, sanitation, and hygiene.

Another example of the University's global reach is related to advancing innovations in AIDS treatment and cure. One lab in this area is led by Dr. David Margolis and another by Dr. Myron Cohen. Through the Margolis Lab, UNC Chapel Hill is part of the international consortium CARE (Collaboratory of AIDS Researchers for Eradication of the disease), and discussions are under way to establish a UNC-led public-private partnership with key strategic partners to continue pushing towards a cure. Meanwhile, a world-renowned research team led by Dr. Cohen has shown that with the right type and time of delivery of antiretroviral treatments, sexual transmission of HIV-1 can be prevented. Dr. Cohen's work was recognized by *Science* magazine as the *Breakthrough of the Year* in 2011.

The Gillings School of Global Public Health put *global* in its name in 2008 although it had always had a global perspective. The School's new Gillings Global Gateway initiative is a way to make its world-renowned experts more accessible and engaged.

UNC Chapel Hill has also been building strategic international partnerships with schools such as National University of Singapore, King's College-London, Tsinghua University, Universidad San Francisco de Quito (which is instrumental to the Galapagos initiative) and others. When working on complex global issues, these institutions offer vital knowledge, resources, and access.

UNC Global has strengthened Carolina's strategic partnerships through internal and external efforts. On campus, UNC Global has established a Partnership Roundtable composed of delegates representing each of the University's existing and emerging partnerships, or areas of the world in which the University seeks to develop partnerships. Led by the University's chief international officer, the Roundtable has contributed to the support and extension of the partnership network. Externally, the Global Relations office within UNC Global has developed collaborations with the corresponding international offices at partner institutions.

The Kenan-Flagler Business School has had a multi-year global strategy. Innovation programs include GLOBE® (Global Opportunities in Business Education), which brings together three of the world's best business schools to provide undergraduate students a premier international business education. UNC Chapel Hill partners with the Chinese University of Hong Kong and the Copenhagen Business School to offer a unique, integrated global curriculum to prepare students

as future managers and business leaders. GLOBE Fellows are chosen upon application to the undergraduate Business program during the early fall of their sophomore year, and participate over 18 months during their junior and senior years. As a requisite part of the GLOBE program, students take coursework in entrepreneurship and private equity.

The Venture Capital Investment Competition (VCIC) turns the traditional business plan competition on its head by bringing in teams of students from around the world who want to try their hand at awarding investment dollars to worthy startups. Started by CES in 1997, this year's event drew teams from 66 schools representing 12 countries and three continents. The UNC Chapel Hill team made the finals in the competition for the 10th time, placing third overall behind first-place Columbia University and runner-up Colorado's Leeds School of Business.

For undergraduate students, UNC's global strategy executed through the Global Education Center has increased opportunities both to study abroad and to engage in community-based scholarship and service work around the world. The result is an increase in student-founded or recent alumni-founded global not-for-profits such as A Ban Against Neglect (which works to simultaneously address the issues of uneducated street girls and environmental waste in Ghana), Nourish International (working to eradicate hunger globally through a network of domestic campus organizations), and Carolina for Kibera (with the goal of alleviating poverty through community collaboration in this African ghetto).

What We Have Learned — GLOBAL BRAND

UNC Chapel Hill's global strategy has played a significant role in advancing a broad-reaching innovation agenda on campus. High-profile multidisciplinary efforts led by accomplished, well-regarded faculty are creating and moving innovative ideas forward. Initiatives like the cross-campus theme, as well as the work of institutes and centers that engage in multidisciplinary approaches to addressing complex challenges, need to be well-resourced and supported. Further, connecting students' global experiences to opportunities for creative problem solving in communities around the world contributes to their development of an innovative skillset and mindset that will serve them no matter what their future pursuits may be.

Remains to be done — GLOBAL BRAND

Recommendations

- The choice of *Water in our World* as the University's first cross-campus theme, three years ago, has proven successful on several fronts. Decide if there will be another cross-campus theme, or perhaps a series of smaller themes, that draws together the Carolina community to address major issues.
- Recruit top faculty and graduate students who are globally oriented and have a strong translational bias.
- Leverage the power of Carolina's alumni and families to grow a global innovation ecosystem.
- Explore the idea of regional hubs and how they might support the innovation agenda.

C. EXTERNAL ENGAGEMENT

Q: How can we engage industry partners in building a strong innovation ecosystem?

CONTEXT

This is a multifaceted issue, as industrial firms and universities can and do interact with each other in a variety of ways. Areas of mutual interest include: research and technology development, workforce development, and the strength of the regional ecosystem (for new startups as well as existing firms). Each area holds the potential for deeper collaboration and each will be addressed separately. The goal for UNC Chapel Hill is to actively and strategically engage with industry in an integrated as well as diffused manner to increase the volume, type, and degree of positive benefits for all concerned.

Regarding research, technology development, and industry relations generally:

Actions To Date — INDUSTRY RELATIONS

The Roadmap called for a more strategic, coordinated, and deliberate approach to engaging with industry partners in all of the areas mentioned above. While units across campus have good relations with industry related to their disciplines (RENCI, the Business School, School of Pharmacy, School of Medicine, etc.), there remains an acute need for a coordinated, high-level University approach to this area. Discussions of how to increase collaboration with industry have been ongoing, involving internal and external stakeholders, and culminated with the UNC Chapel Hill Industry Task Force study released in 2013 that focused on increasing knowledge transfer between the University and industry. It stated:

The goal of improving university-industry partnerships is not unique to UNC Chapel Hill. In fact, it is central to recommendations made in the just-released National Academy of Sciences report, *Research Universities and the Future of America*, which calls for “the relationship between business and higher education...[to] evolve into more of a peer-to-peer nature, stressing collaboration in areas of joint interest rather than the traditional customer-supplier relationship in which business procures graduates and intellectual property from universities (p. 92).”

Specifically, the Task Force cited the need for central strategic integration to enhance UNC Chapel Hill’s industry relationships by coordinating them across the areas of philanthropy, sponsored research, commercialization, and clinical trials. Further, the Task Force report called for streamlined processes and accounting procedures, and for finding ways to make it easier for industry to engage with the University through central contact points.

Plans for the proposed Office of Commercialization and Economic Development are in harmony with plans from the Offices of Research and of Development for strengthening university-industry collaborations. These three groups will work together to strategically advance all aspects of university-industry collaborations working closely with units and will finalize a definition of their interconnected roles and responsibilities.

