The University of Tennessee

Faculty Senate Research Council

Minutes of the Meeting

October 14, 2020

**Elected Members present:**

Dallas Donohoe, Yuri Efremenko, Yanfei Gao, Qiang He, David Icove, Julia Jaekel (Chair), Xueping Li, Vasileios Maroulas, Tore Olsson, Sean Schaeffer, and Soren Sorensen

**Ex-Officio Members present:**

Suzie Allard, David Anderson, Ernest Brothers, Deborah Crawford, Bill Dunne, Victor Hazlewood, Michael Higdon, Michael Kilbey, Jamie McGowan, Larry McKay, Holly Mercer, Charlie Noble, Josh Price, Jennifer Webster, and David White

**ORE Members present:**

Erin Chapin, Marc Gibson, Jean Mercer, Jon Phipps, and Renee Thomas

**Call to order:**

A regular meeting of the Faculty Senate Research Council was held via Zoom and Julia Jaekel called the meeting to order at 3:32 pm.

**New Business**

**Shared Governance of the Oak Ridge Institute - Stacey Patterson, Interim Co-Director of ORI at UT, Suresh Babu, ORI at UT’s Interim Education Director, and Shawn Campagna, Interim Director of Strategic Programs**

*“The Oak Ridge Institute at the University of Tennessee is an inspired idea that will meet head-on one of the most strategic needs of our country by a creating pipeline of American-trained scientists and engineers to help the United Sate compete in the global economy.” Senator Lamar Alexander*

Governor Bill Lee, Senator Alexander were at ORNL to get an ORI update from President Boyd and Thomas Zachariah. Update went well and lots of excitement about what is possible between UT and ORNL going forward. The Board of Trustees wanted the administration to think about ways the University can grow the research enterprise and answer the generational challenge: How does Tennessee become the “go-to” destination for top-level talent development and discovery. Thinking about the challenge, UT wants to leverage Tennessee’s distinctive assets to catalyze world-leading innovation, tie it to sustainable economic development, and benefit all 95 counties and beyond; serve the nation. The innovation landscape based on Web of Science documents, China Mainland will become the country with the most peer reviewed publications by 2022/23 however, have surpassed the US in areas already such as Advanced Manufacturing. China has 1.7M undergraduates/graduates in STEM areas while US has 800K from the US.

*“Over and over again it has been demonstrated that the whole can be greater than the sum of its parts, that good people from diverse field working together can make major scientific discoveries that are denied geniuses working in isolation.” Dr. Alvin Weinberg, ORNL Director (1955 – 1973).*

The partnership with lab offers unique research capabilities. It was two physics professors who were advocates to take the Clinton Labs from WWII and creating what we know now as ORNL. The Science Alliance was started in 1984 by then Governor Lamar Alexander with the goals to create a strong alliance between ORNL and UT. This alliance led to several distinguished scientists which led to the Governor’s chair program with 17 chairs represented on UT campuses. There are collaborative bridges between UT and ORNL. We have five joint institutes; one between Vanderbilt, UT and ORNL and four built with physical infrastructure with three on the ORNL reservation. These are UT facilities funded and built by UT. Contract agreement facilitation with unique joint faculty arrangements. Three distinct collaborative graduate programs: Energy Science & Engineering program, Data Science Engineering program and Genome Science and Technology program. Graduates students are mentored by UT faculty and ORNL. Finally, UT/ORNL Partnerships & Economic Development which is attracts and retains companies who employ our top talent. These areas can be grouped together in three distinct buckets: infrastructure, people, and collaboration. ORNL overlays these areas with governance, execution, impact and strategy.

