FULL BOARD MEETING



July 19, 2018, 8:00AM Chancellor's Ballroom, Carolina Inn

OPEN SESSION

1.	Convene	Meeting

- 2. Roll Call
- Election of Officers
- 4. Consent Agenda
 - a. Approval of March 2018 Minutes (Regular Meeting)
 - b. Ratification of Mail Ballot dated June 12, 2018
 - c. Ratification of Mail Ballot dated July 13, 2018
- 5. ACC Governing Board Certification
- 6. Chair's Remarks
- 7. Student Body President's Remarks
- 8. Chancellor's Remarks
- 9. Autotransplantation *Dr. Jessica Lee, Chair, Dept. of Pediatric Dentistry & Distinguished Professor*
- 10. NCGENES2 Dr. Jonathan Berg, Associate Professor, Department of Genetics
- Report of the External Relations Committee
- 12. Report of the Finance, Infrastructure & Audit Committee
- 13. Report of the Strategic Framework Committee
- 14. Report of the University Affairs Committee

CLOSED SESSION

- 15. *Report of the External Relations Committee
- 16. *Report of the University Affairs Committee
- 17. *Legal Update

OPEN SESSION

- 18. Report of the External Relations Committee
- 19. Report of the University Affairs Committee
- 20. Adjournment

^{*}Some of the business to be conducted is authorized by the N.C. Open Meetings Law to be conducted in closed session.

BOARD OF TRUSTEES MEETING The University of North Carolina at Chapel Hill May 31, 2018

The Board of Trustees met in regular session on Thursday, May 31, 2018 at The Carolina Inn, Chancellor's Ballroom. Chair Cochrane convened the meeting at 8:03 a.m.

OATH OF OFFICE

Anne Austin, Assistant Clerk of Orange County Superior Court administered the oath of office to new student body president Savannah Putnam.

ROLL CALL

Secretary Keyes called the roll and the following members were present:

Haywood D. Cochrane, Chair
Charles G. Duckett, Vice Chair
William A. Keyes IV, Secretary

Kelly Matthews Hopkins
Allie Ray McCullen
Hari H. Nath

W. Lowry Caudill, Past Chair

Jefferson W. Brown

Dwight D. Stone, Immediate Past Chair

Richard Y. Stevens

Julia Sprunt Grumbles Savannah Putnam

Trustee McMahan was not in attendance.

STATE GOVERNMENT ETHICS ACT

Chair Cochrane read the following statement:

As Chair of the Board of Trustees, it is my responsibility to remind all members of the Board of their duty under the State Government Ethics Act to avoid conflicts of interest and appearances of conflict of interest as required by this Act. Each member has received the agenda and related information for this Board of Trustees' meeting. If any Board member knows of any conflict of interest or appearance of conflict with respect to any matter coming before the Board of Trustees at this meeting, the conflict or appearance of conflict should be identified at this time.

CONSENT AGENDA

Approval of Minutes and Mail Ballots

On motion of Chair Cochrane and a second by Trustee Grumbles, the minutes of the meeting of March 29, 2018 were approved as distributed; as was the ratification of the following mail ballots dated:

- April 1 revocation of Bill Cosby's honorary degree
- April 27 personnel actions, actions conferring tenure, and compensation actions (ATTACHMENTS A-B)

CHAIR'S REMARKS

- Chair Cochrane thanked those in the audience for attending, and welcomed new student body president Savannah Putnam to her first full board meeting.
- The Chair acknowledged Chancellor Folt, Provost Blouin, Dean Matson and Commencement Committee Chair Ron Strauss for another wonderful commencement weekend.
- Chair Cochrane shared that there would be a presentation from Dean of the Law School Martin Brinkley as well as another update on the University Master Plan.
- Chair Cochrane congratulated the newly elected chairman of the Board of Governors, Harry Smith.
- The Chair then concluded his remarks by calling upon Trustee Putnam.

[A copy of these remarks is located in the Office of the Assistant Secretary and at bot.unc.edu.]

STUDENT BODY PRESIDENT'S REMARKS

- Trustee Putnam began by sharing that she is honored to begin her service as a trustee.
- Trustee Putnam shared the two values that she will uphold as student body president service and community.
 - Trustee Putnam highlighted what these values mean to her and how they have shaped her time at Carolina.
- Trustee Putnam concluded by thanking everyone and sharing that she is looking forward to working with everyone in the upcoming year.

[A copy of these remarks is located in the Office of the Assistant Secretary and at bot.unc.edu.]

CHANCELLOR'S REMARKS

- Chancellor Folt began her remarks by thanking Chair Cochrane and the board for their continued support.
- The Chancellor welcomed Savannah to her first meeting.
- Chancellor Folt recognized Chancellor's Fellows Austin Mueller and Janssen White for their work over the last year.
- Chancellor Folt echoed Chair Cochrane's congratulations to newly elected BOG chair Harry Smith.
- The Chancellor shared a recap of spring commencement.
- Chancellot Folt continued and shared updates and accomplishments that have occurred since the March meeting.
- Chancellor Folt ended her remarks by introducing the presentations.

[A copy of these remarks is located in the Office of the Assistant Secretary and at bot.unc.edu.]

UNC SCHOOL OF LAW

Chancellor Folt introduced Martin Brinkley, Dean of the School of Law, to discuss a new initiative at the school. The Carolina Institute for Law and Entrepreneurship is being created, and is receiving funding in the proposed state budget. Dean Brinkley highlighted a few ideas for the institute, and then introduced a student and a recent graduate. Brian Gamsey ('18) and Nick Haigh ('19) shared their experiences at the Law School and their time with the law entrepreneurship club. To conclude their presentation, they entertained questions from the board.

UNIVERSITY MASTER PLAN

Chancellor Folt introduced Anna Wu, Associate Vice Chancellor for Facilities Services & University Architect to present on the University Master Plan. Ms. Wu continued her presentation from the March meeting to give a more in-depth look into what the master plan includes for the physical campus. To conclude her remarks, Ms. Wu entertained questions from the board.

This presentation can be found on bot.unc.edu and on file in the Office of the Assistant Secretary.

REPORT OF THE EXTERNAL RELATIONS COMMITTEE

Secretary Keyes presented a review of the External Relations Committee meeting. There were no action items for this committee in open session. Secretary Keyes then shared the items presented for information:

· Public Affairs update given by Clayton Somers, Vice Chancellor for Public Affairs and

- Secretary of the University
- Communications update given by Joel Curran, Vice Chancellor for Communications
- WUNC-FM update given by Connie Walker, President and General Manager

A full review of the committee meeting are in the committee minutes in the Office of the Assistant Secretary.

REPORT OF THE FINANCE, INFRASTRUCTURE & AUDIT COMMITTEE

Trustee Stone presented the report from the Finance, Infrastructure and Audit Committee. The following items were presented to the committee for action:

Ordinance Regulating Traffic and Parking

The proposed revisions to the Ordinance Regulating Traffic and Parking to be effective August 15, 2018 are as follows:

- Housekeeping item(s): Date changes; and Strike 2017-18 prices
- Article III. Parking
 - Section 3-8. Parking at Leased Spaces in Lots Under Control of Lessor
 - Policy allows Leasing Departments to manage and administer costs and permits according to lease agreement, including pricing and distribution of parking permits.
 - Annual rates are based on location while the total fee charged cannot exceed the costs to the University for obtaining, maintaining, and providing spaces.
 - UNC Transportation & Parking has no role in issuing permits, setting or collecting fees, or maintaining or policing these spaces.

(ATTACHMENT C)

Internal Audit Strategic Plan and Performance Metrics

This plan identifies overall goals for strengthening the Internal Audit function at UNC-CH and goes beyond plans for individual audit projects. Secondly, a report of Key Performance Indicators for Internal Audit was presented. These indicators provide information about measures of the Internal Audit function that provide a broader assessment than a summary of projects.

(ATTACHMENT D)

Revised Internal Audit Charter

A revised copy of the Internal Audit Charter for 2018 was presented for the board's review and approval.

(ATTACHMENT E)

Designer Selection

1. Parking Deck at S1 Lot

The project includes both a new Parking Deck intended to be built on the S-1 surface parking lot off Paul Hardin Drive. The new multi-story parking deck shall contain approximately 450 parking spaces. This project will be designed in parallel with a new approximately 12,000 GSF Emergency Power Generation Plant building adjacent to the Parking Deck. The Generator Plant is being developed, and will be operated, by UNC Healthcare.

Project budget is \$14,400,000 and will be funded through the Transportation & Parking Trust Fund. The project was advertised on March 26, 2018. Eleven (11) proposals were received. Four (4) firms were interviewed on May 2, 2018. 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:

Clark Nexsen Raleigh, NC
 Perkins + Will Durham, NC

3. Walter Robbs Architects Winston-Salem, NC

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

(ATTACHMENT F)

Design Approval

1. Media and Communications Studio

The project will demolish the northernmost portion of Koury Natatorium and build a new 13,600 square feet addition in roughly the same location. This project will provide a broadcast center to produce events on the ACC Network through broadcasts across all production levels: linear television, digital online, extra, and video boards. The facility will include control rooms and studios, offices and support space.

The project is scheduled to start construction in Summer 2018. Anticipated project budget is \$10 million and will be funded from Athletics funds. The project was presented to the Board of Trustees for information at the January 2018 meeting.

