



## **AGENDA**

### **OPEN SESSION**

#### **ACTION ITEMS**

1. **Approval of the Minutes of March 27, 2024**  
*Marty Kotis, Chair*

#### **INFORMATION ITEMS**

1. **Report on the Request for Authorization to Plan the Institute for Risk Management and Insurance Innovation**  
*J. Christopher Clemens, Executive Vice Chancellor and Provost*
2. **Institute for Risk Management and Insurance Innovation Presentation**  
*Dr. Gregory Characklis, William R. Kenan, Jr. Distinguished Professor, Department of Environmental Sciences and Engineering, and Director of the Center on Financial Risk in Environmental Systems*

**UNC-CHAPEL HILL BOARD OF TRUSTEES**  
**STRATEGIC INITIATIVES COMMITTEE**  
**Open Session Minutes**

**March 27, 2024**

Committee Chair Marty Kotis called the meeting to order at 11:39 a.m. in the Chancellor's Ballroom at the Carolina Inn.

Assistant Secretary Chris McClure called the roll. The following committee members were present in person or via videoconference: Brad Briner, Rob Bryan, Jennifer Halsey Evans, Perrin Jones, Vimal Kolappa, Marty Kotis, Ralph Meekins, and John Preyer. The following member was absent: Ramsey White.

Assistant Secretary McClure indicated that there was a quorum.

**OPEN SESSION**

The following item was presented for action:

**Approval of the Minutes of January 17, 2024**

The committee reviewed and approved the open session minutes of January 17, 2024. Committee Chair Kotis noted that without objection the item approved would be added to the Consent Agenda for the Full Board meeting.

The following item was presented for information only:

**Board of Governors Facility Inventory and Utilization Study - Classroom and Lab Utilization**

The Committee heard an informational update on the Board of Governors Facility Inventory and Utilization Study on classroom and lab utilization from Provost Chris Clemens.

Questions and discussion were entertained.

**ADJOURNMENT**

Chair Kotis adjourned the meeting at 11:50 a.m. without objection.



April 29, 2024

**MEMORANDUM**

**TO:** Chris Clemens  
Executive Vice Chancellor and Provost

**FROM:** Marcus Collins *Marcus L. Collins*  
Interim Vice Provost for Academic and Community Engagement

**RE:** Request for Authorization to Plan the Institute for Risk Management and Insurance Innovation

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The Centers and Institutes Review Committee met on April 25<sup>th</sup>, 2024 to review several agenda items, which included a request for authorization to plan the UNC Institute for Risk Management and Insurance Innovation (IRMII). The proposed institute would be housed in the Office of the Vice Chancellor for Research (OVCR). As described in the attached memorandum, the proposed institute will be a pan-campus organization that is unique within the UNC system.

The mission of the proposed IRMII is to “develop a cutting-edge risk management and insurance program that generates better solutions for mitigating many of the world’s most challenging financial risks.” In pursuit of this mission, IRMII has two primary objectives according to the requestors:

- Develop novel approaches to characterizing the sources and nature of society’s financial risks, and then formulate innovative strategies and tools for more effectively managing them.
- Achieving this through research collaborations among faculty and graduate students from schools across the university, working in concert with leaders from the risk management and insurance industries.

The Committee endorses this request for authorization to plan. We ask for your approval, and if granted, that you forward your recommendation to the Chancellor for his determination. Approval of this request would then need to be communicated to the Board of Trustees for their information, as directed by policies governing the establishment of new centers and institutes. If approved, the next step will be for the planning committee to develop and submit a request for authorization to establish the center.

Thank you for considering this recommendation and forwarding your determination to the Chancellor for his consideration. If additional information is needed, please advise.

