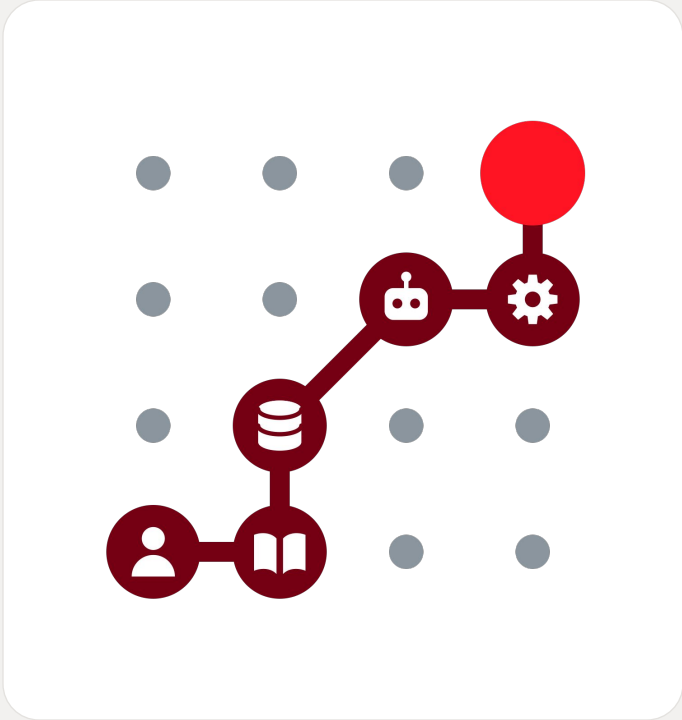
The MIT AI Exchange

Research Exchange Community Forums

Markus J. Buehler, Director, AI Research Exchange

Community forums – November 9 - 12, 2026



researchexchange@mit.edu
https://aiexchange.mit.edu/research.html

AI expands what MIT can discover together

Our opportunity: amplify what makes MIT special.



People & judgment

Deep expertise, curiosity, and scientific taste to choose important questions.



Connections

People & ideas meet across fields, sparking new collaborations.



Mind & hand

World-class facilities and hands-on skill to turn ideas into evidence.

AI can amplify these strengths and increase MIT's impact on the world.

Photos: MIT Education; center: Christopher Harting. Additional sources and details in speaker notes.

The MIT AI Exchange

Heads: Anantha Chandrakasan & Melissa Nobles

Coordinating Council: Markus J. Buehler and Eric Klopfer (co-chairs), Sam Madden, and faculty leads of AI+X, faculty chair appointees & additional dean appointees for all school representation

A community-driven, Institute-wide effort to adapt MIT's teaching and research to AI — with shared guidance, infrastructure, and resources.

Learning Exchange

Faculty Directors: Sam Madden & Eric Klopfer

Supporting education in the age of AI — improving teaching and learning

CORE ACTIVITIES

- Community of Practice, Education - COP-E (Grassroots)
- Policies & Guidance
- Human-centric Residential Ed.
- Seminars & Workshops
- Instructional Strategies
- Seed Grants

Research Exchange

Faculty Director: Markus J. Buehler

Supporting research and discovery in the age of AI - and understanding AIs impact on society

CORE ACTIVITIES

- Community of Practice, Research - COP-R (Grassroots)
- Policies & Guidance

AI + X (run by Schools with the College)

- Seminars
- Workshops
- Fellowships
- Seed Grants

LEARNING ANCHORS

- Departments & Degrees
- AI-related Classes
- SCC Common Ground
- Executive & Professional Education
- and more...

RESEARCH ANCHORS

- Relevant DLCIs
- Presidential Initiatives (MGAIC, MITHIC...)
- MIT Stone Center
- MHACH
- and more...

Shared Infrastructure and Resources

Supporting learning, research, and the connections between them

COMPUTE
LLM/AI access and Dedicated Resources

INSTITUTIONAL SUPPORT
Coordination, Fundraising, Website

PHYSICAL INFRASTRUCTURE
Collaboration Studios, Staff Support

PEOPLE
UROPs, Help Desk

How the Research Exchange works

Tackle questions no one lab can answer and build research tools others can use.

