FACULTY SENATE
**SENATE ASSEMBLY**
UNIVERSITY OF MICHIGAN

**To**: SACUA

**From**: Yulia Sevryugina, Chair, Research Advisory Committee

**Subject**: Report on Activities of Research Advisory Committee for 2023-2024

**Members**:

Yulia Sevryugina (**Chair**) – Sen. Assoc. Librarian in Research (Chemistry)
Jesse Capecelatro – Assoc. Prof. in Mechanical Engineering
Marilia Cascalho – Assoc. Prof. in Medicine/Surgery
Orsolya Lautner-Csorba – Res. Assist. Prof. in Medical/ Surgery
Suresh Madathilparambil - Res. Assist. Prof. in Medicine/Acute Care Surgery
Tyler Nix – Sen. Assoc. Librarian in Health Sciences
Derek Peterson – Prof. in LSA- History & African Studies
Nathan Qi – Assoc. Res. Scientist in Medicine/Internal Medicine
Mrinal Sarkar - Assist. Res. Scientist in Medicine/ Dermatology
Quentin Stout – Prof. in Electrical Engineering and Computer Science
Mohamad Tiba - Res. Assist. Prof. in Medicine/Emergency Med
David Cooper - Undergraduate Student in LSA Chemistry
Vaibhav Khanna - Graduate Student in LSA Chemistry

**SACUA Liaison**: Heather O'Malley - Assist. Res. Scientist in Pharmacology

**Meeting Dates**:

1) Tues. 10/10 from 2-3pm
2) Thurs. 11/16 from 1-2pm
3) Tues. 12/12 from 2-3pm
4) Thurs. 1/18 from 1-2pm
5) Thurs. 2/22 from 1-2pm
6) Tues. 3/12 from 2-3pm
7) Tues. 4/9 from 2-3pm
8) Mon. 5/6 from 1-2pm

**Committee Charge**

1. Review current OVPR incentives and support for development and implementation of sustainability and climate change initiatives at U-M, including MI Hydrogen and the Institute for Energy Solutions, to raise awareness and identify ways faculty members could become more involved in supporting those efforts.

2. Develop recommendations for how the University could better support research faculty development and retention.

3. In collaboration with the Office of the Vice President for Research, consider how the University and the Faculty Senate could better spark innovation and cross-discipline collaboration on research projects, such as by coordinating with the Bold Challenges team to host a "pollination" event or exploring AI-related initiatives.

4. Consider emergent issues or topics brought forward by RAC committee members or VP Cunningham for discussion over the course of the year. While coordinating with the Faculty Senate Office to help avoid duplicating work that SACUA has now referred to itself or to another committee, the committee may also continue discussing any issues or topics raised in the committee's most recent annual committee report.

**Committee Actions**

RAC had 8 well-attended and informative Zoom meetings during the 2023-24 academic year. During the last hybrid-type meeting in May, the Committee focused on the agenda for the next academic year. As in according to Committee's charges, the topics that Committee discussed during the academic year 2023-24 focused on two main themes:

1. <u>Current U-M initiatives and resources for researchers</u>

In this regard we discussed:

   a. (10/10) **Limited Submission Grants** by *Nick Wigginton* (Associate VP for Research)
   b. (11/16) **Engagement with Bold Challenges** by *Arthur (Skip) Lupia* (Associate Vice President for Large-Scale Strategies, Executive Director, Bold Challenges)
   b. (1/18) **AI Research and Perspectives** addressed by *Arthur (Skip) Lupia* (Associate Vice President for Large-Scale Strategies, Office of Research; Executive Director, Bold Challenges).
   c. (2/22) **Institute for Energy Solutions** presented by *Margaret Wooldridge* (Walter J Weber Jr Professor of Sustainable Energy, UMOR Office of VP for Research).
   d. (2/22) **MI Hydrogen Initiative** presented by *Todd Allen* (Professor of Nuclear Engineering and Radiological Sciences) and *Gregory Keoleian* (Peter M Wege Endowed Professor of Sustainable Systems).
   e. (3/12) **U-M Library Resources and Services**: Current initiatives in support of research, scholarship, creative practice, and clinical care presented by *Alexa Pearce* (Associate University Librarian for Research).
   f. (4/9) **Research Integrity and Compliance** at University of Michigan presented by *Dr. Jacqueline Jeruss* (Associate Vice President for Research Integrity and Compliance).