Timeline for Rollout & Implementation:

Concept Development (June – August 2019)

* Establish ORI@UT by action of the UT Board of Trustees
* Create mission and vision with UT and ORNL leadership
* Appoint Steering Committee

Steering Process (September – December 2019)

* Develop common understanding of Mission, Vision, and Objectives
* Develop and prioritize work plan
* Deliver recommendations of the Steering Committee to senior leadership: [Recommendations Report](https://research.tennessee.edu/wp-content/uploads/sites/11/2020/05/ORI-Report.pdf)

Program Review & Planning (December 2019 – June 2020)

* Assess Joint Programs
* Create plan to maximize Joint Programs within the framework of ORI@UT
* Appoint or recruit Director and Initial Management team

Launch (July 2020 – June 2021) – *Current stage*

* Conduct the initial ideation process
* Appoint/recruit ORI Fellows
* Begin recruitment of new faculty/researchers

Growth (July 2021 – July 2025)

* Hire 60 new faculty/researchers, matched by 60 complementary hires at ORNL
* Grow the collaborate graduate programs to 500 students
* Attract large interdisciplinary program funding.

Progress to date:

Reviews:

* Joint Institute Reviews: Phase 1: Self Study, Phase 2: Presentation & joint review committee feedback, and Phase 3: combined next steps. Plan to complete by early November
* Bredesen Center Academic Program Review

Agreements and Appointments:

* MOU between UT and ORNL to better define governance
* Appointed interim co-Directors: Stacey Patterson (UT) and Michelle Buchanan (ORNL)
* Interim education (Suresh Babu), operations (Jean Mercer) and strategic program (Shawn Campagna) directors: developing full position descriptions for the initial team
* ESE, DSE and GST directors

New Funding:

* UT System – launching commitment ($2M/year for ten years = $20M Total)
* DOE-EERE cooperative agreement – workforce development project ($20M/5 Years)
* Two Governor’s Chairs in data/computational sciences (with startup support)

Administrative Processes:

* 10 member ORI Advisory Board and by laws (Six External and Four Internal) with Deb Crawford will chair the Board for the first three years
* Student/Mentor Access Form and Process for access to ORNL facilities.
* First ideation session and seed funding opportunity for UT and ORNL released

As previously shared, science, engineering and math graduate numbers are dropping in the US. How do we shore the workforce using convergent research? In March, DOE: Office of Energy Efficiency and Renewable Energy [announced](https://www.energy.gov/eere/articles/energy-department-announces-20-million-investment-workforce-development-emerging) a $20M investment for workforce planning in emerging fields and UT/ORNL received the award.

DOE-EERE Workforce Development Project (WFD) is to develop a national model for collaborate interdisciplinary research and workforce development from the technician to graduate level in areas that align with emerging fields related to the DOE-EERE mission. There are four expected outcomes: (1) New and enriched partnerships, (2) Engage students where disciplines converge, (3) Build computational literacy, and (4) Operate with transparency and accountability.

There are four technology areas based on UT and ORNL’s strong expertise and infrastructure:

Theme 1: Autonomous, Smart, Secure and Resilient Energy Systems *(Quantum Science)*

Theme 2: Electrochemical Energy Systems *(Batteries)*

Theme 3: Advanced Science and Engineering of Materials and Manufacturing *(Data Science role)*

Theme 4: Predictive Systems Biology for Circular and Sustainable Economies (*UTIA collaboration)*

The first [EERC Seed Proposal](https://research.tennessee.edu/oak-ridge-institute/funding-opportunities/) in the four themes was launched in September to support new and highly innovative multidisciplinary research projects designed by ORNL-UT research teams and then seeking large funding opportunities in the future. It is open to all UT faculty and ORNL staff and teams must include at least two UT faculty and two ORNL scientists. Awards range $150K - $200K (total costs) to perform their research with up to three GRAs for one year. Teams deemed to have successful performance may be awarded year two funding at similar levels. PIs must commit to keep GRA’s completion of their program not just the program period. Twelve Letters of Intent (LOI) were received from UT Knoxville and UT Chattanooga with UTSC also interested. This is the first seed from the EERC Workforce Development grant which has dictated the themes, however those will be expanded by ORI in the future outside the EERC grant.

Science Alliance will also offer a seed call soon that will be more open. Also, keep an eye out for smaller seed funds will also be coming in the future.

Adjournment: The Chair adjourned the meeting at 4:54 pm.

Minutes submitted by: Paula Brown

Next Meeting: November 11, 2020