Recently, the Office of Research took several steps to streamline procedures and make it easier for industry to work with the University. One example is the creation of the new Office of Industry Contracting (OIC), which will consolidate back-office support for such contracting. This office re-organizes contracting work that the Office of Sponsored Research (OSR) and the Office of Clinical Trials (OCT) have been doing for more than a decade. The OIC will have responsibility for reviewing and executing all sponsored research proposals and agreements with private industry. The Office of Technology Development will continue to be the contact point for industry licensing of intellectual property.

And, in a parallel development, the Development Office has made increased industry funding an objective of its new campaign strategy. Judging from the experience of other universities, most of this funding will be for research. Benchmarking of peer institutions demonstrates that there is an opportunity to increase industry funding as a source of the University's R&D funding, as well as to engage with industry donors to build new innovation spaces.

The proposed Office of Commercialization and Economic Development will include a director-level position focused on developing external strategic partnerships in several categories, one being industry relationships. This Office will have a particular focus on engaging industry and other partners in the full process of moving ideas to implementation.

What We Have Learned — INDUSTRY RELATIONS

The topic of *industry relations* is broad and touches nearly every part of the University. Just as UNC Chapel Hill is a large, complex organization with both central and distributed leadership, many industry partners are large multinationals in which different units and people are focused on various functions. Think of how GlaxoSmithKline has an ongoing need to build its product portfolio through R&D, which makes various parties at the company interested in university research and intellectual property development. Meanwhile, all Glaxo units (not just R&D) hire university graduates; conversely the University and its spinouts hire former Glaxo employees. The company's corporate foundation has a wide breadth of interests, and Glaxo has a local presence in RTP. Optimizing the complexities of such a relationship is a challenge, and one we are eager to address.

It is not feasible that all activities fall within a central office, as illustrated by the difference in mission and goals between Career Services and technology licensing. Indeed, some schools have invested in personnel to help develop partnerships with industry and to grow the industry-supported research portfolio, e.g., the School of Medicine and the Eshelman School of Pharmacy. The Office of Research, the Development Office, and the planned Commercialization and Economic Development Office will come to agreement about how each will help share a comprehensive plan and align with that plan to improve results.

Remains To Be Done — INDUSTRY RELATIONS

Recommendations

- In the next few months, the Offices of Research, Development, and the proposed Commercialization and Economic Development Office will work with the Chancellor and

Provost, Career Services, deans and others to develop a common shared plan for UNC Chapel Hill's collaborations with industry.

- Better coordinate within the University.
- Pursue (and, where necessary, expand) efforts to align University policies and procedures with industry practices and expectations.
- Communicate to industry that UNC Chapel Hill is actively seeking partnerships.
- Make it easy for industry to know how to enter the University's "front door," and smooth the way for industry partners to work with us.

Regarding the regional ecosystem:

Actions To Date — REGIONAL

The Innovation and Impact Committee heard from Bob Geolas, President and CEO of the Research Triangle Foundation, about the current vision for reinventing the Research Triangle Park. This includes engaging with industry in new ways especially by connecting to the entrepreneurial community. UNC Chapel Hill leaders serve on the RTP board and on the board of the Triangle Universities Center for Advanced Studies Inc. (TUCASI). In those roles they are deeply involved with planning for the future of the region and aligning UNC Chapel Hill's goals.

Various members of the University community are engaged with local industry. The National Consortium of Data Sciences, created by RENCi Director, Stan Ahalt, brings together leaders in academia, industry, and government to address the data challenges of the 21st century. The Triangle Region is ripe with opportunities, and there are many examples of fruitful partnerships. Most are forged on a case-by-case basis and thus difficult to discuss from a comprehensive view. For instance, Career Services actively engages corporate partners in the work of the University beyond job placement activities. The School of Medicine and SAS entered into a multi-year collaboration to develop analytics-driven population health management capabilities to help providers personalize care for patients with type 2 diabetes. Other partnerships abound.

What We Have Learned — REGIONAL

The University is fortunate to have such high-level industry located in the RTP and the surrounding region. While the University units and faculty with the help of the Development Office's Corporate and Foundation Relations Division engage in important regional partnerships, there is much more opportunity than we have capitalized on thus far.

Remains To Be Done — REGIONAL

Recommendations

Create a comprehensive strategy for maximizing local industry-university partnerships. The Offices of Development, Research, proposed Commercialization and Economic Development, Career Services, and unit representatives will need to work together on the plans and their execution.

Regarding workforce development:

Actions To Date — WORKFORCE

Thousands of UNC students are graduating with entrepreneurial skills and mindsets developed through experiential learning that includes ideation, design, and the entrepreneurial process. Additionally, the professional schools and Graduate School continue to look at ways to foster innovative thinking and practices through their curriculum and training. Examples include the joint MBA/MD program between the Business School and the School of Medicine, and early immersion and flipped classroom techniques for first-year students in the School of Pharmacy and increasingly in the College of Arts & Sciences.

Another fundamental skill for innovative students is proficiency in data and computational skills. The Faculty Working Group on Data Studies called for all UNC Chapel Hill students to graduate data literate. Its report released in April 2014 stated:

Data literacy has become essential to research and scholarship, to learning at all levels, to translational endeavors, and to future student career success. In fields from healthcare to the humanities; the acquisition, management, analysis, and use of data has become a required skillset for college graduates. Further, because Carolina is committed to having its faculty and students see the world broadly and think critically and multi-dimensionally, data literacy should be embedded in an understanding of the influence of data on individuals and society. This contextualization of data includes examining such areas as the effects of data proliferation on social constructs, communication, privacy, security, and ethical considerations.

What We Have Learned — WORKFORCE

Innovation occurs at the intersections of diverse disciplines, experiences and knowledge. A prepared workforce today requires an innovative skillset and mindset that needs to be both formally taught in the classroom and informally learned through opportunities to imagine, design, build and grow ideas outside of the classroom. UNC schools, departments and programs are inventing and re-inventing ways to foster these opportunities but could benefit from more direct engagement with industry partners to better understand their needs and develop deeper collaborations.

Recent studies at the national level show that most PhDs and postdocs will need to pursue alternate career paths to academia. There is an opportunity for UNC to lead in developing new programs to prepare PhD students and postdocs for alternative career tracks.

Remains To Be Done — WORKFORCE

Recommendations

- UNC Chapel Hill has an opportunity to partner with industry and to gain synergies by better understanding workforce needs across industry sectors. University-industry relations should include mechanisms for engaging external stakeholders in the development of ways to ensure that our graduates have critical skillsets, which will vary by discipline but also include core strengths in areas such as data and innovation processes.