(ATTACHMENT G)

Property Disposition by Easement

This request is for approval to authorize disposition of property by donation of easements to the Research Triangle Regional Public Transportation Authority d/b/a GoTriangle along the projected route to be needed for construction of the Durham-Orange Light Rail Transit system. The easements are needed to construct the track and will provide a 75 foot corridor through which the track will run. GoTriangle will have maintenance responsibilities within the donated easements. The easements are interspersed across 20 locations on campus and make up approximately 20 acres. The final path of the track, as wells as the terms of the easements, will be determined in consultation between UNC-CH and GoTriangle. All donated easements are reversionary and will be returned to the University in the event that the Durham-Orange Light Rail Transit is not constructed as currently planned.

(ATTACHMENT H)

Property Acquisition by Lease

This request is to renew a lease for approximately 4,244 SF of office and laboratory space located at 6 Davis Drive in the Research Triangle Park for use by the UNC School of Pharmacy's Institute for Drug Safety Sciences from Alexandria Real Estate Equities, Inc. This leased space is currently used for drug research by the Institute and expires June 30, 2018. The lease term will be three (3) years at an initial annual cost, including operating expenses, of approximately \$180,000. UNC has the right to terminate the lease after the first year and an option to renew for an additional three (3) years, if it so chooses. Alexandria Real Estate Equities, Inc. was selected as the lessor through a public bid process.

(ATTACHMENT I)

A motion came from committee to approve all actions presented by Trustee Stone. Trustee Grumbles seconded, and it passed.

Trustee Stone continued and shared the items for information only:

 Potential property swap given by Gordon Merklein, Associate Vice Chancellor for University Real Estate Operations (ATTACHMENT J)

- Preliminary design review given by Anna Wu, Associate Vice Chancellor for Facilities Services (ATTACHMENT K)
- Internal Audit report given by Phyllis Petree, Chief Audit Officer (ATTACHMENT L)
- Results of Internal Audit QAR given by Phyllis Petree Chief Audit Officer (ATTACHMENT M)
- Development report given by David Routh, Vice Chancellor for University Development
- Financial update given by Jonathan Pruitt, Vice Chancellor for Finance and Operations

A full review of the committee meeting are in the committee minutes in the Office of the Assistant Secretary.

REPORT FROM THE STRATEGIC FRAMEWORK COMMITTEE

Trustee Grumbles presented a review of the Strategic Framework Committee meeting. There were no action items for this committee in either open session. The following items were presented to the committee for information:

- Interprofessional Education given by Meg Zomorodi, Assistant Provost for Interprofessional Education
- MoyoMedical Technologies given by Denali Dahl, Biomedical Engineering PhD candidate
- Sustainable Access to Safe Water given by Theo Dingemans, Professor of Applied Physical Sciences

A full review of the committee meeting are in the committee minutes in the Office of the Assistant Secretary.

REPORT OF THE UNIVERSITY AFFAIRS COMMITTEE

Vice Chair Duckett presented the report from the University Affairs Committee. There were no action items for this committee in open session. The following items were presented to the committee for information:

- Employee Forum update given by Shayna Hill, Chair
- Faculty Update, given by Leslie Parise, Chair
- Carolina Recovery Programs given by Winston Crisp, Vice Chancellor for Student Affairs, Dean Blackburn, Director of Student Wellness, and former trustee Kel Landis

A full review of the committee meeting are in the committee minutes in the Office of the Assistant Secretary.

MOTION TO CONVENE IN CLOSED SESSION

On motion of Secretary Keyes, and seconded by Trustee Grumbles, the Board voted to convene in closed session pursuant to North Carolina General Statutes Section 143-318.11 (a) (1) (to prevent the disclosure of privileged information under Section 126-22 and the following); and also pursuant to Section 143-318.11 (a) (2), (3), (5), and (6).

RECONVENE MEETING IN OPEN SESSION

Trustee Stone made a motion to return to open session. Vice Chair Duckett seconded, and it passed.

OPEN SESSION

REPORT OF THE UNIVERSITY AFFAIRS COMMITTEE

Chair Cochrane referred the members to the personnel matters submitted for review. Vice Chair Duckett made a motion from committee to approve, Trustee Stevens seconded and it

passed.

Chair Cochrane stated that the personnel and salary actions voted on in open session had been distributed.

(ATTACHMENTS N-O)

ADJOURNMENT

There being no further business to come before the Board, Chair Cochrane called for a motion to adjourn. Trustee Caudill made the motion; Trustee Stevens seconded and it passed. Chair Cochrane adjourned the meeting at 1:03 pm.

Clayton Somers, Assistant Secretary



THE UNIVERSITY OF NORTH CAROLINA AT CHAPEL HILL

BOARD OF TRUSTEES

O 919-962-6961

South Building | Office 03A | Campus Box 9150 200 East Cameron Avenue | Chapel Hill, NC 27599-9150 bot.unc.edu

MEMORANDUM

TO: Members of the Board of Trustees

FROM: Lowry Caudill & Dwight Stone

Nominating Committee

RE: 2018-19 Slate of Officers

DATE: June 12, 2018

The Nominating Committee is bringing forth the following slate of officer candidates for 2018-19 which will be presented to the Board at the July 19, 2018 meeting. The slate is as follows:

Haywood Cochrane - Chair Chuck Duckett - Vice Chair Julia Grumbles - Secretary Clayton Somers - Assistant Secretary

Please mark and return the enclosed mail ballot indicating your approval or disapproval. Thank you.



THE UNIVERSITY OF NORTH CAROLINA AT CHAPEL HILL BOARD OF TRUSTEES

o 919-962-6961

South Building | Office 03A | Campus Box 9150 200 East Cameron Avenue | Chapel Hill, NC 27599-9150 bot.unc.edu

Mail Ballot

Board of Trustees

June 12, 2018

The Nominating Committee submits for your review and approval the slate of officers for 2018-19. This mail ballot will be approved as part of the consent agenda at the full board meeting on Thursday, July 19, 2018.

The undersigned votes as follows with recommendation to these proposed action as presented by the committee.

	Approve	Disapprove
2018-19 Officers:		
Haywood Cochrane (Chair)		
Chuck Duckett (Vice Chair)		
Julia Grumbles (Secretary)		
Clayton Somers (Assistant Secretary)		
Signature		
D. C. IN		
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 majority vote on June 12, 2018 by all 13 trustees.



CAROL L. FOLT
Chancellor

103 SOUTH BUILDING CAMPUS BOX 9100 CHAPEL HILL, NC 27599

T 919.962.1365 F 919.962.1647 carol.folt@unc.edu

MEMORANDUM

TO: Members of the Board of Trustees

FROM: Carol L. Folt

RE: Mail Ballot

DATE: July 13, 2018

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

EHRA Faculty Compensation & Tenure Actions

Attachment A

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

The University of North Carolina at Chapel Hill EXECUTIVE SUMMARY Board of Trustees June 2018