Attachment: Letter of Request for Authorization to Plan the Institute for Risk Management and Insurance Innovation



April 22, 2024

Marcus Collins, Ed.D.  
Interim Associate Vice Provost  
Academic and Community Engagement  
104 South Building  
CB #3000  
Chapel Hill, NC 27599-3000

Dear Chair of the Centers and Institutes Review Committee:

We would like to request authorization to plan a new institute that will fill an important role in driving pan-campus, cross-disciplinary collaboration to generate solutions for managing the financial risks arising from a growing number of threats, ranging from extreme weather to cybersecurity, that are faced by North Carolina, the United States, and the world. This new institute will generate research, while providing experiential and service opportunities for faculty, staff, and students, as part of a partnership with industry that will have broad impact. The proposed Institute for Risk Management and Insurance Innovation (IRMII) will be a pan-campus organization that is unique within the UNC system and is designed to accomplish two primary objectives:

- develop novel approaches to characterizing the sources and nature of society's financial risks, and then formulate innovative strategies and tools for more effectively managing them;
- achieving this through research collaborations among faculty and graduate students from schools across the University, working in concert with leaders from the risk management and insurance industries.

In addition to creating new knowledge, IRMII will facilitate knowledge transfer from the academy to industry through the development and dissemination of multidisciplinary research and the training of graduate students that will enter the workforce in positions that will benefit the rapidly expanding economic sector devoted to risk management and insurance. Research in this area requires the integration of knowledge and skills from a range of diverse fields, including engineering, natural sciences, economics, finance, data science, and policy. As such, the Institute will bring together researchers from across the UNC-Chapel Hill campus to provide students with multidisciplinary training that will prepare them for productive careers in these vitally important and evolving industries.

In this application we are requesting permission to plan this initiative in partnership with the Office of the Vice Chancellor for Research (OVCR), and in the following pages we will do our best to respond to the eight questions specified in the "permission to plan" documentation using the information available to us at this relatively early stage of development.

1. *Relevance of the proposed center or institute to the mission of UNC-Chapel Hill and the UNC system.*

The world faces increasing pressure to manage the financial risks of a growing number of threats whose frequency and impact are increasing. Climate change is driving concerns over extreme weather events that already cost the world more than \$500 billion per year, just as losses associated with cybercrime are rising at exponential rates, meanwhile the COVID pandemic resulted in the world's first "trillion dollar" loss event. In the quest to find new and more effective means of combatting the adverse impacts of these intermittent and unpredictable events, the risk management and insurance industries represent a critical first line of defense. Consequently, generating the innovative research, talented workforce, and novel solutions that will support these industries is of vital importance to both the United States and the world. This is particularly true for the state of North Carolina given its vulnerability to extreme weather and the large economic footprint that global insurance companies have in the state, companies that are desperate for a new cohort of skilled and creative problem solvers. We also seek to pursue research that benefits the poorer and more vulnerable citizens of the state, those who are invariably most at risk from extreme events (e.g., hurricanes), thereby providing policy makers with the insights necessary to improve the ability of these populations to successfully navigate in the aftermath of these events.

Our goals in establishing IRMII are therefore directly responsive to the missions of UNC-Chapel Hill and the UNC System, both of which strive to "discover, create, transmit, and apply knowledge to address the needs of individuals and society". By providing cutting-edge research, as well as instructional and hands-on experiences, IRMII will create solutions to some of the most significant threats faced by our society.

- 2. Mission, goals and objectives of the proposed unit and an explanation of why these cannot be met within the existing university structures.*

The mission of the Institute for Risk Management and Insurance Innovation (IRMII) is to develop a cutting-edge risk management and insurance program that generates better solutions for mitigating many of the world's most challenging financial risks. In doing so, IRMII aims to serve the University, the state of North Carolina and the world by sparking cross-disciplinary discussions, analyses, and research, while also providing common areas for discourse with industry, developing space to nurture the growth of ideas which emerge from these interactions, and supporting the translation of these intellectual advances into new tools and strategies for managing the complex risks facing our society. Accomplishing this within existing university structures is very difficult. The development of new knowledge and novel solutions in this space will require a multidisciplinary set of skills that differs significantly from the more narrowly focused training that defines academic disciplines. Characterizing the risks and developing novel risk management solutions requires a broader range of expertise than can be developed within individual schools or departments, which though they facilitate deep training in specific fields, can also limit the type of innovation that depends on contributions from multiple disciplines. Thus, our proposal to become a pan-campus center will allow us to bring top talent from units and schools across the university in a manner that promotes truly inter-disciplinary research and its translation into real world solutions.