- Develop alternative career tracks for PhDs, including working in faculty spinouts and/or starting their own ventures. Strengthening this area will give the University a platform to better understand statewide needs and develop new strategies for addressing them.
- As UNC Chapel Hill forms its economic development strategy, there will be opportunities to leverage engagements with the nine regional economic development partnerships in the state and NC Business Development in the Department of Commerce.

Q: How can we form a strong regional infrastructure of support for our innovation agenda in the Triangle?

CONTEXT

Over the past several years a growing Triangle-wide innovation and entrepreneurship ecosystem has emerged. This is partly the result of increased focus on I&E at the region's research universities as they develop and execute their own agendas, as Carolina is doing. It is also a response to a statewide emphasis on growing an innovation economy, and to the needs of a local startup community that has increased in size and scope.

Actions To Date — REGIONAL

UNC Chapel Hill is helping lead and shape a regional agenda to spur innovative new companies, fuel the state's economy, take advantage of strengths at each of the region's research institutions through new collaborations, and provide a pipeline of potential ideas and technologies to the existing corporate community. University leaders are regular speakers, serve on boards and steering committees for Triangle funders and organizations that support innovation and entrepreneurship, and participate in task forces and think tanks about the regional ecosystem.

The University has led several programs to bring more resources to the regional ecosystem while fast-tracking UNC-born companies. The Blackstone Entrepreneurs Network was created by UNC Chapel Hill and involves the area's most experienced entrepreneurs in identifying and mentoring high-growth-potential companies from our own campus, Duke, NC Central and NC State, as well as in the broader community. The Network is run from UNC Chapel Hill and the University has received additional support from the funder for a national replication program. The first replication site in Denver opened this past spring.

The Kenan Institute of Private Enterprise led a joint proposal with Duke, NC State, and NC Central to become an NSF I-Corps (Innovation-Corps) node. I-Corps is a National Science Foundation initiative to increase the economic impact of NSF-funded basic research. In collaboration with the National Collegiate Inventors and Innovators Alliance (NCIIA), NSF offers select participants from U.S. academic laboratories training in a special, accelerated version of Stanford University's Lean LaunchPad course. Although the award went to another region, that stimulus has led to the coalition working on other ideas together. (The first for this group was Blackstone).

University leaders served on the Innovate Raleigh design team, which resulted in the launch of HQ Raleigh, an Entrepreneurs House, and continue to be involved in other regional venues for supporting entrepreneurs. Durham's American Underground is also working with UNC Chapel Hill leaders to bring an American Underground startup co-working space to Chapel Hill. UNC Chapel Hill is providing market landscape and patent analysis to Duke in exchange for services from the startup ventures clinic in Duke's law school.

The University regularly collaborates with support programs and startup incubators and accelerators, and co-sponsors events ranging from startup weekends to hackathons to major conferences across the state.

What We Have Learned — REGIONAL

Generally there is widespread belief that this region has the potential to be one of the country's top five entrepreneurial hotspots. Some building blocks are in place to reach that goal. Each university and city has its own entrepreneurship initiatives.

Yet, the region underperforms in several ways, one of them being the amount of venture capital invested. What is missing? Is it lack of capital, or a lack of investable deals (i.e. promising startups) that would draw capital here? Is it both? If outside capital is invested, will startups have to leave the region? All of these present challenges, but investable deals are at the core of the issue. This has significant ramifications for UNC Chapel Hill. The University wants to create such investable deals by developing commercializable IP, but very early grant money is needed for development to de-risk ideas enough to make them attractive to equity investors.

By working together locally, with partners throughout the state, by being connected via a few strong regional hubs, and by recruiting talent and investment dollars outside of the region, The Triangle can become a dynamic entrepreneurial hotspot.

Remains To Be Done — REGIONAL

Recommendations

- Continue to build on established relationships with NC State, Duke and NC Central and identify specific opportunities for multi-institution collaboration on projects related to innovation and entrepreneurship.
- Develop Blackstone 2.0, taking the Blackstone Entrepreneurs Network to the next level.
- As noted elsewhere in this memo, the University needs to invest in end-to-end support for commercializing IP from faculty research. Not only would this stimulate startups and venture investment within the region, it is crucial for increasing impact generally.
- Accelerate involvement of potential investors early in the idea development stage.
- Communicate and engage more effectively with alumni who can help with these goals.

Q: How can we build and maintain an innovation ecosystem that supports both broad and deep engagement with the state?

CONTEXT

UNC Chapel Hill has contributed to the economic and social well-being of North Carolina citizens through a long commitment of service, putting its vast resources and expertise to use for the State. The Board heard a report on the direct economic value that comes from the research enterprise alone. (Its \$800M per year in federal research funding creates the equivalent of 4,000+ full-time jobs, with average salaries of \$75,000 and a North Carolina-based payroll of \$300M annually. It does business with 1,100 North Carolina vendors and has created over 80 spinout companies.) Schools and units across campus work in different ways to fulfill their service missions, while also exploring ways to collaborate and engage with the State to bring innovations to bear. The University's centers and institutes often have very applied agendas and contribute to advancing innovations for the public good. The response to this question will focus on being more collectively strategic in serving North Carolina in broad and deep ways.

Actions To Date — ENGAGEMENT WITH THE STATE

Through student-service learning opportunities, UNC Chapel Hill students connect with North Carolina communities and learn methodologies for identifying a problem, working on community-informed solutions, and implementing new ideas. Through community-engaged research, Carolina faculty address the concerns of citizens across the state. For example:

- The UNC Chapel Hill Center for Public Service has long served as an engagement arm for the campus, supporting faculty who do applied work in communities across North Carolina. CPS has added ways to help faculty take innovative approaches in their community-engaged scholarship, and has been an active partner in advancing a University-wide innovation agenda.
- The School of Government has deep and widespread relationships in all 100 North Carolina counties, and has worked for many years to help develop the capacities of local and county governments, as well as the state's elected officials.
- UNC Health Care brings tremendous benefit to North Carolinians by extending its reach into communities statewide, and providing services at no cost through free clinics in the neediest parts of the state. UNC Health Care and the UNC School of Medicine recently partnered to launch Innovate Health Care@Carolina, a center to support adoption of disruptive innovations in the delivery and financing of health care. The focus is on ideas that are "patient centered and increase value with improved health outcomes and lower costs." Further, since 2006, UNC Chapel Hill has played a leadership role in the North Carolina Healthcare Quality Alliance (NCHQA), a statewide collaboration for using evidence-based strategies to improve the quality of care in practices across the state. Through the UNC North Carolina Area Health Education Centers (AHEC) program, the Alliance is able to fully integrate quality improvement into its support services, and help practices implement technology for that purpose. North Carolina is the only state in which health care quality improvement goals and health information technology support are seamlessly integrated.
- The Institute for the Environment works with policy makers and experts across the state, and with leaders of UNC's world-renowned environmental sciences community, in developing

solutions to the critical challenges North Carolina faces. In doing so, it educates future environmental leaders and engages with the people of North Carolina and the nation to address environmental challenges.