No. College/Division	Name	Dept./School	Current Rank	New Rank	Tenure Request Reason	Effective Date	Salary
Personnel Actions							
New Appointments wi	hout Tenure						
The With point ments with	Trout Tollaro		Nominated Research Assistant				
1 Health Affairs	Lindsey Byom	Allied Health Sciences	Professor	Assistant Professor		8/1/2018	\$83,000.00
2 Health Affairs	Daniel Dominguez	Pharmacology	N/A	Assistant Professor		7/1/2018	\$105,000.00
3 Academic Affairs	Eric Eaton	Computer Science	N/A	Assistant Professor		7/1/2018	\$110,000.00
	Candace Epps-						\$1.10/000.00
4 Academic Affairs	Robertson	English & Comparative Literature	N/A	Assistant Professor		7/1/2018	\$73,500.00
5 Health Affairs	Onyinye Iweala	Medicine	N/A	Assistant Professor		7/1/2018	\$160,000.00
6 Academic Affairs	Jonathan Kief	Asian Studies	N/A	Assistant Professor		7/1/2018	\$75,000.00
7 Academic Affairs	LaToya Lain	Music	N/A	Assistant Professor		7/1/2018	\$74,500.00
8 Academic Affairs	Andrew Mann	Physics & Astronomy	N/A	Assistant Professor		7/1/2018	\$81,000.00
9 Health Affairs	Julie Marchesan	Dentistry	Research Assistant Professor	Assistant Professor		7/1/2018	\$115,000.00
		•	Nominated Clinical Assistant				
10 Health Affairs	Blaise Morrison	Allied Health Sciences	Professor	Assistant Professor		8/1/2018	\$78,000.00
11 Academic Affairs	Nicolas Pegard	Applied Physical Sciences	N/A	Assistant Professor		1/1/2019	\$103,000.00
12 Academic Affairs	Imran Rizvi	Biomedical Engineering	N/A	Assistant Professor		7/1/2018	\$95,000.00
13 Health Affairs	Megan Roberts	Pharmacy	N/A	Assistant Professor		8/1/2018	\$120,000.00
14 Health Affairs	Trevor Royce	Oncology	N/A	Assistant Professor		7/31/2018	\$230,000.00
15 Academic Affairs	Elena Simintzi	Kenan-Flagler	N/A	Assistant Professor		7/1/2018	\$235,000.00
16 Academic Affairs	Andrey Smirnov	Mathematics	N/A	Assistant Professor		7/1/2018	\$85,000.00
17 Academic Affairs	Can Tian	Economics	N/A	Assistant Professor		7/1/2018	\$135,000.00
18 Health Affairs	Angeliki Tsagaratou	Genetics	N/A	Assistant Professor		9/1/2018	\$105,000.00
19 Health Affairs	Kyle Wang	Radiation Oncology	N/A	Assistant Professor		7/31/2018	\$230,000.00
20 Academic Affairs	Andrew Boysen	Kenan-Flagler	N/A	Instructor w/Special Provisions		7/1/2018	\$170,000.00
21 Academic Affairs	Helen Cushman	English & Comparative Literature	N/A	Instructor w/Special Provisions		7/1/2018	\$75,000.00
22 Academic Affairs	Qing Gong	Economics	N/A	Instructor w/Special Provisions		7/1/2018	\$135,000.00
23 Academic Affairs	Carmen Gutierrez	Public Policy	N/A	Instructor w/Special Provisions		7/1/2018	\$86,500.00
24 Academic Affairs	Luca Maini	Economics	N/A	Instructor w/Special Provisions		7/1/2018	\$135,000.00
25 Academic Affairs	Junier Oliva	Computer Science	N/A	Instructor w/Special Provisions		7/1/2018	\$105,000.00
26 Academic Affairs	Joaquin Rubalcaba	Public Policy	N/A	Instructor w/Special Provisions		7/1/2018	\$100,000.00
Addition of Joint App	ointment without Ter	nure					
Dromotion to Full Prot	ossor						
Promotion to Full Prof	Ron Alterovitz	Computer Science	Associate Professor	Professor		7/1/2018	\$141,778.00
2 Academic Affairs	Sukriye Nilay Argon	STOR	Associate Professor	Professor		1/1/2019	\$141,778.00
3 Academic Affairs	Todd BenDor	City & Regional Planning	Associate Professor	Professor		7/1/2018	\$88,452.00
4 Health Affairs	Ian Davis	Pediatrics/Genetics	Associate Professor	Professor		7/1/2018	\$176,274.00
5 Health Affairs	William Kim	Medicine/Genetics	Associate Professor	Professor		8/1/2018	\$253,214.00
6 Academic Affairs	Charles Konrad	Geography	Associate Professor	Professor		1/1/2019	\$87,118.00
7 Academic Affairs	Wendan Li	Asian Studies	Associate Professor	Professor		1/1/2019	\$81,837.00
8 Health Affairs	Samuel McLean	Anesthesiology/Emergency Medicine	Associate Professor	Professor		7/1/2018	\$277,575.00
9 Academic Affairs	Adam Mersereau	Kenan-Flagler	Associate Professor	Professor		7/1/2018	\$209,980.00
10 Academic Affairs	Bradley Staats	Kenan-Flagler	Associate Professor	Professor		7/1/2018	\$220,749.00

The University of North Carolina at Chapel Hill EXECUTIVE SUMMARY Board of Trustees June 2018

No. College/Division	Name	Dept./School	Current Rank	New Rank	Tenure Request Reason	Effective Date	Salary
11 Health Affairs	James West	Environmental Sciences & Engineering	Associate Professor	Professor		7/1/2018	\$111,788.00
12 Health Affairs	Adam Zanation	Otolaryngology/HNS & Neurosurgery	Associate Professor	Professor		7/1/2018	\$406,483.00
Reappointments to the	same Rank	3 0 03					
1 Academic Affairs	Jessica Cohen	Psychology & Neuroscience	Assistant Professor	Assistant Professor		1/1/2020	\$84,705.00
2 Academic Affairs	Michael Figueroa	Music	Assistant Professor	Assistant Professor		7/1/2019	\$70,670.00
3 Health Affairs	Nisha Gottfredson	Health Behavior	Assistant Professor	Assistant Professor		10/1/2019	\$104,284.00
4 Academic Affairs	Olga Hawn	Kenan-Flagler	Assistant Professor	Assistant Professor		7/1/2019	\$178,483.00
5 Academic Affairs		Kenan-Flagler	Assistant Professor	Assistant Professor		7/1/2019	\$229,900.00
6 Academic Affairs	Jiuzu Hong	Mathematics	Assistant Professor	Assistant Professor		1/1/2020	\$79,093.00
7 Health Affairs	Tate Jackson	Dentistry	Assistant Professor	Assistant Professor		7/1/2019	\$202,706.00
8 Academic Affairs	Pranav Jindal	Kenan-Flagler	Assistant Professor	Assistant Professor		7/1/2019	\$191,000.00
		Germanic & Slavic Languages &					
9 Academic Affairs	Aleksandra Prica	Literatures	Assistant Professor	Assistant Professor		1/1/2020	\$71,263.00
10 Health Affairs	Felicia Williams	Surgery	Assistant Professor	Assistant Professor		7/1/2018	\$291,787.00
11 Academic Affairs	Jeffrey Kuhn	Kenan-Flagler	Instructor w/Special Provisions	Instructor w/Special Provisions		7/1/2018	\$170,000.00
12 Academic Affairs	Timothy Ott	Kenan-Flagler	Instructor w/Special Provisions	Instructor w/Special Provisions		7/1/2018	\$170,000.00
13 Academic Affairs	Xinxin Wang	Kenan-Flagler	Instructor w/Special Provisions	Instructor w/Special Provisions		7/1/2018	\$230,978.00
Designation/Reappoin	tments to Departmen	ntal Chair	<u> </u>	·			
		Religious Studies	Professor	Chair		7/1/2018	\$94,548.00
		-					
2 Academic Affairs	Kerry Bloom	Biology	Thad Beyle Distinguished Professor	Chair		7/1/2018	\$145,272.00
3 Academic Affairs	Drew Coleman	Geological Sciences	Professor	Chair		7/1/2018	\$115,848.00
		Germanic & Slavic Languages &					
4 Academic Affairs	Eric Downing	Literatures	Professor	Interim Chair		4/1/2018	\$144,380.00
5 Academic Affairs	Sharon James	Women's & Gender Studies	Professor	Acting Chair		7/1/2018	\$100,067.00
6 Academic Affairs	Richard McLaughlin	Mathematics	Professor	Chair		7/1/2018	\$150,864.00
7 Academic Affairs	Hassan Melehy	Romance Studies	Professor	Interim Chair		7/1/2018	\$93,380.00
8 Academic Affairs	Darin Padua	Exercise & Sports Medicine	Professor	Chair		7/1/2018	\$145,068.00
Designation/Reappoin	tments to Distinguis	hed Professorship					
				Undergraduate Education Term			
1 Academic Affairs	Daniel Anderson	English & Comparative Literature	Professor	Professorship		7/1/2018	\$108,129.00
2 A di- Aff-i	Maranatha Analasson	Carlalani	Darfores	Phi Delta Theta/Matthew Mason		7/1/2010	\$1.40.000.00
2 Academic Affairs	Kenneth Andrews	Sociology	Professor	Distinguished Professors Bowman & Gordon Gray		7/1/2018	\$149,080.00
3 Academic Affairs	Anna Bardone-Cone	Psychology & Neuroscience	Professor	Distinguished Term Professorship		7/1/2018	\$113,935.00
5 Academic Analis	Attitia Bardone Cone	r sychology & recurdscience	Troicssor	Stallings Distinguished Term Clinical		77 172010	\$113,733.00
4 Health Affairs	Donald Cook	Prosthodontics	Clinical Associate Professor	Scholar & Chair		7/1/2018	\$189,918.00
				Gerhard L Weinberg Distinguished			,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
5 Academic Affairs	Eric Downing	GSLL/English & Comparative Lit	Professor	Professor		7/1/2018	\$144,380.00
	_			Bowman & Gordon Gray			
6 Academic Affairs	Juan Gonzalez Espitia	Romance Studies	Associate Professor	Distinguished Term Professorship		7/1/2019	\$88,260.00
				The Duncan McRae '09 and			
7 Academic Affairs	Daniel Gitterman	Public Policy	Distinguished Term Professor	Rebecca Kyle McRae Professor		7/1/2018	\$146,168.00
	61 11 6 1 11		5 (Kappa Kappa Gamma Distinguished		7/4/5545	****
8 Academic Affairs	Stella Grabowski	Art	Professor	Professor		7/1/2018	\$120,339.00
9 Academic Affairs	Jill Hamm	Education	Professor	J Ross MacDonald Distinguished Professor		7/1/2018	\$130,000.00
7 Acaucillic Aliali S	JIII 1 IAIIIIII	LuucallUII	i ioicaadi	James H Shumaker Term		11112018	\$130,000.00
10 Academic Affairs	Rhonda Hester	Media & Journalism	Associate Professor	Professorship		7/1/2018	\$97,330.00
10/1000011110/1110113					<u> </u>	77 172010	\$77,530.00

The University of North Carolina at Chapel Hill EXECUTIVE SUMMARY Board of Trustees June 2018