- 3. If relevant, information about the inter-institutional nature of the proposed unit with regard to mission, leadership, activities, funding or other aspects.*

At present we are focused on developing this program within UNC-Chapel Hill, and building strong linkages with our partners from the risk management and insurance industries. At some point in the future, however, we will seek opportunities to engage with other UNC System schools.

- 4. Description of how the proposed unit differs from the centers, institutes and units within UNC-Chapel Hill, the UNC system, and the state, and proposed relationships with them.*

The Institute will build and expand on the activities of the Center on Financial Risk in Environmental Systems (CoFiRES), a unique small “c” center founded in 2017 that bridges the Gillings School of Global Public Health and the UNC Institute for the Environment (IE). While CoFiRES has been successful, it has a relatively narrow research mandate, focusing only on natural hazards (e.g. floods, droughts, extreme temperatures) with funding coming via grants from traditional federal agencies and does not have close ties with industry. Upon the formal establishment of IRMII, it will absorb the researchers, students and projects within CoFiRES (which will cease to exist) as the newly formed Institute moves to broaden its scope of research, increase translational activities to move research into practice, and significantly expand its resource base via industry partnerships. IRMII will therefore move well beyond its roots in CoFiRES in a number of important ways, including:

- Expansion into new risks outside of the natural environment, including cybercrime, liability, and life insurance, as well as broadening of the range of natural hazards previously considered within CoFiRES (e.g., wind, wildfires, earthquakes);
- Deep engagement with the risk management and insurance industries, including the development of an Industry Advisory Board (IAB) that will provide advice and guidance on the Institute’s activities;
- Diversification of support beyond grants and contracts with traditional state/federal funding agencies (e.g., NSF, DOE) to include support via a combination of IAB annual contributions and grants from industry for targeted applied research;
- Initiation of a campus-wide series of enrichment and instructional activities, including seminars, short courses, and networking opportunities involving students and industry professionals;
- Expansion of collaborative activities to include schools and units across the UNC-Chapel Hill campus (see next section).

UNC Chapel Hill has long been a leader in promoting interdisciplinary research, and different units often collaborate within and among the different schools and units. Nonetheless, barriers to collaboration remain and our traditional structure often fosters advancement within highly specialized areas more easily than it does important research that spans disciplines. The Institute for Risk Management and Insurance Innovation seeks to provide bridges to connect and integrate the work of units from across the university, and combine these with the insights and experience of our industry partners to develop new knowledge and novel solutions. In bringing together these many perspectives, we seek to facilitate translational research, accelerating the application of advanced knowledge that addresses real world problems and global needs. We will, however, accomplish these goals without losing sight of our commitment to the state of North Carolina and its citizens, as demonstrated by our burgeoning relationships with several of the largest insurance industry actors in the state (e.g., Amwins, Truist), as well as our connections with organizations such as the North Carolina Collaboratory.