- The Kenan-Flagler Business School's STAR program and NC Center for Strategic Economic Growth engage students with impressively strong results. The reputation of these programs is touted at legislative, regional, and local business levels.

These are just a few examples. As noted earlier, UNC Chapel Hill is also active in creating and leading a development agenda for the Triangle region to spur new companies, fuel the state's economy, take advantage of strengths at each of the area's research institutions through new collaborations, and provide a pipeline of new ideas and technologies to the existing corporate community.

What We Have Learned — ENGAGEMENT WITH THE STATE

Across many fronts, UNC Chapel Hill is deeply engaged with public- and private-sector leaders and experts in finding better solutions to the most pressing challenges faced by North Carolina. Since this work is led largely within schools and units of the University, it has been challenging to articulate to State leadership a comprehensive view of how UNC Chapel Hill is applying its innovation agenda to benefit North Carolina. Indeed, few people in any capacity know about the full extent of the University's statewide collaborations or the impacts that these efforts are having.

Remains To Be Done — ENGAGEMENT WITH THE STATE

Recommendations

- Enhance the benefits that the University provides to the state, and raise the perception of them through more effective communication.
- Create an economic development strategy in the proposed Office of Commercialization and Economic Development. This office will coordinate with senior leaders at UNC Chapel Hill to help build the innovation ecosystem. It will also play a key role in developing and articulating new strategies to work with (and for) people across the state. In every sense, it will raise the profile of UNC Chapel Hill as an engaged collaborator in building the State's future.
- Develop a data-driven strategy and approach to understand the true impact of UNC Chapel Hill and the UNC system on North Carolina.
- Create a dashboard to communicate Carolina's impact.

D.FUNDING

Q: How will we adequately fund our research and its application, in light of declining federal and state dollars?

CONTEXT

Even though federal and state funding for research has been declining in recent years, Carolina continues to compete well. Total funding for FY14 was \$793 million, up from \$778 million in FY13, despite the sequester and federal shutdown. Without much prospect for improvement in federal and state funding of research in the near term, continued growth will require a more diversified approach, including funding from industry.

Actions To Date — FUNDING RESEARCH

The University continually seeks alternative funding sources from industry, philanthropies, and individual donors. The Office of Research has invested in improved support for industry-funded clinical trials, supported an innovative collaboration with Eastman Chemical based in the Chemistry Department, waived F&A on Phase I SBIR/STTR grants involving our own spinouts, and is now in the process of creating a new Office of Industry Contracting, that will consolidate back office support for these activities. The Vice Chancellor for Development is setting ambitious goals for support from industry, philanthropies, and individual donors as part of the new campaign. Development and Research are finalizing new policy and procedures that will enable them to partner even more effectively on private fund raising for research.

What We Have Learned — FUNDING RESEARCH

Federal funding dollars are consolidating to a few top universities and Carolina is positioned in this group. The only way to stay in the top category is by hiring and retaining top faculty and recruiting outstanding students at all levels. To be maximally successful, faculty and students need state-of-the-art buildings and equipment. With State support declining, alternative funds are needed to recruit and retain world-class faculty and refresh the innovation infrastructure that supports their work.

Remains To Be Done — FUNDING RESEARCH

Recommendations

- Continue to support researchers as they seek research funding.
- Continue developing a comprehensive, diversified campaign with innovation and impact as top priorities.
- Become more engaged with venture philanthropy.

Q: How can we engage the venture community in support of new ventures?

CONTEXT

Funding new ventures is one part of the equation, but Carolina has to also figure out how to fund the development process that leads to strong IP for a license. This answer addresses the full funding cycle.

The University's approach to developing licensable IP is informed by the classic venture capital approach, which supplies not only milestone-driven financial resources but also expertise in the venture/commercialization process, specific domain expertise, and access to a wide network of specialized talent and advisors.

The commercialization process requires different types of funding at different stages to help de-risk the technology and develop it into a viable product. Funding comes in many forms, from technology development grants to industry funding, angel capital, and/or venture capital. Funding is needed first to demonstrate proof of concept or validate the discovery, increasing its attractiveness for either launching a startup or licensing to an established firm. In the case of a startup company, funding needs to continue as the technology is developed into a marketable product. The University recognizes funding gaps that exist in bringing technologies to market: 1) technology development funding within the University, 2) bridge funding between Phase I and II of SBIR grants, and 3) early-stage seed funding which is increasingly needed as angel- and venture-capital investors take a more risk-averse approach. All combine to create a major gap early in the process:



Actions To Date — VENTURE FUNDING

The University funds commercialization activity in various ways. One of the first efforts was the KickStart Commercialization Awards (up to \$50k each), which target emerging and new companies licensing (or planning to license) UNC life science technologies. A more recent program is OTD's Technology Enhancement Grants. This program was started by the Office of Research but is now housed within the Office of Technology Development and complements the KickStart program, expanding eligibility to all kinds of faculty IP but focusing specifically on unlicensed technologies (up to \$30K each). The TraCS 4D pilot program is the newest entrant into this field. For early-stage companies needing funds for feasibility studies, the University supports their SBIR grant applications and works closely with the local SBTDC. Carolina KickStart engages

several SBIR consultants who work with companies to write and review grant proposals as well as conduct mock review panels. Recently, to help speed the development of early stage technologies, the Vice Chancellor for Research announced that indirect costs on Phase I SBIR/STTR awards would be waived.

To help maximize University assets, the Board of Trustees asked Administration to create a small evergreen investment fund. The Carolina Research Venture Fund, a \$2 million fund available for investments in UNC Chapel Hill spinout companies.