2. <u>Research faculty development and retention</u>
   a. (12/12) **Proposed changes to the research scientists' promotion criteria** by *Lisa Prosser (Associate Vice President for Research-Health Sciences)*

**Information Obtained**

1. Current U-M initiatives and resources for researchers

During the 2023-24 year, RAC members learned about several university initiatives, including Institute for Energy Solutions, MI Hydrogen, Bold Challenges, AI Research Committee, Research Integrity and Compliance, and U-M Library Resources and Services.

*Arthur (Skip) Lupia* (new VP for Research) was a frequent guest-speaker at our meetings. Dr. Lupia provided an informative overview of:

   1) Bold challenges initiative;
   2) AI committee; and
   3) University-wide goals.

The **Bold Challenges initiative** has been designed to promote the formation of interdepartmental collaborations and interdisciplinary teams and to provide support for their external funding applications. Bold Challenges initiative supports two programs: Boost and Accelerate. Boost is a cohort-based, six-month program that centers around priority university and funder themes and will nurture effective teams with structured activities and deliverables. Accelerate is designed to support teams that are soon-to-be or actively seeking a large-scale external funding opportunity. There are several changes to the initiative execution this year.

|  | 2022-23 Year | 2023-24 Year |
|---|---|---|
| Themes | Team Science, Broader Impacts, Community Engagement, and Strategic Planning | Improving Lives through Next Generation Infrastructure; Building Trust and Strengthening Social Connections; Advancing Human Health at Scale; Adapting to Changing Environments; Creating Sustainable Energy Innovations |
| Assistance | one-size fits all approach | OVPR will ask teams about specific services, events, and programs they would like to focus on |
| Awardees | 8 teams | Up to 20 teams |

Committee suggested help in organizing or developing pollination events and proposed several themes for potential university-wide collaborations. Dr. Lupia indicated that the best help committee could provide is in advertising pollination events and spreading the word.

Prof. Lupia also informed RAC about a new **AI-committee** that was formed in September 2023 in order to advice OVPR how best support UM performance and policies regarding AI-related research. There are three primary focuses of the AI-committee: facilitate collaboration, identify opportunities, and develop recommendations. Their charge for Winter 2023 term was to pull information on existing AI-related research at UM and create recommendations on the current state of the University. This report is available here. The committee identified 456 AI researchers at UM, looked at their needs and areas of research. AI in the healthcare field was shown to be

significant. The committee also looked at peer institutions and identified that approximately half of the reviewed institutions have a central AI initiative. Some universities are working to hire faculty specifically focused on AI. Most of the reviewed institutions who had policies related to AI had those policies focused on teaching, and not research. The AI-committee found that there is great interest in AI, but also significant concern. UM needs to have more and improved expertise, infrastructure, and attention to costs. External partnerships can improve research on this subject. There is a great desire for guidance. Examples and templates in research could be helpful. The AI committee has:

1) Ethics subcommittee, which queried the 12 OVPR units about AI implications and reviewed academic peer benchmarking for models of AI research policy guidelines (e.g., authorship guidelines and position statements).

2) Competitiveness subcommittee, which was charged with the task to understanding the competitiveness of UM in AI research. The committee used past research to identify 640 AI researchers, and 1123 AI research proposals from 2018 to 2023. The committee conducted several internal expert interviews with UM leaders on the topic of AI.

The AI-committee is restructuring the subcommittees this year to focus on Key Investments, Internal Innovations, and Ethics & Compliance.

Prof. Lupia also asked committee's feedback on **university-wide research goals**. This was in response to an external report produced a year ago based on the comprehensive review of the research and creative practice enterprise at U-M ([OVPR's website](#).) The first recommendation from the review process was to develop university research and creative practice goals that will:

- Provide high-level aspirations toward a common strategic orientation for what we want to achieve as a university.
- Focus on structure and process, not content-focus or research themes.
- Represent the diverse ways that units and disciplines across U-M create value.
- Build off the input, findings and themes that were identified by the internal and external reviews.
- Complement and align with Vision 2034, Campus Plan 2050, and other planning efforts.

A draft and a feedback form were shared with RAC.

In terms of facilitating access to the external funding support, RAC members learned about **LSO's (limited submission opportunities)** - funding opportunities where one institution has a limited number of proposals that can be submitted for a funding opportunity. University identifies interested parties by putting a callout for interest. A faculty peer- review panel is then utilized to identify the most competitive proposals. Current challenges associated with these proposals:

1) some areas of research are very specific and those submitting the proposals may be identifiable - mitigating reviewers' bias is critical.