##### *5. Description of the people and units involved.*

Dr. Greg Characklis, William R. Kenan Jr. Distinguished Professor (and founding Director of CoFiRES), will serve as Director of IRMII and will, upon establishment of the Institute, immediately recruit a Director of Industry Engagement and Associate Director of Research, with other staff positions likely to follow as the Institute scales up. While IRMII will continue to engage in collaborative projects (begun under CoFiRES) with researchers in Gillings (Environmental Sciences and Engineering), IE, the College of Arts and Sciences (Earth, Marine and Environmental Sciences and Economics), North Carolina Collaboratory, and School of Government (Environmental Finance Center), IRMII will focus on broadening its network of collaborators to include the School of Data Science and Society, Kenan-Flagler Business School, and Law School, as well as smaller units on campus such as the Coastal Resilience Center. We will also develop a Risk Management and Insurance Industry Advisory Board (IAB) that will

involve up to 40 members representing organizations from across the sector including those from insurance, reinsurance, ratings agencies, corporate risk management, private equity, and institutional investors. These IAB members will make regular visits to campus for networking and enrichment activities involving students, while also committing to provide IRMI with financial support.

6. *Estimated funding needed to initiate and sustain the proposed center or institute for five years, including amounts of state, non-state and in-kind support needed during that period.*

We currently have “soft” commitments of financial support from as many as 20 industry partners and other “friends of UNC” (e.g., engaged alumni). Securing permission to plan for the Institute will provide our industry partners with the assurance that this initiative has the support of the University and thus the confidence that their contributions to the Institute will go toward their intended purpose. We will continue to work to attract even more financial support from industry following approval of the permission to plan request, and will provide a detailed financial plan in our permission to establish request for IRMI, which we expect to proffer at some point during the 2024-25 academic year. As an interim step, we are also in the process of establishing a “Program for Risk Management and Insurance Innovation” (under the OVCR) as a temporary placeholder for IRMI which could act as a vehicle for accepting contributions from our Industry Partners between the permission to plan and permission to establish steps. During this interim period, we will make use of CoFiRES’s active research program (supported via external contracts and grants) to showcase UNC’s research capabilities and attract additional industry partners, while also using some of CoFiRES discretionary funds to support other activities vital to IRMI’s establishment (e.g., travel to visit prospective industry partners). The North Carolina Collaboratory has also offered fiscal support (pending the availability of funds) to accelerate the startup of IRMI in its initial stages.

7. *Estimated space, facilities and equipment needs and plans for meeting these needs.*

The OVCR has identified the Carolina Square building as a potential site in which IRMI might be housed with two other OVCR pan-campus centers, the Carolina Population Center and UNC Institute for the Environment with the idea that this could further spur pan-campus collaboration. In preliminary discussions with University leadership it appears that there is sufficient space in this building to house up to 25 researchers, students and staff, while its central location and accessibility will facilitate interaction among researchers from multiple schools and units on campus. Carolina Square is ideally positioned as it can be easily accessed by visitors from both on- and off-campus (i.e. industry partners). This space is also sufficiently inviting so as to provide the Institute with a “front porch” that will be welcoming to our industry partners when they join us for regular interactions. The availability of parking at this location will also be an important component in facilitating engagement with our industry partners.

The focus of the Institute will be computational modeling, so beyond office space, and some resources required to make it more collaborative (e.g., open floorplan), the need for additional facilities and equipment will be relatively modest in the short-term.

8. *Proposed timeline, milestones and responsible parties for planning and establishing the center or institute. If a time-limited center is proposed, e.g., one established only for the duration of certain external funding, estimated “sunset” date.*

If approved, we will begin an immediate set of planning meetings to firmly develop a strategic and financial plan to establish IIRMI. Once we are authorized to plan and have demonstrated institutional support, we expect that at least some of our industry partners will begin to fund their commitments (even as other partners may wait until the final permission to establish IRMI is approved) and this early support

can be used to accelerate IRMII's development. With industry support in hand, as well as additional details on the Institute's structure and location, and perhaps some commitment of internal UNC funds, we hope to move forward with a request for permission to establish IRMII within the next 12 months. As such, we will continue to work closely with the OVCR, UNC Central Development, our industry partners, engaged alumni, and our current and future research collaborators from across campus to develop a more detailed plan for the establishment of IRMII, which we fully expect to be a long-term entity (i.e. not time limited, so we will not be specifying a sunset date).