No.	College/Division	Name	Dept./School	Current Rank	New Rank	Tenure Request Reason	Effective Date	Salary
					J Ross MacDonald Distinguished			
11	1 Academic Affairs	Christian Iliadis	Physics & Astronomy	Professor	Professor		7/1/2018	\$143,870.00
					Chi Omega Distinguished Term			
12	Academic Affairs	Jordynn Jack	English & Comparative Literature	Professor	Professorship		7/1/2018	\$98,231.00
					Bowman & Gordon Gray			
13	Academic Affairs	Sarah Roberts	Political Science	Associate Professor	Distinguished Term Professorship		7/1/2019	\$89,073.00
14	Academic Affairs	Mark Schoenfisch	Chemistry	Professor	Distinguished Endowed Professor		7/1/2018	\$147,819.00
15	Academic Affairs	Vincas Steponaitis	Anthropology	Professor	Distinguished Endowed Professor		7/1/2018	\$157,793.00
		,			Bowman & Gordon Gray			
16	Academic Affairs	Karolyn Tyson	Sociology	Professor	Distinguished Term Professorship		7/1/2018	\$126,853.00
	tions Conferri	Tenure						
1	1 Academic Affairs	Isin Guler Aran	Kenan-Flagler	Associate Professor	Associate Professor	Promotion based on research, teaching and service	7/1/2018	\$199,481.00
2	2 Academic Affairs	Spencer Barnes	Media & Journalism	Assistant Professor	Associate Professor	Promotion based on research, teaching and service	7/1/2018	\$83,504.00
3	Academic Affairs	Rosa Branca	Physics & Astronomy	Assistant Professor	Associate Professor	Promotion based on research, teaching and service	1/1/2019	\$109,673.00
4	Academic Affairs	Sreedhari Desai	Kenan-Flagler	Assistant Professor	Associate Professor	Promotion based on research, teaching and service	7/1/2018	\$186,882.00
	Health Affairs	Erin Fraher	Family Medicine	Assistant Professor	Associate Professor	Promotion based on excellence in research	9/1/2018	\$144,217.00
_	6 Academic Affairs	Christian Lentz	Geography	Assistant Professor	Associate Professor	Promotion based on research, teaching and service	1/1/2019	\$76,397.00
	7 Health Affairs	Lukasz Mazur	Radiation Oncology	Assistant Professor	Associate Professor	Promotion based on excellence in research	7/1/2018	\$142,270.00
	Academic Affairs	Simon Meek	Chemistry	Assistant Professor	Associate Professor	Promotion based on research, teaching and service	1/1/2019	\$83,700.00
	Academic Affairs	Donald Porter	Computer Science	Assistant Professor	Associate Professor	Promotion based on research, teaching and service	7/1/2018	\$112,475.00
	w Appointments Co							
	1 Health Affairs	Cam Enarson	Anesthesiology	Clinical Associate Professor	Professor	Appointment based on excellence in educational scholarship	4/27/2018	\$324,434.00
2	2 Academic Affairs	Nianbo Dong	Education	N/A	Associate Professor	Appointment based on research, teaching and service	8/2/2018	\$102,000.00
3	3 Academic Affairs	Peter Halpin	Education	N/A	Associate Professor	Appointment based on research, teaching and service	7/1/2018	\$102,000.00
_ 4	Academic Affairs	William Mills-Koonce	Education	N/A	Associate Professor	Appointment based on research, teaching and service	7/1/2018	\$95,000.00
Add	dition of Joint App	ointment Conferring	Tenure					
(<u> </u>							
Cor	rrections							
1	1 Health Affairs	Kimon Divaris	Dentistry	Associate Professor	Associate Professor	Promotion based on excellence in research	7/15/2018	

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

No.	College/Division	Name	School	Department	Rank	Reason	Requested Amount of Increase **	Percent of Increase **	June 30 Salary	Current Salary	New Salary *	Effective Date
Co	ompensat	tion Actions				the proposed salary increase. Upon implementation, specific ing the University Budget Office and the Office of Sponsored	** Based on cumula to 6/30 s					
						Increase due to retention, as Dr. Alexanian is being						
	Academic Affairs	Erik Alexanian	Arts & Sciences	Chemistry	Associate Professor	recruited by Dartmouth.	\$56,211	61.57%	\$91,289	\$91,289	\$147,500	7/1/2018
29	Academic Affairs	Ron Alterovitz	Arts & Sciences	Computer Science	Associate Professor	Increase due to promotion to Professor	\$8,000	5.64%	\$141,778	\$141,778	\$149,778	7/1/2018
2	Health Affairs	Carey Anders	Medicine	Hematology/Oncology	Associate Professor	Increase due to new secondary administrative appointment as Associate Director of Brain Metastases	\$25,000	10.90%	\$229,407	\$229,407	\$254,407	7/1/2018
				., .,			120/220		7==1/101	+==-,	7==1,101	
						Increase due to being awarded the Phi Delta						
30	Academic Affairs	Kenneth Andrews	Arts & Sciences	Sociology	Professor/Chair	Theta/Matthew Mason Distinguished Professorship	\$15,000	8.87%	\$169,080	\$169,080	\$184,080	7/1/2018
3	Academic Affairs	Sayan Banerjee	Arts & Sciences	Statistics & Operations Research	Assistant Professor	Increase due to market equity	\$17,598	20.00%	\$88,000	\$88,986	\$105,598	6/1/2018
28	Academic Affairs	Anna-Marie Bardone-Cone	Arts & Sciences	Exercise & Sport Science	Professor/Co-Director/WOWS Scholar	Increase due to being awarded the Bowman and Gordon Gray Distinguished Term Professorship, and due to a new secondary, administrative appointment as Director of the Clinical Psychology Program	\$17,000	14.12%	\$120,435	\$120,435	\$137,435	7/1/2018
١,	Lloolth Affoiro	Charles Duch	Nursing		Clinical Associate Professor/Assistant Dean/Director	Increase due to market equity	£4/ 020	40.030/	¢07.502	¢104.4F0	¢144 222	F/1/2010
	Health Affairs Academic Affairs	Charles Bush Gina Chowa	Nursing Social Work		Distinguished Term Professor/Director	Increase due to manker equity Increase due to new secondary administrative appointment as Associate Dean for Global Engagement	\$46,830 \$12,000	48.03% 11.37%	\$97,503 \$105,495	\$124,453 \$105,495	\$144,333 \$117,495	5/1/2018 7/1/2018
25	Academic Affairs	Jessica Christian	Business School		Clinical Associate Professor	Increase due to retention as Professor Christian (and her spouse) is being recruited by Washington University	\$19,012	19.90%	\$95,540	\$100,091	\$114,552	6/1/2018
26	Academic Affairs	Michael Christian	Business School		Associate Professor	Increase due to retention as Professor Christian (and his spouse) is being recruited by Washington University	\$20,893	10.00%	\$208,930	\$208,930	\$229,823	6/1/2018
6	Health Affairs	Catherine Coe	Medicine	Family Medicine	Clinical Fellow	Increase due to new faculty appointment as Clinical Assistant Professor via external competitive event	\$77,000	110.00%	\$70,000	\$70,000	\$147,000	7/1/2018
7	Academic Affairs	Rudolf Colloredo-Mansfield	Arts & Sciences	Anthropology	Professor/Associate Dean	Increase due to internal equity	\$27,426	19.50%	\$140,647	\$155,647	\$168,073	6/1/2018
8	Health Affairs Academic Affairs	Louise Fleming	Nursing Arts & Sciences	Statistics & Operations Research	Clinical Assistant Professor Assistant Professor	Increase due to market equity Increase due to market equity	\$17,076	19.99%	\$85,405 \$82,000	\$87,113	\$102,481	6/1/2018
31	Academic Affairs	Nicolas Fraiman Borrazas Pervin Banu Gokariksel	Arts & Sciences	Geography	Associate Professor/Director	Increase due to high awarded the Caroline H & Thomas S Royster Distinguished Professorship	\$18,826 \$15,000	22.96% 17.63%	\$85,067	\$84,214 \$85,067	\$100,826 \$100,067	7/1/2018
32	Academic Affairs	Stella Grabowski	Arts & Sciences	Art/Art History	Professor	Increase due to being awarded the Kappa Kappa Gamma Distinguished Professorship	\$15,000	12.26%	\$122,339	\$122,339	\$137,339	7/1/2018
10	Health Affairs	Carol Haggerty	Dentistry	Operative Dentistry	Clinical Associate Professor	Increase due to new secondary administrative appointment as Director of the DDS 2nd-3rd year Clinics	\$7,656	5.08%	\$150,831	\$148,487	\$158,487	5/1/2018
33	Academic Affairs	Christian Illiadis	Arts & Sciences	Physics & Astronomy	Professor/Chair	Increase due to being awarded the J Ross Macdonald Distinguished Professorship	\$15,000	9.15%	\$163,870	\$163,870	\$178,870	7/1/2018
38	Academic Affairs	Jordynn Jack	Arts & Sciences	English & Comparative Literature	Professor	Increase due to being awarded the Chi Omega Distinguished Professorship	\$6,000	6.11%	\$98,231	\$98,231	\$104,231	7/1/2018
_	Academic Affairs	Corbin Jones	Arts & Sciences	Biology	Professor/Director	Increase due to additional duties in Director for the UNC High Throughput Genomic Sequencing Facility Core in the School of Medicine	\$12,521	8.65%	\$144,788	\$149,809	\$157,309	6/1/2018
12	Academic Affairs	Kristopher Jordan	Arts & Sciences	Computer Science	Teaching Assistant Professor/Faculty Partner	Increase due to internal equity	\$17,025	25.81%	\$65,975	\$67,459	\$78,000	2/1/2018
13	Health Affairs	Mingxia Liu	Medicine	Radiology	Post Doc Research Associate	Increase due to new faculty appointment as Research Instructor via Waiver of recruitment	\$44,400	85.06%	\$52,200	\$52,200	\$96,600	7/1/2018