In March 2014, Sallie Shuping-Russell discussed the Carolina Research Venture Fund with the Innovation and Impact Committee. Her memo states:

The purpose of CRVF is two-fold: (1) a strategic purpose to maximize the research assets by getting them into the marketplace and (2) an investment purpose to get sufficient return on the investments which can be reinvested into the CRVF, making it an evergreen fund. Because of this two-fold mission – and because the initial funds will not come from the Investment Fund – the CRVF does not have to receive a “venture capital” level of return. Its return goal will be to generate return of capital and provide sufficient excess return to enable CRVF to become an evergreen fund.

In order to facilitate informed decisions about investable IP at Carolina, the CRVF will establish its own advisory board of venture capitalists. Further quoting from the memo:

In addition, CRVF will establish its own Venture Capital Advisory Committee (VCAC). This will comprise leading venture capitalists from across the country and within North Carolina. Examples from outside the region include partners or ex-partners from Kleiner Perkins Caulfield & Byers, Greylock, NEA, Polaris, Domain, Andreessen Horowitz, Sequoia, Trident and others. VCAC will provide strategic advice to the Board as needed. It will also discuss with the manager(s) the viability of potential companies and offer advice to address concerns which start-up companies face as they grow. VCAC will also offer a long-term vision for new markets that could underwrite larger impact investments. It is also hoped that these venture firms would provide additional follow-on capital as the UNC-based companies develop.

The Venture Capital Advisory Committee will be an important tangible connection to the venture capital community that can be further leveraged. External investors have been attracted during the past several years largely through entrepreneurship support programs sponsored by Carolina KickStart, UNC Kenan-Flagler’s Center for Entrepreneurial Studies, Kenan Institute of Private Enterprise, and the Blackstone Entrepreneurs Network. Additionally, some investments come from individual relationships formed by a handful of seasoned faculty entrepreneurs. Carolina KickStart has engaged with a number of venture capital firms to enhance commercialization. Interactions have ranged from informal meetings with faculty, to help assess the commercial potential of a technology, to formal presentations to the firms for investment. KickStart also has worked with the Office of Technology Development on recruiting professionals from outside the University to help inform decisions about patenting investments. The Blackstone Entrepreneurs Network engages with experienced entrepreneurs (many of whom are themselves investors), who use their networks of VCs and funders to make connections for the companies that they

mentor. Local investors also regularly attend University-sponsored pitch events for new firms, such as the Carolina Challenge (funded by a private investor, managed by UNC Kenan-Flagler's Center for Entrepreneurial Studies), and the Emerging Companies Showcase, which draws approximately 300 attendees and includes technology and life-science tracks.

Hatteras Discovery Fund is an early-stage arm of Hatteras Venture Partners. Due to the strong relationship between the University and the Partners and its geographic target area, HDF has looked at several startups and invested in G1 Therapeutics, and is doing due diligence on others. Through research led by faculty PI Ned Sharpless, G1 has developed a novel small-molecule-based method for preventing the hematological side effects of exposure to ionizing radiation and cancer chemotherapy. Not only did HDF invest dollars, the Partners built a board of seasoned professionals for G1, hired a top CEO, and continue to carefully guide the company. It is these types of relationships we seek.

Meanwhile, the University's Office of Technology Development plays a role in finding venture dollars using a more one-on-one relationship model. The role that OTD might play in a University strategy to enhance relationships with the venture community is under active discussion.

Engagement with the venture community for teaching and mentoring young entrepreneurs draws top investors from around the world to Carolina. Some are embedded in different parts of campus as Entrepreneurs-in-Residence. The Center for Entrepreneurial Studies' Global Venture Capital Investment Competition (VCIC) offers investors the opportunity to get involved with the nation's top business school students and network with fellow VCs while getting an early glimpse of some pre-screened investment opportunities, 25% of which raise venture capital after pitching at VCIC.

What We Have Learned — VENTURE FUNDING

Most often, university ideas in the life science space are too early-stage for venture capital to be the first money. This requires the University to have a strategy for moving ideas to commercialization with technical assistance and the appropriate funding for each segment of the journey.

The majority of UNC Chapel Hill faculty engaging in commercialization activities have little experience with this type of endeavor. There are notable exceptions, but most faculty lack the expertise, time, financial resources, and career incentives to be highly successful. To support these faculty, it is helpful to pair expertise with funding, but it is not necessary that they come from the same source. Depending on a number of factors, some faculty lead in commercializing their discoveries and some take a more passive role. For the latter, the University may be better served by the faculty member continuing the research that generated the ideas in the first place. Just as venture capitalists surround their investment with experts from a wide range of fields, the University needs to do likewise. This is happening ad hoc in various areas on campus, but with too few people and resources to fully maximize the opportunities that members of the Carolina community are creating.

The traditional pace of faculty receiving grant funds for technology development is too slow. Not only are funds scarce along the development pathway, but technology development funds such as from SBIR/STTR come in periodic cycles. The proposal and review process can provide helpful if stringent external feedback on ideas and plans to move forward. There can be gaps in productivity as faculty seek funding, submit proposals, and wait for awards. In the meantime, the commercialization activity is stalled. Faculty also need continuing guidance in applying funds for prototyping, to keep moving forward in technology development. Support is needed in identifying and selecting vendors, and with contracting and NDAs.

Universities are challenging environments for investors to navigate without dedicated guides. UNC Chapel Hill would benefit from a structure designed to cultivate relationships with investors and help them make connections to emerging technologies or ideas that may be of interest. The University's startup companies would benefit from more involvement of investors as they are exploring avenues for moving a technology forward. With an acute need for funding during the proof-of-concept phase, there is a role for the investment community to play in advancing University-born technologies, particularly those that fall outside the funding available through federal agencies such as NIH or NSF.

It will take several years to judge the CRVF performance, but we are hopeful this vehicle will provide needed dollars to a few high-performing companies and also create new connections to venture capitalists.