If our request for permission to plan is approved, we will also begin the formal process of developing documentation that specifies IRMII's mission, objectives, and metrics to track progress. We will also develop a formal organizational structure and detailed financial plan. Should approval be granted, the next few months will be important as developing the plan for establishing IRMII will involve continuing to meet with faculty, students and our industry partners to understand their vision for fostering the collaborative culture of low stone walls that characterizes our university and which will be so critical to the Institute's success. With our industry partners, we seek to develop an Institute that will foster creative multidisciplinary knowledge generation and problem solving that will benefit the University, the state of North Carolina, the country, and the world, through the mobilization of UNC-Chapel Hill's cross-campus research community, and thereby drive the collective achievement of the Institute's goals.

We are genuinely interested in the input of the Centers and Institutes Review Committee, as we seek to better understand how we may develop the Institute in a way that values the current priorities of the university. We realize that this letter is a brief description of our ideas as they are developing, and are happy to provide your committee with additional information which may be helpful to your decision at your request.

Yours truly,



Penny Gordon-Larsen, Ph.D.  
W. R. Kenan, Jr. Distinguished Professor  
Vice Chancellor for Research



Gregory W. Characklis, Ph.D.

W. R. Kenan, Jr. Distinguished Professor  
Dept. of Environmental Sciences & Engineering  
Director, Center on Financial Risk in Environmental Systems  
Gillings School of Global Public Health and UNC Institute for the Environment



# Institute For Risk Management And Insurance Innovation



THE UNIVERSITY  
*of* NORTH CAROLINA  
*at* CHAPEL HILL

# Risk Management and Insurance Industry Faces Unprecedented Challenges

*Overcoming these challenges requires new talent and novel solutions*

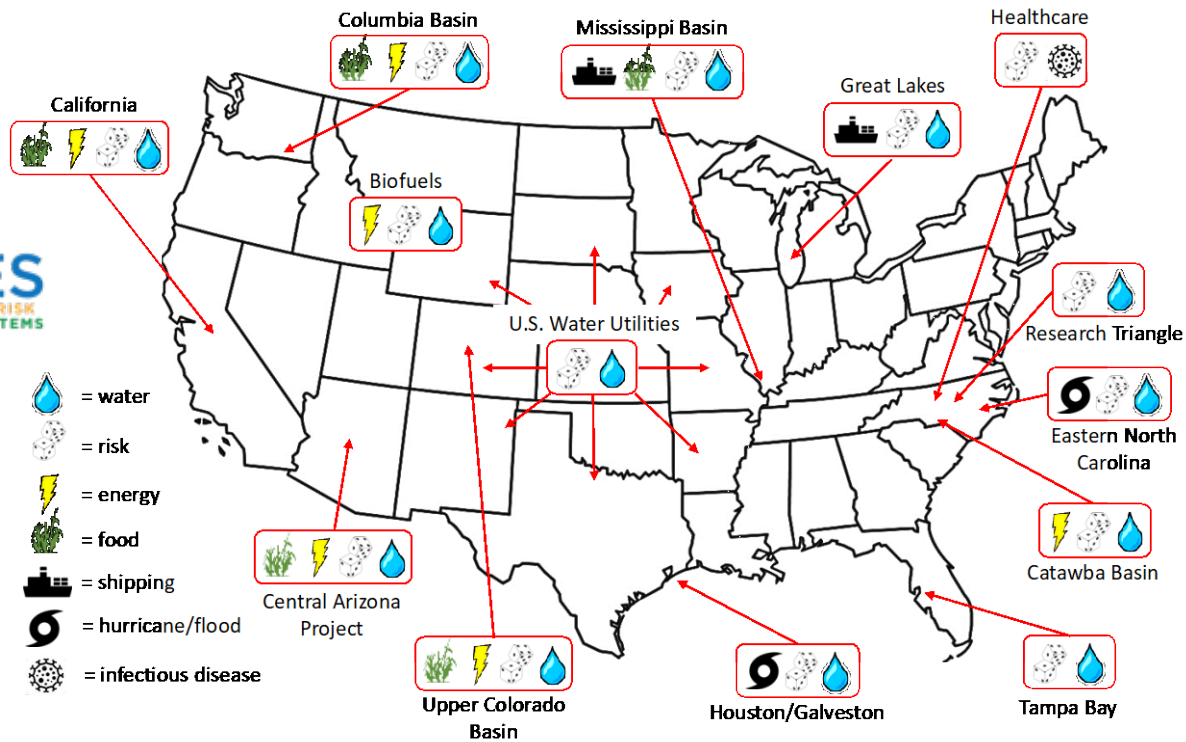
- **New, larger, and more complex financial risks threaten all corners of society**
  - Increasing frequency and severity of natural hazards (e.g., hurricanes, floods, droughts)
  - Losses due to infectious disease/pandemics are projected to grow
  - Cybersecurity risks are a rapidly increasing concern
- **Better risk management is required by individuals as well as private- and public-sector actors**
  - Homeowners, federal/state/local government, small businesses, global corporations
- **Risk Management/Insurance industry is one of the world's largest and seeks to manage these risks**
  - Insurers, Reinsurers, Lenders, Ratings Agencies, Investors all play important, interconnected roles
  - The industry (which has a significant footprint in NC) is desperate for employees with advanced skills
- **There is currently a lack of programs designed to train creative problem solvers for the industry**
  - Expertise necessary to characterize and quantify current and emerging risks
  - Training necessary to recognize and design novel solutions for better managing these risks

