SCHOOL OF DENTISTRY
UNIVERSITY OF MICHIGAN

Office of Research
1011 N. University Avenue – STE 2059
Ann Arbor, MI 48109-1078
Email:dent-research@umich.edu

Research Innovation Challenge – University of Michigan School of Dentistry

The University of Michigan School of Dentistry (UMSD) **Research Innovation Challenge** is a new annual pilot funding mechanism designed to catalyze **high-risk, high-reward interdisciplinary research** led by early- and mid-career investigators. This initiative seeks to support bold and imaginative projects that address major research challenges, stimulate collaboration across disciplines, and lay the foundation for transformative advances in oral, craniofacial, and broader health sciences.

Consistent with NIH R21 principles, funded projects will be **exploratory and novel**, often representing new directions with limited preliminary data. Approaches may be untested or unconventional but must be based on sound scientific reasoning and capable of producing disproportionately high impact if successful. Projects are expected to:

- Challenge existing paradigms and propose novel concepts, approaches, or methodologies.
- Forge new interdisciplinary collaborations across departments, centers, or schools.
- Provide proof-of-principle data that could lead to external grant submissions, patents, innovation disclosures, or translational applications.

Each year, **up to three pilot projects** of 12 months in length will be funded at up to **$50,000 each**, with support provided through a combination of school funds and departmental cost-sharing. Awardees will be recognized during UMSD Research Day and will be expected to report measurable outcomes within 18 months.

Eligibility

- Contact PI must hold a primary faculty appointment at UMSD (clinical track, tenure track, or research track). Funding preference will be given to **early or mid-career** investigators. Co-Investigators can hold any faculty rank or career level.
- Each application must involve **at least two investigators from different disciplines or departments** (at least one from UMSD); the contact PI has to be from UMSD.
- Prior awardees may apply with a *distinctly different* project.

Application Requirements

- **Research Proposal** (3 pages max) including Specific Aims, Innovation, Approach, and Expected Impact. Preliminary data are *not* required.
- **Biosketches** (NIH format or equivalent, 5 pages max each).
- **Budget** (1 page)
- **Budget Justification** (1 page).
- **Letter(s) of Support** from collaborating investigators or units.

Completed applications should be submitted through the Dental School InfoReady site https://umichdent.infoready4.com/#freeformCompetitionDetail/1996374 by **12/15/2025**. For questions regarding your application please contact Dr. Vesa Kaartinen (vesak@umich.edu) or Melissa Karby (mkarby@umich.edu).

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Review Process

A **two-tier review process** will be used:

1. **Departmental Pre-Review:**

    - Department Chairs will evaluate investigator eligibility, departmental support, and alignment with interdisciplinary goals.
    - Chairs will provide written feedback and prioritize applications from their units. Up to two recommended applicants from each department will continue on the second round.

2. **School-wide Scientific Review:**

    - An interdisciplinary review panel, convened by the Office of Research, will assess blinded applications using NIH R21-style criteria.
    - Emphasis will be placed on **novelty, creativity, and high-risk/high-reward potential**, rather than preliminary data.
    - Reviewers will be instructed to **reward bold ideas** that could, if successful, transform knowledge, methodology, or practice.

Final decisions will be made by the Dean, informed by both departmental prioritization and panel recommendations.

Review Criteria

- **Significance:** Does the project address a major challenge? Could its success have a major scientific or societal impact?
- **Innovation (High-Risk/High-Reward):** Does it propose bold, unconventional, or paradigm-shifting ideas? Is there potential for **transformative payoff despite risk**?
- **Approach:** Is the design appropriate for exploratory pilot work? Is the rationale compelling?
- **Investigators:** Do the PI(s) bring the expertise and collaborative capacity needed?
- **Interdisciplinarity:** Does the project integrate complementary perspectives across disciplines or departments?
- **Potential for Return:** Could it lead to competitive extramural funding, patents, clinical applications, or policy translation?
- **Overall:** Potential of the proposed studies to general preliminary data and conceptual frameworks supporting future grant proposals, sch as an NIH R01 application.

Allowable Costs:

The award may be used to cover:

- Research expenses such as reagents, supplies, or core services.
- Personnel costs (not faculty); not more than 50% should be used for personnel costs.
- Travel for conducting research or disseminating results.
- Applicable human subjects and/or animal expenses

The award may not be used for:

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- PI faculty salary
- Equipment purchases without prior approval

Awards will typically be made for a one-year project period, with the possibility of extension based on progress and the availability of funds.

Post Funding Reporting:

All awarded projects will be required to submit a progress report 6 months post completion of their project. This progress report should address the following in 1,000 words or less:

- An update as to the completion of project aims
- How the project invigorated collaboration
- Were there any new data sets developed
- Did the project result in a submission to an external funder? If yes, list details.

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Proposal Review Rubric

Criterion	5 – Outstanding	4 – Strong	3 – Adequate	2 – Weak	1 – Poor
Significance	Major, high-priority challenge; strong potential for major scientific/societal impact	Important problem; meaningful impact; rationale solid but less compelling	Relevant problem but modest/narrow	Limited significance; unclear broader impact	Trivial or poorly justified
Innovation (High-Risk/High-Reward)	Bold, paradigm-shifting idea; transformative potential; risk justified	Clear innovation; creative/novel approach, but not fully paradigm-shifting	Some innovation; applies known approaches in new ways	Limited innovation; incremental	No innovation; conventional/derivative
Approach	Strong rationale; design clearly suited for pilot work; feasible and flexible	Good design/rationale; minor weaknesses	Adequate design; rationale acceptable but shallow	Weak design or rationale; feasibility questionable	Inappropriate/unclear design; rationale absent
Investigators	Outstanding team; highly relevant expertise; strong track record; excellent collaboration	Strong qualifications; minor gaps in experience/collaboration	Adequate expertise: team could benefit from broader strengths	Limited experience; weak collaboration	Inadequate expertise or inappropriate investigators
Interdisciplinarity	Exemplary integration of disciplines; strong potential for synergy/new insights	Good interdisciplinarity; meaningful multi-field contributions	Some interdisciplinary elements; limited integration	Minimal interdisciplinarity; mostly single-discipline	No interdisciplinarity; siloed project
Potential for Return	Exceptional potential for external funding, IP, clinical/policy translation; clear pathways	Strong likelihood of funding/translation; pathways plausible	Some potential; noted but weakly supported	Weak potential; unclear/unlikely beyond pilot	No potential for funding, translation, or broader return