Research communities (COP-Rs)

Faculty-led communities of practice tackle shared frontier research questions and create tools, data, or methods others can test and reuse.

AI+X initiatives

Part of the Research Exchange portfolio, with faculty leadership across MIT's schools and the Schwarzman College of Computing.

AI + Science - AI + Engineering
AI + Management - AI + Humanity

Workshops and convening

Seminars, hands-on workshops, and research showcases help people exchange methods and find collaborators.

Shared tools and guidance

Connect researchers with AI models, computing, technical expertise, and guidance on responsible, reproducible research.

We invite the community to bring a research question, name a need, or share a capability.

What is the Research Exchange and who is it for?

The research component of the MIT AI Exchange

1. An MIT-wide initiative: The MIT AI Research Exchange enables AI in research across the Institute, from applying existing tools to developing and validating new methods, models and instruments.

2. An open research community: Undergraduate and graduate students, postdocs, faculty and staff from all disciplines, at every level of AI experience and disposition.

3. A collaborative effort: Working with schools, the College, labs, centers and existing initiatives to complement and amplify their strengths.

Research and students, faculty, etc. remain in departments, labs and centers (and Schools/College); the Exchange helps connect their capabilities; hands-on, impact-focused work that connects hand and mind.

Together with the Learning Exchange, we are part of the MIT AI Exchange.

- In 2018, MIT made one of the biggest investments in its history, forming the Schwarzman College of Computing: In 2018, MIT made one of the biggest investments in its history, forming the Schwarzman College of Computing: Reorient MIT to bring the power of computing and AI to all fields of study at MIT, allowing the future of computing and AI to be shaped by insights from all other disciplines.
- **We build on, and connect with, the work of the College of Computing in creating interconnections between computing and the disciplines.**

Mission and vision

AI expands individual capability; the Exchange expands what MIT can achieve together.

Mission

1. **Pursue questions beyond current reach**
   Develop new models, tools and instruments for responsible AI-enabled discovery.

2. **Connect capabilities across MIT**
   Link expertise, data, computation and facilities, with research rooted in departments, labs and centers.

3. **Turn research into shared capability**
   Produce scientific advances and reusable methods, tools and records others can build on, and share with the world.

Vision

An MIT research community where human creativity, disciplinary depth and AI reinforce each other to pursue new questions, create and share knowledge, and increase its impact.

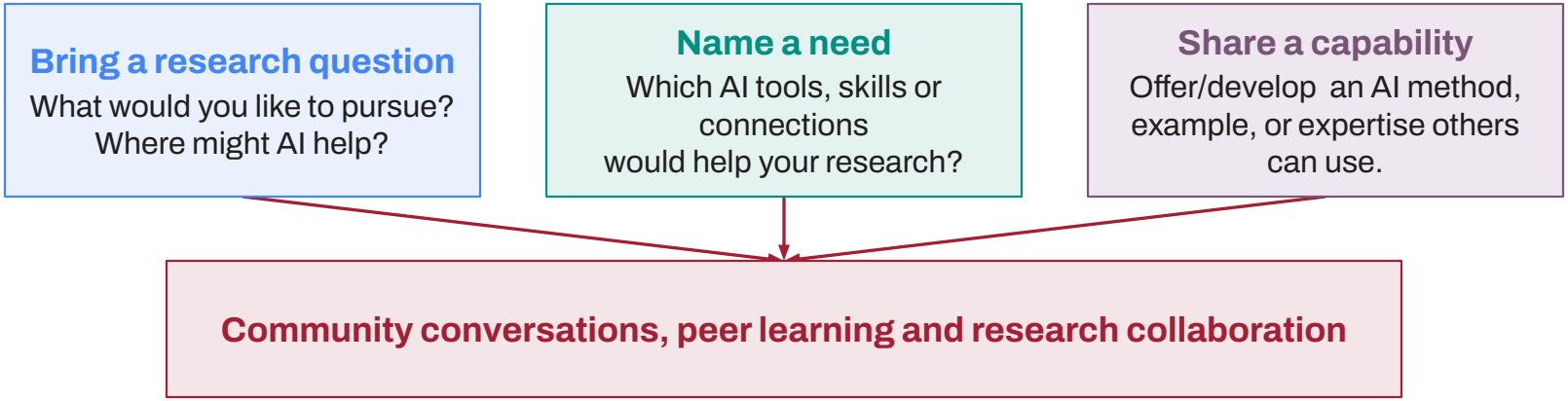
What makes this vision possible



Human curiosity, creativity and disciplinary judgment drive research.