## *What is it?*

- **An Innovative Risk Management and Insurance Research Hub**
  - Large group of creative interdisciplinary Ph.D. and Masters students focused on industry problems
- **Develop a certificate in risk management and insurance designed with industry input**
  - Student cohort drawn from across campus (e.g., engineering, economics, sciences, business)
  - Specialized curriculum available to undergraduates/graduates, as well as industry internship program
- **Institute designed around a strong engagement with industry**
  - Guest lectures & seminars
  - Industry Advisory Board
- **Annual event that brings together risk management and insurance professionals with researchers**
  - Facilitate understanding of new financial risks and the design of novel risk transfer products
  - Provide industry with access to the best and brightest young people with unique training and skills

# We will build on current success at UNC

## Center on Financial Risk in Environmental Systems



- Research Center focused on a wide range of natural hazards (e.g., flood, drought, infectious disease)
- Interdisciplinary approach to evaluating financial risk and developing new risk transfer products
- Research involves advanced modeling, big data analytics, and machine learning/AI
- Training includes courses from across campus in engineering, finance, natural sciences and economics
- Currently trains 10 graduate researchers and teaches a broader cohort of 25 per year
- Average annual budget of ~\$1 Million, with most funds coming from external grants (e.g., NSF, DOE)

## *Example Research Themes*

- **Novel index insurance for Electric Power Utilities**
  - Protects against the correlated risks of heatwaves and drought
- **Impact of flood insurance on reducing mortgage defaults and home abandonment**
  - Assessing impact of subsidies on flood insurance uptake
  - Unpriced/Mispriced flood risk in Commercial MBS market
- **Financial risks of pandemic-related business disruption on healthcare facilities**
  - Financial losses arising from both canceled procedures and reduced emergency room visits
- **Financial risks of transport disruptions on the Mississippi River due to low water levels**
  - Design of parametric insurance product to manage these risks
  - Identify unpriced/mispriced risk in commodities markets (e.g., corn, soybeans)
- **Global risk pool for hydropower producers facing drought-related financial losses**

**IRMII will expand on and leverage CoFiRES's existing portfolio of projects**



### Current Roles

- **W. R. Kenan, Jr. Distinguished Professor, University of North Carolina at Chapel Hill**
  - Founding Director, Center on Financial Risk in Environmental Systems, 2017 – present
  - Faculty, Dept. of Environmental Sciences & Engineering, UNC-Chapel Hill, 2001 – present