Remains To Be Done — VENTURE FUNDING

Recommendations

Create a comprehensive strategy to engage the venture community and fund the full development cycle. As currently envisioned, key components of the strategy would be:

- Expand and coordinate (or consolidate) the University's Technology Development Grant programs to fund proof-of-concept studies across all schools and disciplines and then into investment. Many university technologies never reach the marketplace because no commercial relevance has been demonstrated which would attract both people and funding. These technologies need proof-of-concept or validation studies showing whether they do, in fact, have potential for becoming products or solutions that users would buy. Funding for such studies is extremely difficult to acquire, as these activities are beyond the scope of typical federal research grants, but too risky for investors or industry partners to fund. The proposed grants will range from \$25K to \$75K and will be awarded to projects on a competitive basis. Project applications will be evaluated by a panel of industry-relevant experts. Beyond allocating funds, this panel will provide feedback to the OTD and the faculty member(s) as part of the review process.
- Create an SBIR Gap Fund. One of the greatest opportunities for unlocking university technologies is through Small Business Innovation Research (SBIR) grants if the timing issue can be addressed. Startups built around university innovations can seek SBIR funds to demonstrate feasibility (Phase I) and to develop the product (Phase II). However, many companies struggle because of the time gap of SBIR funding. A successful Phase I SBIR grant (usually of about \$250K) is followed by the submission and review of an application for a Phase II grant (about \$750K to \$1M). The time from completion of Phase I to the funding of Phase II can be 9

to 12 months. Many startups do not have the resources to continue to pay scientific staff or rent space during this period and waste valuable time waiting for the evaluation of the application. The proposed SBIR Gap Fund will bridge this gap for university startups. The funding will be on the order of \$100K to \$150K to help the company remain viable while it seeks additional funds. Stringent review will be critical to the wise investment of these funds.

- Connect to local VCs. The Blackstone Entrepreneurs Network was formed to activate connections among startups, successful entrepreneurs, and investors (or “dealmakers”). From University research on dealmakers, we know that North Carolina, and the Triangle region in particular, has investor activity that is not as maximized as it is in other locations due to a lack of connectivity. UNC Chapel Hill will need to intentionally build more ways of connecting local funders to University opportunities, including through local alumni.
- Connect to key hubs to create relationships with VCs and other constituents. Investment from outside North Carolina will be critical to UNC Chapel Hill’s ability to commercialize research and realize impact. Our undergraduate entrepreneurship programs and VCIC program for MBAs have established activities in Silicon Valley and New York City, exposing students to the investment communities in those hubs. However, the University needs to build more direct connections and opportunities for engaging investors from other regions with our most promising emerging companies. Additionally, alumni who are investors can be made aware of University IP and invited to provide advice. There have been discussions by some alumni about creating an alumni seed fund.
- Provide needed technical and administrative assistance. This strategy would include integrating startup services for faculty across the campus, including Carolina KickStart and the Concierge Service for Entrepreneurs, with leadership from the proposed Office of Commercialization and Economic Development (which would include OTD).
- Fully implement the Carolina Research Venture Fund.

Q: How does our innovation agenda relate to a University development campaign – and to other possible opportunities for funding?

Actions To Date — CAMPAIGN

The Development Office has been an integral partner in promoting the I&E agenda. It has worked in a unit-based approach to identify and secure funds for initiatives across campus. As the culture has strengthened, deans and senior leaders have supported fundraising specific to their individual areas. Senior Development leadership at the University has indicated support for innovation priorities in the next capital campaign. The Office of Corporate and Foundation Relations within Development has been particularly helpful in connecting faculty innovators and program staff to potential individual donors. Rather than creating a central innovation fund, development efforts targeted individual units and their programs.

What We Have Learned — CAMPAIGN

There are a potentially significant number of UNC Chapel Hill alumni yet to be engaged with this work. They include entrepreneurs, investors (some with particular interests in research and commercialization), and industry partners who are generally supportive of the University’s

innovation agenda. A coordinated effort from senior administration leaders is critical to maximizing the potential of these philanthropic prospects.

Lack of centralized funds to support the overall campus ecosystem building, fund experiments, and catalyze efforts is a significant limitation.

Remains To Be Done — CAMPAIGN

Recommendations

- As noted earlier in this report, assure that fundraising for innovation is a significant component of the next campaign.
- Work with Development and senior leaders (such as deans and directors) across campus to support their individual I&E fundraising goals.
- Explore various foundation models for supporting I&E work on university campuses.
- Continue conversations with alumni who have expressed interest in a venture philanthropy fund for the University.
- Create a central Innovation Fund.

E. LEARNING AND COMMUNICATING

Q: How can we continually learn from others while also leading in innovation and entrepreneurship?

CONTEXT

UNC Chapel Hill was one of only a handful of universities that intentionally chose to strengthen a culture of innovation and entrepreneurship in a systematic and holistic way. Arizona State University is another that took the same approach – and interestingly, both Arizona State and UNC Chapel Hill were Kauffman Campuses. Both became part of the Kauffman Foundation’s learning community of 35 universities, led by the person who is now UNC Chapel Hill’s Special Assistant to the Chancellor for Innovation & Entrepreneurship. Other universities are aware of UNC Chapel Hill’s work and have used its approach as a model. Campus leaders are part of a community of universities that meet regularly and exchange ideas.

Actions To Date — LEARNING AND LEADING

During the 2010 planning process, teams made up of faculty and staff, students, and external constituents traveled to various places to learn and bring back best practices. They visited MIT, Stanford, the University of Florida, the University of Utah, New York City (for arts innovation) and other innovation hubs. Since that time, innovation leaders at UNC Chapel Hill have continually benchmarked I&E work on other campuses and in entrepreneurship ecosystems nationally and globally – again with the purpose of learning and adopting best practices. During the past several years, the Eshelman School of Pharmacy has brought in university commercialization leaders to speak with the campus community about best practices, as has OTD for its Innovation Seminars.

Members of the University are connected globally to entrepreneurship-education networks and commercialization organizations, and are international leaders themselves. One campus leader is an early member of a university-industry group and is documenting best practices for that organization. The experienced OTD staff stays abreast of the field of tech transfer and incorporates new methods when appropriate. UNC Chapel Hill leaders speak regularly at international conferences and attend to learn from others as well as host and talk with leaders from other campuses and countries.

A University of Pennsylvania program is the model for the New Enterprise Organization (NEO) program at Carolina. In some cases, the University only needs to provide advice and make the right connections to help campus innovators launch startups. Others need more support. The NEO program is designed to assist faculty members with very early-stage technology who do not wish to spend the massive amounts of time that starting a new venture may require. NEO provides a number of extra services to help form, launch, and grow the company: incorporation and documentation support, consultants for SBIR grant writing, an evaluation of the technology, and recruitment of the CEO.

UNC Chapel Hill led in establishing a standard easy IP license called the Carolina Express License. Its purpose is to greatly reduce the time and cost of processing technology licenses and thereby incentivize faculty and investors. OTD has executed 33 Carolina Express Licenses since 2010. The

University averaged 3 new companies per year in the several years before 2010 and now is averaging 5 to 7 per year, but this is not just the result of the Carolina Express License. It also reflects the support of Carolina KickStart in the School of Medicine and the Kenan Institute of Private Enterprise, and an improving economy. UNC has executed an additional 7 licenses for startups that were not Express Licenses during this same time period.