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

lo. College/Division	Name	School	Department	Rank	Reason	Requested Amount of Increase **	Percent of Increase **	June 30 Salary	Current Salary	New Salary *	Effective Date
		Modicino	Devekista	Associate Professor/Clinical Associate Professor	Increase due to new secondary administrative appointment as Executive Medical Director for the	440.000	10.000	4047.407	2017.107	4057.407	7/4/004
14 Health Affairs	Samantha Meltzer-Brody	Medicine	Psychiatry	ASSOCIATE PTOTESSOT/CITIICAL ASSOCIATE PTOTESSOT	ů ů	\$40,000	18.38%	\$217,627	\$217,627	\$257,627	7/1/201
15 Academic Affairs	Barbara Osborne	Arts & Sciences	Exercise & Sport Science	Professor/Adjunct Professor	Increase due to retention, as Dr. Osborne is being recruited by Temple University	\$25,281	30.00%	\$84,272	\$93,241	\$109,553	6/1/201
					Increase due to new secondary administrative appointment as Associate Director of Translational						
16 Health Affairs	Chad Pecot	Medicine	Hematology/Oncology	Assistant Professor	Thoracic Oncology	\$29,967	16.42%	\$182,550	\$187,517	\$212,517	7/1/201
27 Health Affairs	Rohit Ramasamy	Public Health	Public Health Leadership Program	Clinical Associate Professor	Increase due to in-rank promotion to Clinical Professor	\$17,280	10.26%	\$168,391	\$175,671	\$185,671	6/1/201
					Increase due to new secondary administrative						
17 Academic Affairs	Eliza Richards	Arts & Sciences	Undergraduate Education	Associate Professor/Director	appointment as Abbey Fellow	\$8,000	7.80%	\$102,625	\$102,625	\$110,625	7/1/201
10 Haalila Affalaa	Code Coloured	Medicine	Radiology	Clinical Fellow	Increase due to new faculty appointment as Clinical Assistant Professor via external competitive event	ê1/7 20F	2/7 200/	¢/2/05	¢/2/05	¢220.000	7/1/201
18 Health Affairs	Cody Schwartz	Wedicine	Radiology	Ciliicai Fellow	Increase due to being awarded a Distinguished Professorship, as well as retention, as Dr. Schoenfisch has received offers from Notre Dame and	\$167,395	267.38%	\$62,605	\$62,605	\$230,000	7/1/201
35 Academic Affairs	Mark Schoenfisch	Arts & Sciences	Chemistry	Professor	Arizona State	\$15,000	10.15%	\$147,819	\$147,819	\$162,819	7/1/201
19 Health Affairs	Christopher Shea	Public Health	Health Policy & Management	Assistant Professor	Increase due to promotion to Associate Professor	\$10,000	7.69%	\$130,000	\$130,000	\$140,000	7/1/201
20 Health Affairs	Daniela Sotres-Alvarez	Public Health	Biostatistics	Research Assistant Professor	Increase due to new faculty appointment as Clinical Assistant Professor via external competitive event	\$24,954	20.79%	\$120,046	\$120,046	\$145,000	7/1/201
36 Academic Affairs	Vincas Stepanotis	Arts & Sciences	Anthropology	Professor/Secretary of the Faculty	Increase due to being awareded a Distinghished Professorship	\$15,000	7.80%	\$192,341	\$192,341	\$207,341	7/1/201
21 Health Affairs	Karen Swanson	Medicine	Medicine	Research Associate	Increase due to new faculty appointment as Research Assistant Professor via external competitive event	\$28,000	52.83%	\$53,000	\$53,000	\$81,000	7/1/201
41 Health Affairs	Zehra Sved	Medicine	Cardiology	Clinical Fellow	Increase due to new faculty appointment as Clinical Assistant Professor via external competitive event	\$250.000	227.27%	\$110.000	\$110,000	\$360.000	7/1/201
22 Academic Affairs	Quoc Tran Dinh	Arts & Sciences	Statistics & Operations Research	Assistant Professor	Increase due to market equity	\$20,000	23.88%	\$85,260	\$89,011	\$105,623	6/1/201
37 Academic Affairs	Nadia Yaqub	Arts & Sciences	Asian Studies	Associate Professor/Chair/Adjunct Associate Professor	Increase due to promotion to Professor	\$8,000	7.78%	\$102,839	\$102,839	\$110,839	7/1/201
	,				Increase due to new secondary administrative appointment as Director of Interprofessional Education						
23 Academic Affairs	Lisa Zerden	Social Work Arts & Sciences	Statistics & Operations Research	Clinical Associate Professor/Director Assistant Professor	and Practice Increase due to market equity	\$20,000	17.36%	\$115,182	\$115,182	\$135,182	7/1/201
24 Academic Affairs	Kai Zhang	עוני מ ארובוורבי	Statistics & Operations (Research	nasiatani i IUIC330I	Increase due to market equity Increase due to new faculty appointment as Clinical	\$18,578	20.79%	\$89,375	\$91,341	\$107,953	6/1/201
34 Health Affairs	Winnie Lau	Medicine	Neurology	Clinical Fellow/Clinical Instructor	Assistant Professor via external competitive event	\$194,222	348.21%	\$55,778	\$55,778	\$250,000	7/1/201
39 Health Affairs	Mary Pettiette	Dentistry	Endodontics	Clinical Associate Professor/Assistant Dean	Increase due to new secondary administrative appointment as Associate Dean. The Assitant Dean appointment will end 6/30/2018.	\$10,000	5.52%	\$181,012	\$181,012	\$191,012	7/1/201
40 Academic Affairs	Eric Downing	Arts & Sciences	Germanic & Slavic Languages & Literature	Professor/Chair	Increase due to being awarded the Gerhard L Weinberg Distinguished Professorship	\$15,000	9.41%	\$159,380	\$159,380	\$174,380	7/1/201

Value of Non-Salary Salary

No. College/Division Name Department/School Rank Reason Compensation Compensation Effective Date End Date

Non-Salary Compensation Actions											
(N/A	N/A	N/A		N/A	N/A	N/A	N/A	N/A	N/A	NA

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

١	No. College/Division Name		Name	Department/School	Rank	Description
	Fo	r Informat	ion			
C)	N/A	N/A	N/A	N/A	N/A

No.	College/Division	Name	Department/School	Rank	Reason	Requested Increase Amount	Percent of Increase	Current Salary	New Salary	Effective Date
Co	mpensa	tion Actio	DING Upon impl	ementation, specific funding sources are	ned by the appropriate Department and School/Division reviewed and approved at the Department level, as the of Sponsored Research for grant-funded salaries.	well as by the applicable Univ				
No	College/Division	Nama	Department /School	Pank	Poscon	Total Monetary Value of Non- Salary Compensatio n	Salary	Effective Date	End Date	
No.	College/Division On-Salary	/ Compen	Department/School Sation Act	Rank	Reason	п	tion	Date	end Date	

N/A

N/A

N/A

N/A

N/A

NA

N/A

N/A

N/A

N/A



CAROL L. FOLT Chancellor

103 SOUTH BUILDING CAMPUS BOX 9100 CHAPEL HILL, NC 27599

T 919.962.1365 F 919.962.1647 carol.folt@unc.edu

Mail Ballot

Board of Trustees

July 13, 2018

Chancellor Carol Folt submits for your review and approval the EHRA Faculty compensation and tenure actions as recommended for June 2018. This mail ballot will be approved as part of the consent agenda at the Full Board meeting on Thursday, July 19, 2018.

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

	Approve	Disapprove
EHRA Faculty Compensation and Tenure Actions (Attachment A)		
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 majority vote on July 16, 2018 by the following: Haywood Cochrane, Chuck Duckett, Julia Grumbles, Lowry Caudill, Allie Ray McCullen, Ed McMahan, Richard Stevens, Dwight Stone, and Savannah Putnam.



MEMORANDUM

June 5, 2018

TO: Chief Executive Officers of Atlantic Coast Conference Member Institutions

FROM: John D. Swofford

Commissioner

SUBJECT: 2018-19 ACC Governing Board Certification Form

Please find attached a copy of the 2018-19 Atlantic Coast Conference Governing Board Certification form. The form is to be completed annually by the Chair of the Governing Board in order for a member institution to enter a team or individual competitors in an ACC Championship as indicated in Article XI, Section XI-2 of the ACC Bylaws.

Please review this policy with your Governing Board and return the signed form to me at the Conference office by <u>October 12, 2018</u>.

Thank you and best regards.