### Background

- **Grew up in Montana (Bozeman High class of '85)**
- **B.S., Materials Science and Engineering, Johns Hopkins University, 1989**
- **M.S./Ph.D., Environmental Science & Engineering, Rice University, 1994/1999**
  - With emphasis in Resource Economics
- **Fellow, The National Academies, Washington D.C., 1997-1999**
- **Director, Resource Development & Management, Azurix Corp., 1999-2001**
  - Water subsidiary of Enron Corp



# A Vibrant, Well-Funded Organization

*CoFiRES Masters/Doctoral students and researchers*



# Building on CoFiRES to create something much larger and broader

*Current Focus Is On Natural Hazards With Goal To Expand Into Other Perils*

## Current Focus

## Future Focus



- **Build a unique program to provide students with**
  - the skills, intuition and perspective to identify opportunities for managing current and emerging financial risks
  - the ability to design novel strategies and products to better manage these risks
- **Build on CoFiRES, an established program with**
  - Experienced and talented staff
  - Steady funding stream
  - Collaborative relationships across campus (e.g., SPH, CAS, SOG, Collaboratory) and across the country



# Support for IRMII at the Highest Levels of the University

## Prominent UNC Leaders Are Fully Supportive Of The Formation Of IRMII



**Lee Roberts**  
Interim Chancellor



*“UNC is committed to developing a world class risk management and insurance program. Supporting such a large, important and noble industry which provides much needed resilience to society is perfectly consistent with the University’s mission.”*



**John Preyer**  
Board of Trustees,  
Chairman



*“UNC is the perfect place to establish a cutting-edge risk management and insurance curricula. I look forward to assisting the development of IRMII in any way that I can.”*



**Michael Andreasen**  
Vice Chancellor for  
Development



*“Developing closer ties between UNC and the global risk management and insurance industries is a great opportunity for the University to support such an important sector.”*

## *IRMII Management Structure and Funding Model*

- **The Institute will be established under the OVCR and continue to develop cross-campus linkages**
  - (Full-time) Executive Director, Director of Industry Engagement
  - (Part-time) Associate Director of Research, Associate Director of Experiential Programs
- **Build a greatly expanded research unit, as well as a new certificate-based training program**
- **Continue funding via external research grants (e.g., NSF, DOE) and seek internal UNC support**
- **Develop an Industry Partners Program with annual philanthropic requirement**
  - Up to 40 members committing to meaningful support for 3 years (we already have substantial commitments from 15 firms)
  - Insurers / Reinsurers / Brokers / Ratings Agencies / Corporate Risk Managers / Private Equity / Institutional Investors
  - Partners will have input on training program design, as well as opportunities to teach and participate in it
  - Partners will be able to fund select applied research projects, recruit students for summer internships
- **Approval of Permission to Plan and pursuit of Permission to Establish within 2024-25 academic year**
  - Demonstrate UNC's commitment to industry partners who can then follow through on funding commitments
  - Formally engage industry partners in the design and establishment of the Institute
- **Annual networking and fund-raising event**

## *Access to the best people and innovative ideas*

- **Many opportunities to interact and work with the brightest graduate students**
  - Unique interdisciplinary training that prepares them to identify new risks and develop novel solutions
  - Trained via research projects focused on problems relevant to industry
- **Access to well-trained undergraduates that will be productive on “day one”**
  - Specialized certificate designed with input from industry professionals
  - Exposure to commercial perspectives and challenges via enrichment activities and internships
- **First look at cutting edge research**
  - Ability to provide feedback on ongoing research based on industry experience
  - Opportunities to support and define research projects of particular interest
- **Special events designed to bring together the most creative thinkers from industry and academia**
  - Network with unique groups of like-minded professionals and researchers
  - Opportunities to provide input on IRMII’s future direction and activities