What We Have Learned — LEARNING AND LEADING

Faculty, staff, and students at UNC Chapel Hill are highly involved in entrepreneurship and innovation. Several people on our campus are global academic leaders in these fields.

Every major university works hard at commercialization and revisits the models that it uses. At some universities, separate entities like the Wisconsin Alumni Research Foundation have been formed to more effectively bridge the academic world and the marketplace. WARF's website states:

The Wisconsin Alumni Research Foundation (WARF) is the private, nonprofit patent and licensing organization for the University of Wisconsin–Madison, one of the world's great research universities. WARF was founded in 1925 and is a pioneer and innovator among university-based technology transfer offices. WARF's mission is to support, aid and encourage UW–Madison research by protecting its discoveries and licensing them to commercial partners for beneficial use in the real world.

Many models for catalyzing, funding and supporting innovation programs are available to provide continuous learning opportunities for UNC Chapel Hill as it advances an innovation agenda.

Remains To Be Done — LEARNING AND LEADING

Recommendations

- After studying many commercialization operations, UNC Chapel Hill leaders stepped back to ask an intriguing question: How would the University commercialize IP if it were the first ever to attempt this type of function? The conversation was between experts on campus and those outside. Once the leaders settled on an approach, they again sought feedback from a wide audience to test assumptions and make modifications. The result is the proposed Office of Commercialization and Economic Development, which will give the University the opportunity to implement the new approach in an iterative process – taking steps, testing those steps and the assumptions behind them, making corrections, and then moving forward. Leaders will continue to call upon their wide network of external expert practitioners as well as the University's own experts to develop improved practices that can inform the field.
- To fully realize the potential of the University's innovation ecosystem, individual I&E spaces, programs, and curricular activities need the resources to adopt best practices and apply lessons learned.
- UNC Chapel Hill needs to carefully consider the pros and cons of a closely held separate structure for certain innovation activities.

Q: What communication strategies are needed to bring the University community and the public on board with our innovation agenda – and to tell the story of impact?

CONTEXT

Effective communications about innovation and entrepreneurship serve a number of ends. They demonstrate the University's commitment to advancing the public good, reinforce its reputation for fostering creativity and discovery, encourage people to become involved, and illustrate the University's impact on the community, state, and beyond.

Actions To Date — COMMUNICATION

The Communication Office, Chancellor's Office of I&E, Office of Research, and the distributed communicators' network serving campus units all contribute to communicating the work and the impact of the innovation ecosystem. The Vice Chancellor of Communication is developing a campus-wide communication strategy, and since two key themes of the University are innovation and impact, his team will work with campus communicators on better delivering key messages. They already are working on getting more stories about innovative people at our campus.

The Office of Innovation & Entrepreneurship is a central catalyst that serves as a hub of communications about a wide range of related on- and off-campus activities. The University's innovation and entrepreneurship vision has been communicated to key audience segments by multiple means. Channels of communicating have included standard platforms (web, e-newsletters, social media) plus staff have made numerous presentations on- and off- campus, locally and nationally, including serving on the Governor's Innovation-to-Jobs Task Force. The I&E website serves as a central portal and can be found at innovate.unc.edu.

The Office of Research Communication focuses on faculty research, their stories, and the impact of their work. A new Director was just recruited who brings a decade of experience in science and research communications at NASA to assist in the development and execution of a communication strategy for UNC's research enterprise. The *Endeavors* online magazine is a popular resource available at endeavors.unc.edu.

What We Have Learned — COMMUNICATION

Several conversations with the Board Committee on Innovation and Impact have centered around the frustration of not effectively communicating the impressive work being done at UNC Chapel Hill and its impacts on the citizens of North Carolina and beyond. A broad communications strategy for innovation needs to be an essential component of the University's overall strategy, and also integrated with targeted strategies for specific key stakeholders.

Our story is one and many. The overarching story is about the innovation vision and mission, and how the ecosystem makes it possible to achieve real-world goals. This is an important message to communicate as it encourages people to join the University community and to support the work. It also positions UNC Chapel Hill as a leader in taking a holistic approach to innovation and entrepreneurship.

The many stories of how people at UNC Chapel Hill are impacting the world are told through the University website, news releases, and social media. Unit communication teams have their own websites, news operations, and media to target various audiences. Many produce high quality print pieces, conduct conferences, and have faculty, students, and staff representing them at international symposia. All of these communication efforts need to be not only continued, but organized in ways that are targeted to key audiences.

It is challenging to mount a broad and consistent overall effort in communicating the University's innovation work. Resources have been limited, and there are many other messages that the University needs to deliver. Having clarity at the leadership level about vision and goals is helping to reinforce the communication efforts, and will make it easier to help schools and units deliver innovation messages from their perspectives. Having a vice chancellor of communications and the resources for him to create a strong team clearly addresses this challenge.

Remains To Be Done — COMMUNICATION

Recommendations

Under the direction of the Vice Chancellor for Communications, a new communications team and structure (Carolina Compass) brings the opportunity for added resources, direction and collaboration around innovation communications. Some areas for action include:

- Formalize a system for effectively gathering and pooling information (content) on innovation and entrepreneurship activities at UNC Chapel Hill. This will require having a network of campus communicators team up with the central communications office.
- Create portals and pathways for faculty, students, and external audiences to learn about innovation and entrepreneurship programs specific to their needs, so they can find help quickly and easily. This work would be executed through the I&E Office.
- Create a national strategy for raising UNC Chapel Hill's profile as a thought leader in this area through key story placements, rankings, etc.
- Provide resources, tools, and guidance to stakeholders, e.g., faculty, staff, student innovation groups and working group members – so that they, in turn, can communicate consistently with audiences.
- Create an easy-to-understand dashboard of the University's economic impact on the State of North Carolina. This should include the direct impact of research, commercialization statistics, and other direct economic benefits.
- Develop and execute investor- and industry-specific communication strategies.
- Develop and execute alumni-specific communication strategies.
- Develop and execute a communication strategy for other key stakeholders.