Ways to take part

Welcome whether you develop AI, use it, are starting out, or study its implications



Students and postdocs: share ideas, methods and needs; help shape activities.
Faculty and staff: connect expertise and help shape research communities.

Proposed IAP bootcamps: suggest a topic or help lead a hands-on session.

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Research communities of practice (COP-R)

A proposed mechanism for shared research challenges and reusable capabilities



Connect across fields. Bring complementary research questions, AI methods and practical expertise together.

Learn through research. Reframe questions, produce and test evidence, document limitations, and share methods, including what works and what does not.

Shape the model together. Priorities, participation and support will be developed with the community.

Can we tackle “millennium-level” problems across fields to support all corners of MIT.

One route to engagement, alongside workshops, peer learning and shared spaces.

Shared co-working and making spaces

Shared physical spaces strengthen human connections and AI-enabled research in DLCs and broadly



Proposed shared spaces

Students, postdocs, faculty and staff work side by side.

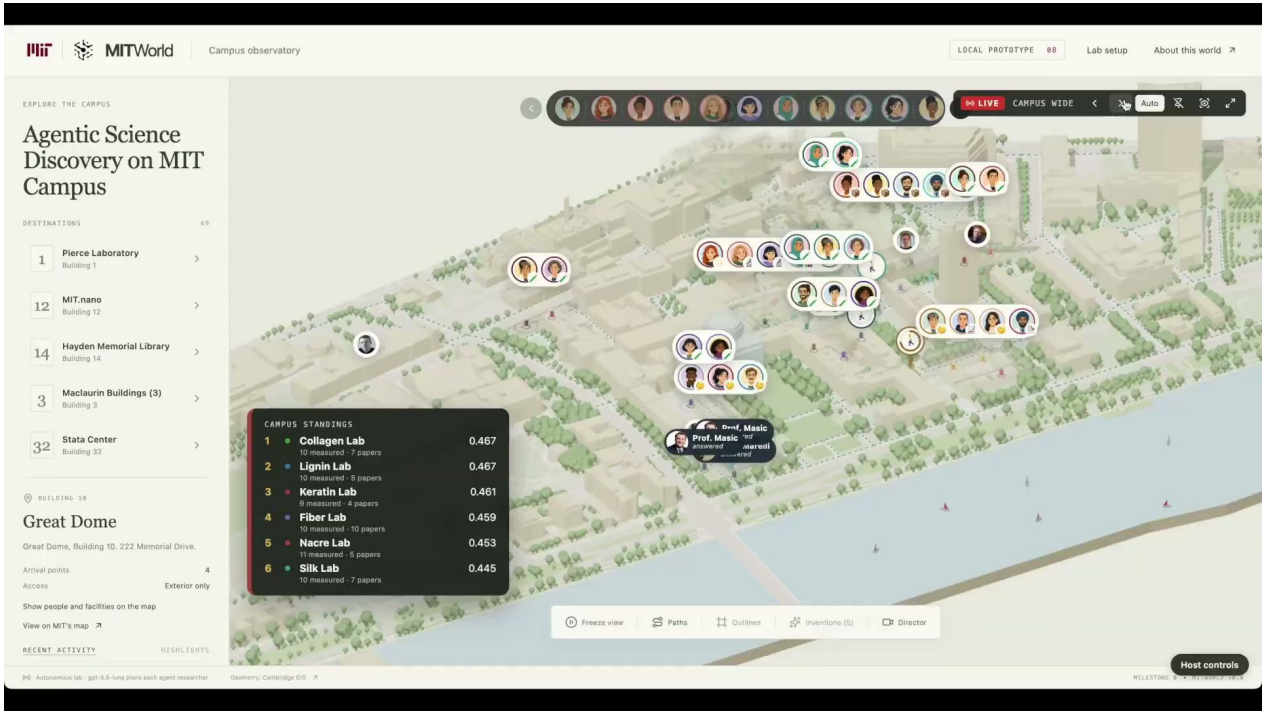
Learn, test ideas and exchange methods in person.