Attachment

JDS/BH:th

cc Faculty Athletics Representatives Athletics Directors

Compliance Directors

































Governing Board Certification Form Academic Year 2018-19

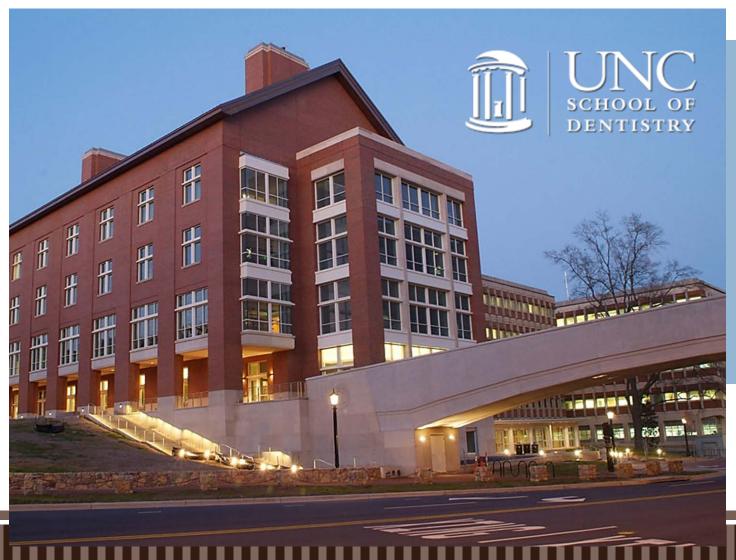
As Chairman	n of the Governing Board at $\underline{}$	
I attest that:		(institution name)
progra	nsibility for the administration has been delegated to the of the Institution.	
of the compli	hief Executive Officer has the board to operate a program iance with NCAA, Conferent rules and regulations.	of integrity in full
Faculty Director cast or	Chief Executive Officer, in copy Athletics Representative or, determines how the institute issues of athletics policy prede Conference.	and the Athletics ational vote shall be
Date Presente	ed to the Governing Board:	
Signed:		
	(Chairman of the Governing	g Board)
Signed:		
-	(CEO of Member Institu	ution)

Please return completed form before <u>October 12, 2018</u> to:

Commissioner John D. Swofford Atlantic Coast Conference 4512 Weybridge Lane Greensboro, NC 27407

The Global Model for Dental Education and Patient Care:

Dental Autotransplantation In Children



Jessica Y. Lee DDS, MPH, PhD Chair and Distinguished Professor Department of Pediatric Dentistry UNC School of Dentistry

Jennifer Crisp DDS Resident, Pediatric Dentistry UNC School of Dentistry

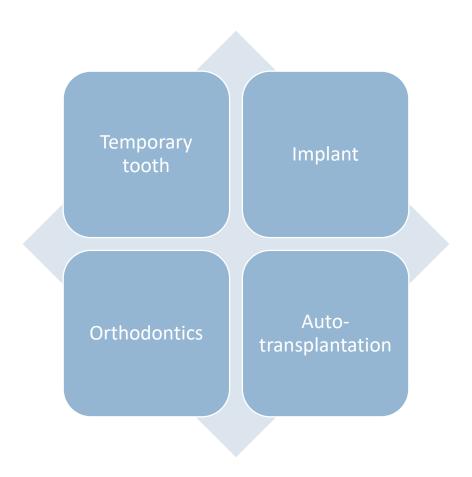
Madison Kernick 4th Year Dental Student UNC School of Dentistry

Our inspiration



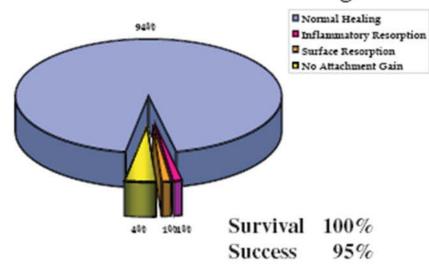


Our options

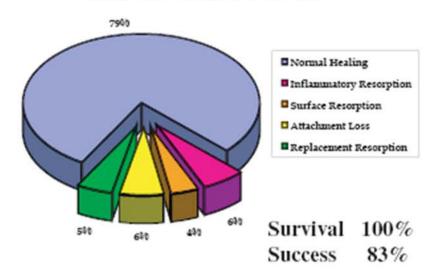


Autotransplantation

Prognosis of transplantation to extraction socket with existing PDL



Prognosis of transplantation to non-extraction sockets



Andreasen 1990: 370 teeth → 13 year follow-up: 95 – 98% success

Lundberg 1996: 275 teeth -> 5 year follow-up: 84 - 94% success

Autotransplantation

Tooth autotransplantation involves extraction of an unrestorable or missing tooth and replantation of a tooth from a donor site to a recipient site within the oral cavity.





To date, NO University has embraced the idea of autotransplantation

Our solution



Our goals



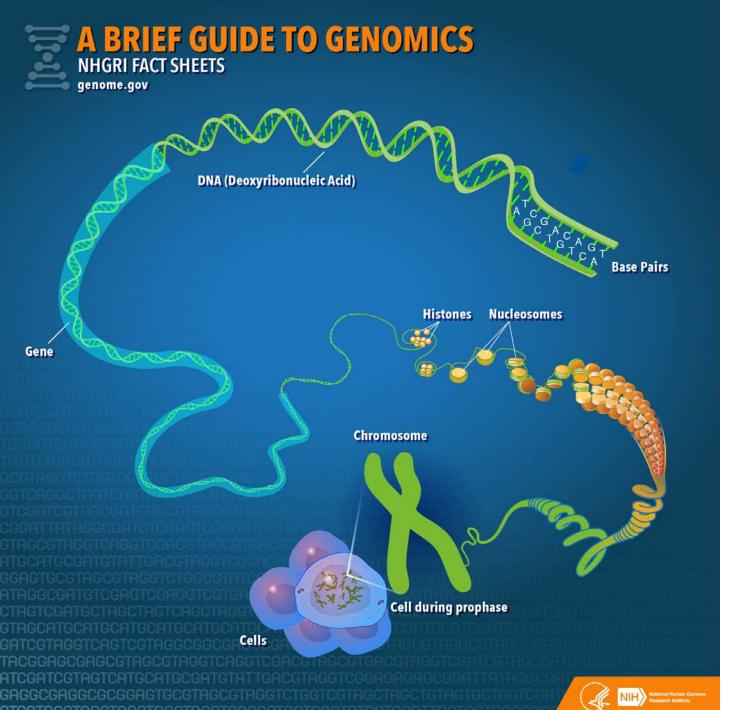
To be the global center for excellence in autotransplantation



Genomic Medicine in Healthcare

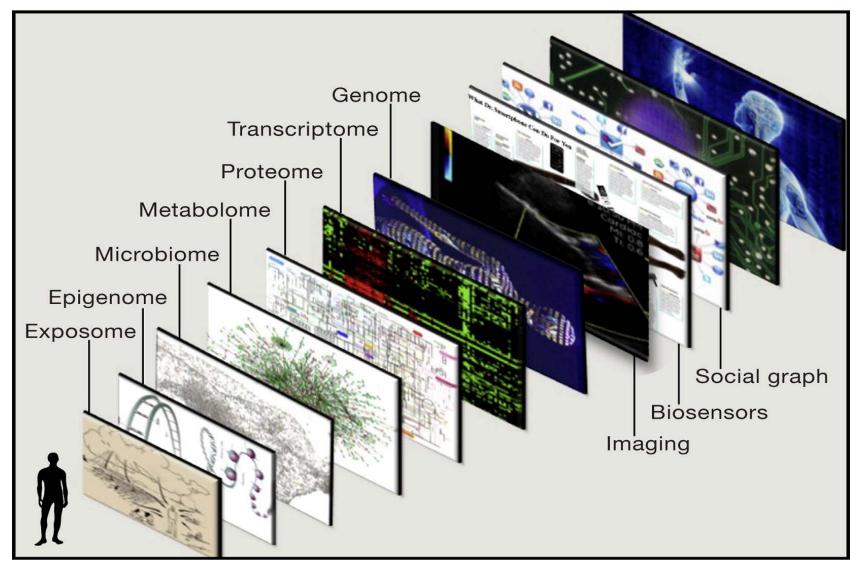
Jonathan S. Berg, MD/PhD Department of Genetics





- DNA, organized into chromosomes in every cell of our body, is the code for life as we know it
- Encoded in our genes are instructions for how we grow, develop and function throughout our lives
- Through interactions with the environment, our genes influence normal traits, common complex disease, and rare hereditary disorders
- Our genetic data also tells the story of our individual ancestry and the origin of our species

Genomics is a central part of "Precision Medicine"