The University of North Carolina at Chapel Hill
EXECUTIVE SUMMARY
Board of Trustees
November 20, 2014

ATTACHMENT P

Appendix A

No.	College/Division	Name	Dept./School	Current Rank	New Rank	Tenure Request Reason	Effective Date	Salary
Personnel Actions								
New Appointments without Tenure								
1	Academic Affairs	Luca Flabbi	Economics	N/A	Associate Professor	N/A	7/1/2015	\$152,000.00
2	Health Sciences	Hugh Waters	Nursing	Visiting Associate Professor	Associate Professor	N/A	1/1/2015	\$92,000.00
Addition of Joint Appointment without Tenure								
1	Health Sciences	Fei Zou	Genetics	Professor	Professor	N/A	12/1/2014	\$194,575.00
Promotion to Full Professor								
1	Health Sciences	Elizabeth Dees	Medicine	Associate Professor	Professor	N/A	12/1/2014	\$180,000.00
2	Health Sciences	Annelies Van Rie	Public Health	Associate Professor	Professor	N/A	12/1/2014	\$139,892.00
Reappointments to the same Rank								
1	Health Sciences	Sasha Adams	Medicine	Assistant Professor	Assistant Professor	N/A	10/1/2015	\$270,000.00
2	Health Sciences	Brian Bennett	Medicine	Assistant Professor	Assistant Professor	N/A	12/1/2015	\$114,900.00
3	Health Sciences	Davis Viprakasit	Medicine	Assistant Professor	Assistant Professor	N/A	12/1/2015	\$235,000.00
Designation/Reappointments to Departmental Chair								
0								
Designation/Reappointments to Distinguished Professorship								
0								
Actions Conferring Tenure								
Promotion Conferring Tenure								
1	Health Sciences	Lawrence Engel	Public Health	Associate Professor	Associate Professor	Promotion based on excellence in research	12/1/2014	\$157,590.00
2	Health Sciences	Debbie Travers	Nursing	Assistant Professor	Associate Professor	Promotion based on excellence in research and impressive record of service and teaching	1/1/2015	\$74,296.00
New Appointments Conferring Tenure								
0								
Addition of Joint Appointment Conferring Tenure								
0								
Corrections								
0		N/A						

The University of North Carolina at Chapel Hill
EXECUTIVE SUMMARY
Board of Trustees
July 14, 2014

Appendix B

No.	College/Division	Name	Department/School	Rank	Reason	Requested Increase Amount	Percent of Increase	Current Salary	New Salary	Effective Date
Compensation Actions						<small>* Available funding for each action has been confirmed by the appropriate Department and School/Division management officials to support the proposed salary increase. Upon implementation, specific funding sources are reviewed and approved at the Department level, as well as by the applicable University Central financial offices, including the University Budget Office and the Office of Sponsored Research for grant-funded salaries.</small>				
1	Academic Affairs	Patrick Akos	School of Education	Professor	Increase for retention; is being targeted for hire by the University of Mississippi	\$10,000	10.07%	\$99,322	\$109,322	12/1/2014
2	Health Affairs	Kimón Divaris	School of Dentistry	Research Assistant Professor	Increase due to promotion to Associate Professor with Tenure	\$23,496	20.62%	\$113,966	\$137,462	12/1/2014
3	Health Affairs	Matthew Harris	School of Medicine	Postdoc Research Associate	Increase due to increased duties in new role of Clinical Assistant Professor	\$37,218	102.58%	\$36,282	\$73,500	12/1/2014
4	Health Affairs	James Hill	School of Medicine	Clinical Assistant Professor	Increase due to permanent increase in job duties/responsibilities in additional role as Co-Program Director of the Residency Program	\$18,000	10.00%	\$180,000	\$198,000	1/1/2015
5	Health Affairs	James Larson	School of Medicine	Clinical Professor	Increase due to increased duties as Interim Chair for the Dept of Emergency Medicine	\$50,000	23.17%	\$225,759	\$265,759	12/1/2014
6	Health Affairs	Bahjat Qaqish	School of Public Health	Professor	Increase due to promotion to full Professor effective 9-1-2014	\$38,601	29.40%	\$131,299	\$169,900	12/1/2014
7	Academic Affairs	Catherine Scott	School of Education	Clinical Assistant Professor	Increase for retention; received offer from Knowles Science Teaching Foundation	\$20,500	33.37%	\$61,440	\$81,940	12/1/2014
9	Health Affairs	Michael Wagner	School of Pharmacy	Research Professor	Increase due to increase effort on grant to put more work into the analysis of data generated on the NIH grant	\$24,794	49.02%	\$50,579	\$75,373	12/1/2014
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No.	College/Division	Name	Department/School	Rank	Reason	Total Monetary Value of Non-Salary Compensation	Duration of Non-Salary Compensation	Effective Date	End Date
Non-Salary Compensation Actions									
0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	NA

University of North Carolina at Chapel Hill Board of Trustees
EXECUTIVE SUMMARY (EPA Non-Faculty)
Meeting Date: November 2014

Compensation Actions

No.	College/Division	Employee Last Name	Employee First Name	Department	Rank/Title	Reason	Requested Increase \$\$	Requested Increase %	June 30 Salary	Current Salary	Proposed Salary	Effective Date
1	Finance and Administration	Stout	Cheryl	Transportation and Parking	Director	Adjustment related to an increase/change in job duties or responsibilities (includes reclassification of job and position competency level change - This promotion results from the position being reallocated to a higher-level classification. In the current position (Associate Director), the duties include overseeing parking and transportation operations under direction of Chief of Police/Department of Public Safety. In the new role (Director), the duties will include serving as strategic advisor and chief resource officer for transportation services. The new duties include oversight of the entire Transportation and Parking Services Department. There are no comparable positions within the work unit. The requested salary results in a market index of 76%. The employee meets the education and experience requirements for this classification.	14,722	14.50	\$ 101,534	\$ 101,634	\$116,256.00	11/1/2014
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5							0	#DIV/0!				
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Non-Salary Compensation Actions

No.	College/Division	Employee Last Name	Employee First Name	Department	Rank	Reason	Total Monetary Value of Non-Salary Compensation	Duration of Non-Salary Compensation	Effective Date	End Date		
1	None											

University of North Carolina at Chapel Hill Board of Trustees
EXECUTIVE SUMMARY (EPA Non-Faculty)
Meeting Date: November 2014

Information Items												
No.	College/Division	Employee Last Name	Employee First Name	Department	Rank/Title	Reason	Requested Increase \$\$	Requested Increase %	June 30 Salary	Current Salary	Proposed Salary	Effective Date
1	Research	Dean	Sarah	Carolina Population Center	Research Associate/Project Manager	Promotion – Employee applies for an externally recruited job vacancy, is selected competitively, and employee changes jobs	17,855	39.55	\$ 45,145	\$ 45,145	\$63,000.00	11/17/2014
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