2) turnaround times are shrinking - OVPR has worked to set clear rapid turnaround procedures/practices.
3) UM has decentralized nature - there is a push to provide clear, university-wide policy with clear roles and responsibilities.

Some recent improvements to the process made by OVPR include:

- diversifying the reviewer pool,
- transparency in the selection processes,
- increasing competitiveness.

Reviewers are having representation increased in units, tracks, and other demographics. However, there is no reward system currently in place for the reviewers and their time is rarely valued for service.

RAC members also learned about several new initiatives such as Institute for Energy Solutions and MI Hydrogen Initiative. We've learned that **Institute for Energy Solutions** was founded in late 2022. They have a broad mission to pursue energy science and technologies that support the transition to a sustainable energy future. As part of their mission, they convene U-M experts, connect U-M faculty internally and externally, and amplify U-M energy projects. Institute activities include creating a list of U-M faculty experts on their website, offering a summer faculty fellows program, and working on social justice issues. The institute works closely with the Vice Provost for Sustainability and is funded by OVPR and College of Engineering.

**MI Hydrogen Initiative** focuses on energy applications of hydrogen, especially in relation to carbon reduction. Projects include a Bold Challenges workshop, developing a MI hydrogen roadmap, hosting a DOE Hydrogen Hub Competition, supporting faculty luncheons to launch research projects, and an OVPR proposal. They're particularly interested in the hydrogen ecosystem, such as processes related to storage and transportation. They have supported research in relation to fuel cells, decarbonizing the industrial sector, and the "truck stop of the future" project. They work with over thirty [faculty experts](#) and are a part of the [Midwest Hydrogen Hub,](#) funded by DOE.

RAC members also had an update from the **U-M Library** on its efforts to support **Open Research & Scholarship**. We learned that library is divided into six programmatic divisions: collections, learning & teaching, IT, publishing, operations, and research, and the guest-speaker Alexa Pearce has been representing the Research division of the library since Jan 2020. Library also has a new dean, [Lisa Carter](#), who began her tenure on May 2023. Our speaker Alexa Pearce focused on several library initiatives:

- Expert searching and systematic reviews, highlighting the newly licensed [Covidence](#) platform in support of related activities and methods;
- The library's portfolio of [data services](#), which span a range of activities from data acquisition to analysis and visualization to research data curation and management;
- Support for [open and public access](#) to articles and datasets through a range of service offerings, including negotiated publishing agreements.

RAC also learned that library is closely following the developments of various AI tools and actively explores them for: i) use in the research process, ii) integration into research databases.

AI-tools and ethics issues were also discussed during the meeting focused on **Research Integrity and Compliance at University of Michigan**. We learned that the office of Research Integrity and Compliance in addition to plagiarism, regularly adjudicates conflict of interest issues and export controls. The office's role is to protect and support members of the University.

2. Research faculty development and retention

RAC members learned about two development and promotion tracks available to Research Faculty, namely the Research Scientist track and the Research Professor track. Lisa Prosser presented the proposed changes to the research scientists' promotion criteria reflected in Research Faculty Track Promotion Criteria 2023. These changes include the workflow for Research Track Faculty promotion and the timeline that takes place for those considered for promotion. Also, PI requirement for research funding has been removed. Promotions usually take effect on September 1st of each year. Lisa mentioned involving different stakeholders in providing feedback on the changes. Current policies on appointments and promotions for Research Scientist track are now on the Web. Questions about salary were raised and explained by the decentralized nature of the University of Michigan, where salaries are nonuniform among different units.

**Recommendations**

At the last meeting, RAC members suggested several topics of interest for next years' agenda:
1. AI Research and Perspectives
   a. Machine Learning and high-performance computing;
   b. Library tools and perspective;
   c. Energy use and sustainability.
2. U-M perspective on high performance computing (may benefit from coordinating with IT committee).
3. Develop recommendations on how the University could better support research faculty development (internal grants/funds for Research Faculty only) and retention: Research Scientist and Research Professor tracks.
4. Undergraduate research opportunities: which programs exist beyond UROP and MRads. Which programs exist for undergraduate students in different years (including transfer students)?
5. Freedom of speech in research settings. How to deal with critical situations.

Additionally, when discussing topics for potential pollination events, a committee submitted three proposals described in detail in the RAC folder.
1. Rebuilding Public Trust in Science;
2. Catalyzing a New Era of Sustainable Research; and
3. Establishment of a robust academic Mentorship system to enhance academic efficiency.

These themes could be considered for an independent faculty mixer event to be organized and sponsored by a Faculty Senate.