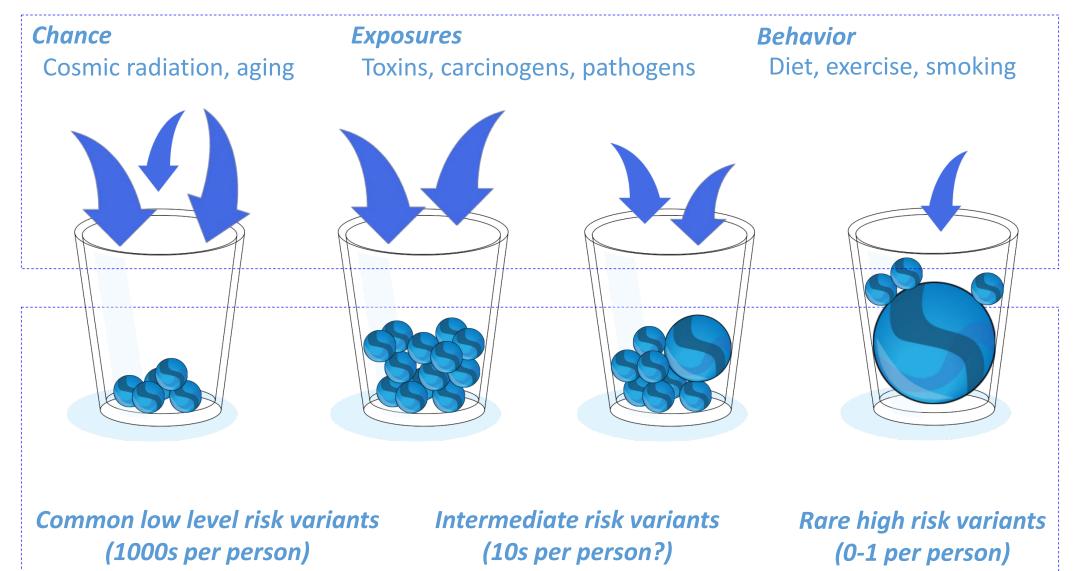


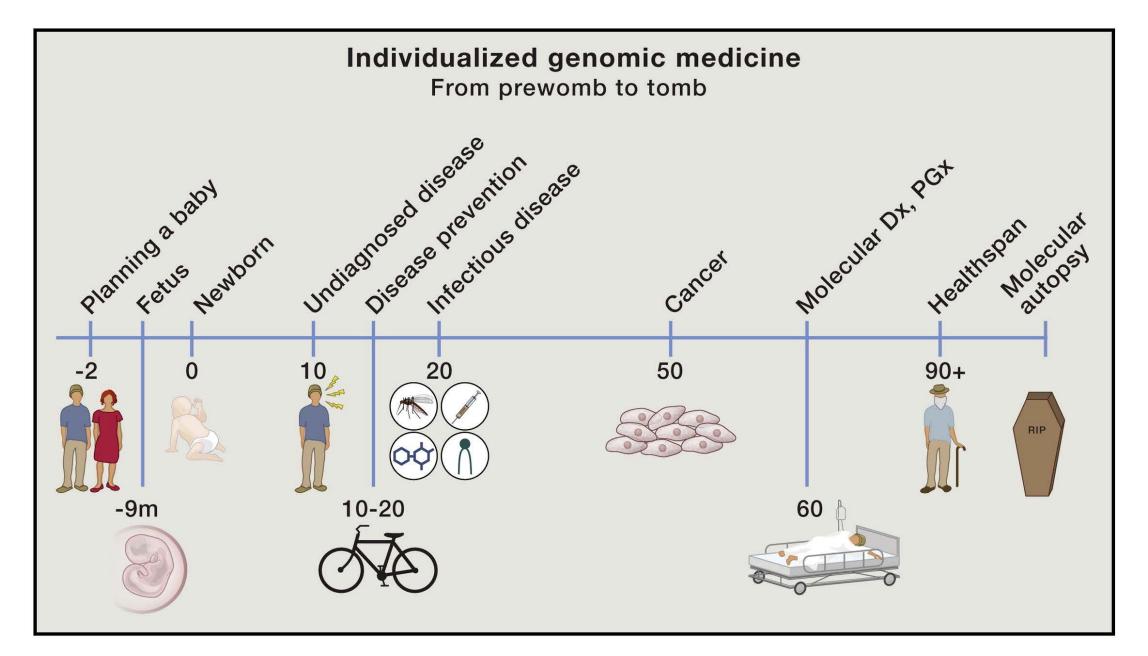
Topol, 2014 https://doi.org/10.1016/j.cell.2014.02.012

Phenotypes are gene/environment interactions

Environment

Genes

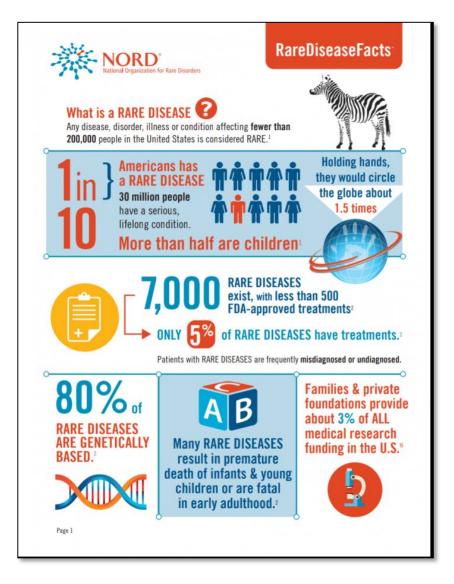




Topol, 2014 https://doi.org/10.1016/j.cell.2014.02.012

Precision diagnostics





- Patients with rare genetic disorders often face a prolonged "diagnostic odyssey"
- With the cost of genomic sequencing dropping to \$1000/genome, there is great hope for precision diagnostic testing to become more routine
- Identifying the causative variant can be like finding the proverbial needle in the haystack



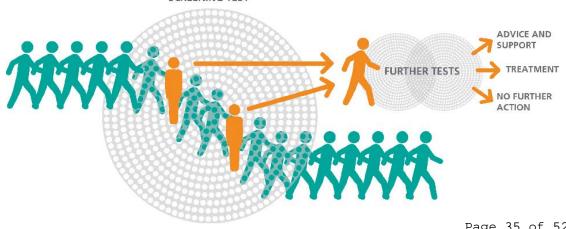
Precision screening





- Approximately 3% of us have rare genetic variants causing hereditary conditions that are preventable or treatable if diagnosed before symptoms develop.
- It is hoped that genomic medicine can be proactive instead of reactive
- There is a great deal yet to be understood before we can implement genomic screening widely in an evidence-based manner.

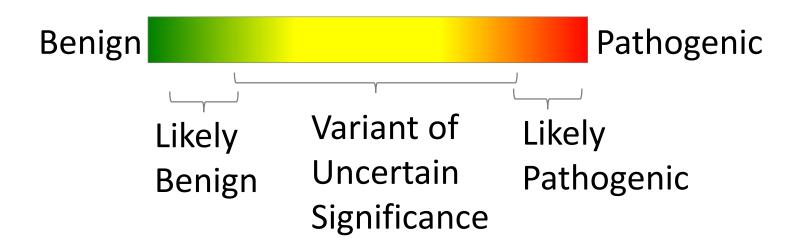




Challenge: Clinical variant interpretation

Sarah Brnich
UNC MD/PhD Program

How do we classify germline (inherited) variants?



Careful consideration of all available evidence by type and strength:

- Population data
- Computational/predictive data
- Family/patient studies
- Functional data

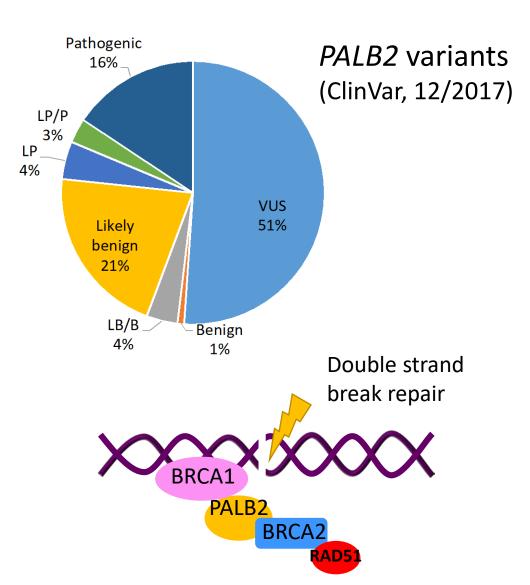
Uncertain variants complicate clinical practice

- We use genetic testing to inform risk management, treatment, reproduction and other decisions
- VUS cannot be used for diagnosis or clinical decision-making and can lead to risk of misinterpretation

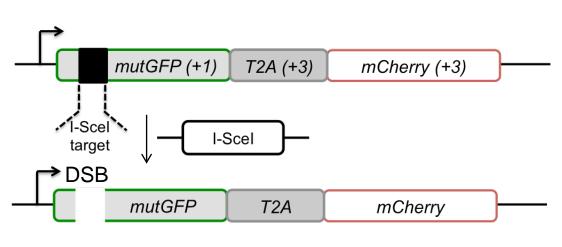


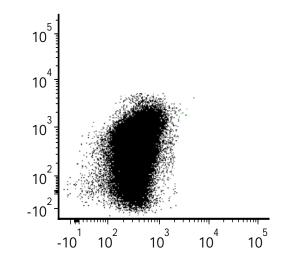
Novel methods are needed to re-classify VUS

- Clinical testing results in many VUS
- Often due to insufficient evidence (family data unavailable) or conflicting evidence (computational predictions not always reliable)
- Functional assays provide a promising avenue for classification
- For example, many genes involved in hereditary cancer play a role the DNA damage repair pathway

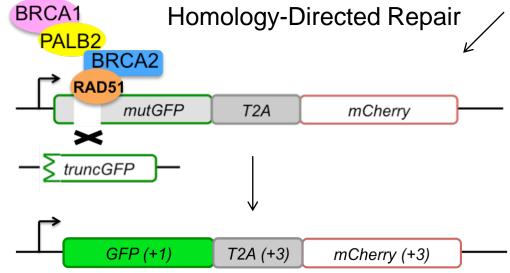


Traffic Light Reporter Assay





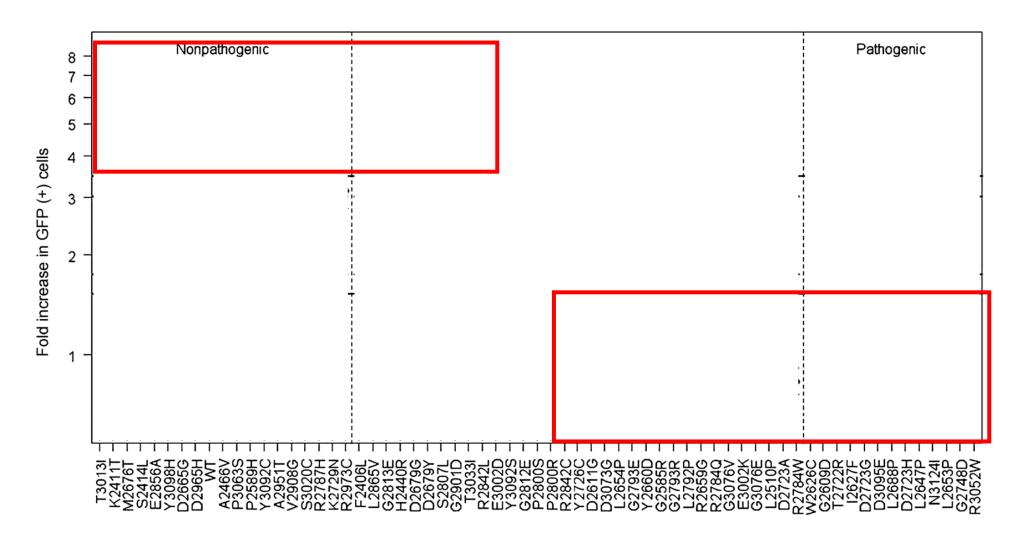
mCherry (+1)



mutGFP T2A *mCherry* 2-bp frameshift mutGFP (+3) T2A(+1)

Mutagenic Non-Homologous End-Joining

Previous HR-based classification of BRCA2 Variants



Guidugli, et al. Cancer Res (2013)

Applications

- Validate TLR assay using panel of BRCA2 variants
- Application to study effects of *PALB2* missense VUS on HR capacity
- Reclassify PALB2 missense
 VUS by HR/NHEJ ratio
- Scale up for highthroughput assessment

	Clinical	Variant	Variant	
Gene	Assertion	(protein)	(cDNA)	Domain
BRCA2	Benign	Arg18His	c. 53 G>A	PALB2 interxn
BRCA2	Benign	Leu1019Val	c. 3055 C>G	BRC1 repeat
BRCA2	Benign	Phe1524Val	c. 4570 T>G	BRC4 repeat
BRCA2	Benign	His2074Asn	c. 6220 C>A	BRC8 repeat
BRCA2	Benign	Lys2472Thr	c. 7415 A>C	HD; FANCD2 interxn
BRCA2	Benign	Thr2515lle	c. 7544 C>T	HD
BRCA2	Benign	Lys2729Asn	c. 8187 G>T	OB1
BRCA2	Benign	Arg2842His	c. 8525 G>A	Tower domain
BRCA2	Benign	Arg2973Cys	c. 8917 C>T	OB2
BRCA2	Benign	Tyr3098His	c. 9292 T>C	OB3
BRCA2	Pathogenic	Trp2626Cys	c. 7878 G>C	HD
BRCA2	Pathogenic	lle2627Phe	c. 7879 A>T	HD
BRCA2	Pathogenic	Leu2647Pro	c. 7940 T>C	HD
BRCA2	Pathogenic	Leu2653Pro	c. 7958 T>C	HD
BRCA2	Pathogenic	Leu2688Pro	c. 8063 T>C	OB1
BRCA2	Pathogenic	Thr2722Arg	c. 8165 C>G	OB1
BRCA2	Pathogenic	Asp2723His	c. 8167 G>C	OB1
BRCA2	Pathogenic	Asp2723Gly	c. 8168 A>G	OB1
BRCA2	Pathogenic	Gly2748Asp	c. 8243 G>A	OB1
BRCA2	Pathogenic	Arg3052Trp	c. 9154 C>T	OB2

Challenge: Implementation of genomic screening in children

Lonna Mollison, PhD
Postdoctoral Fellow
Department of Genetics

Evolution of Public Health Newborn Screening



- Toluene C₇H₈

 MASS SPECTRUM (Electron Ionization)

 CH₃

 Toluene chemical structure molecular mass: 92
- NIST Chemistry WebBook (http://webbook.nist.gov/chemistry)

30

60

75

105

- Four million babies are born annually in the U.S.
- Most undergo state-mandated newborn screening (NBS)
- Debuted in the 1960's and initially screened for one disorder – Phenylketonuria (PKU)
- Tandem mass spectrometry (MS/MS) enabled expansion of conditions in NBS
- MS/MS identifies abnormal patterns of blood metabolites indicative of specific disorders
- North Carolina currently screens for 35 conditions with a cost of \$44.00 per test

Augmenting NBS with Genomic Sequencing

Should a child's genome be sequenced at birth?

Technology:

Genomic sequencing could examine 1000's of genes simultaneously

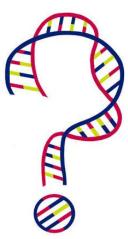
Health Implications:

 Could theoretically detect virtually all rare disorders with known genetic causes, including NBS conditions

Practical and Ethical Considerations:

- Cost would still exceed \$1000 per child
- Most information in the human genome is not well understood
- Ethical, legal and social implications arise when sequencing a genome in a healthy newborn
 - Detection of untreatable disorders
 - Detection of adult onset conditions





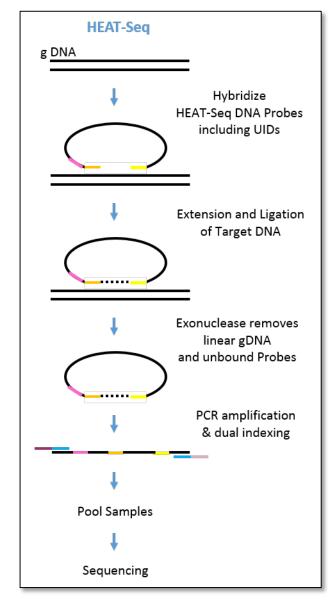
Proposal: Age-Based Genetic Screening

- A novel approach to integrating population-level genetic screening into standard routine wellness visits for newborns and children
- Confine screening to medically actionable conditions that are relevant to the age of the child
- Utilize cost-effective targeted-sequencing to analyze genes with substantial evidence for a gene-disease relationship
- Minimize ethical, legal and social concerns

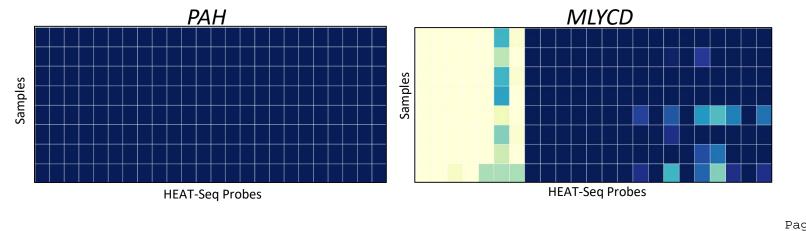
Do parents want Age-Based Genetic Screening?



Targeted sequencing validation

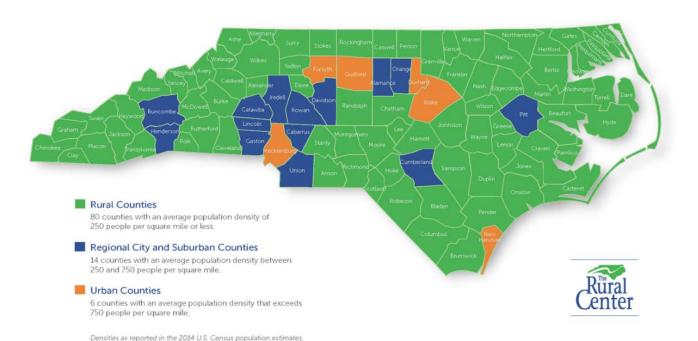


- Technology: HEAT-Seq molecular inversion probes (Roche/NimbleGen)
 - Examined 72 genes associated with current NBS conditions
 - Cost about \$100 per sample
- Initial goal was to evaluate the technology and compare to other genomic sequencing approaches for variant detection
- Next steps are to optimize sequencing for poorly performing genes and begin an implementation pilot study



How do African American Parents feel about ABGS?

North Carolina Counties



- African Americans make up 22% of the NC population
- Minorities have often been underrepresented in genomics research
- Lack of diversity in genomics research could hinder the broad dissemination of genomic medicine

We conducted semi-structured focus groups with African Americans from rural and urban counties to understand views and concerns about age-based genetic screening

Emergent Themes Arising from Focus Groups

- Parents are open to genetic screening for their child if they are properly informed and actively engaged in the process
- Parents in rural communities expressed concern over the lack of health care providers and if their child could have access to appropriate care if a genetic conditions was identified by screening
- Parents in urban communities expressed distrust of a large regional hospital because of its location in a lower socioeconomic area in Raleigh and a belief that low income patients are not treated optimally

Wrap up

Ongoing work and future directions

- NCGENES 2: Phase 3 randomized clinical trial (exome vs. usual care)
- Clinical Genome Resource: Evidence-based assessments of clinically relevant genes and variants for public dissemination
- ABGS pilot study with pediatric offices in the Triangle
- Expanded functional assays for additional genes, high-throughput functional analysis
- School of Medicine Program for Precision Medicine in Healthcare
 - Biobank and GeneScreen scale-up in UNC Healthcare System (YouNC)
 - Improved handling of genetic data in Epic electronic health record
 - Core service for clinical analysis and disclosure of research genomic sequencing

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