Connect AI, simulation and theory with making and experiments.

Make new connections and strengthen the human component of AI enabled research.

Connecting AI systems with MIT’s research environments

Connect researchers, labs, compute and facilities into validated workflows



Research direction: Connect AI-native labs, agents and Athena AI with the places where research happens.

Shared learning: Make methods, evidence, limitations and negative results available so others can build on the work.

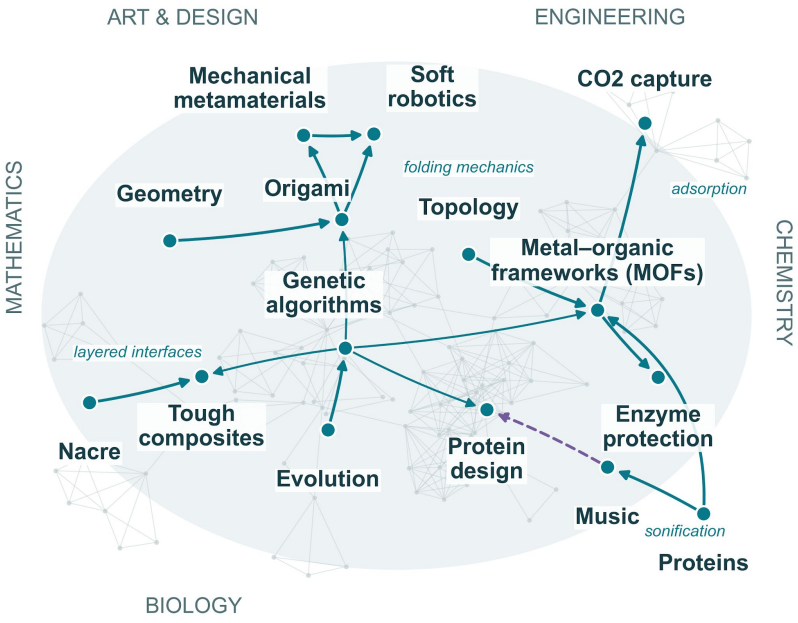
MITWorld: M. Bauer/MIT

Connecting AI systems with MIT's research environments

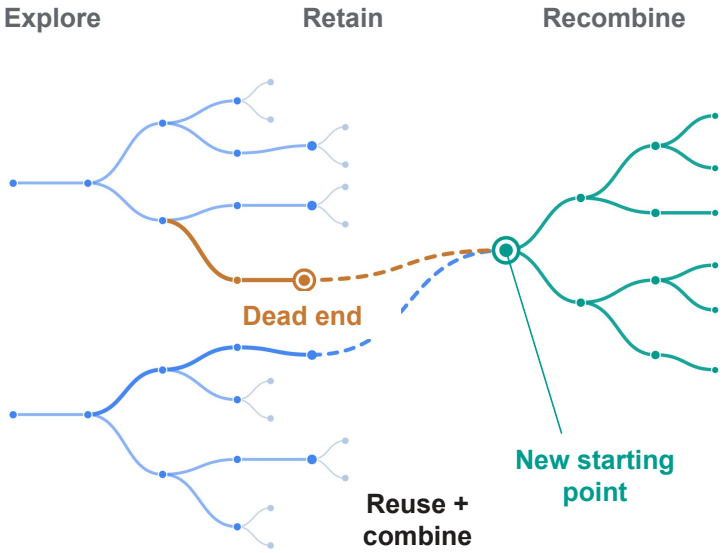
At MIT: connect researchers, DLCs, compute and facilities into validated workflows

Cross-pollination of ideas and fields

Synthesis of idea transfers



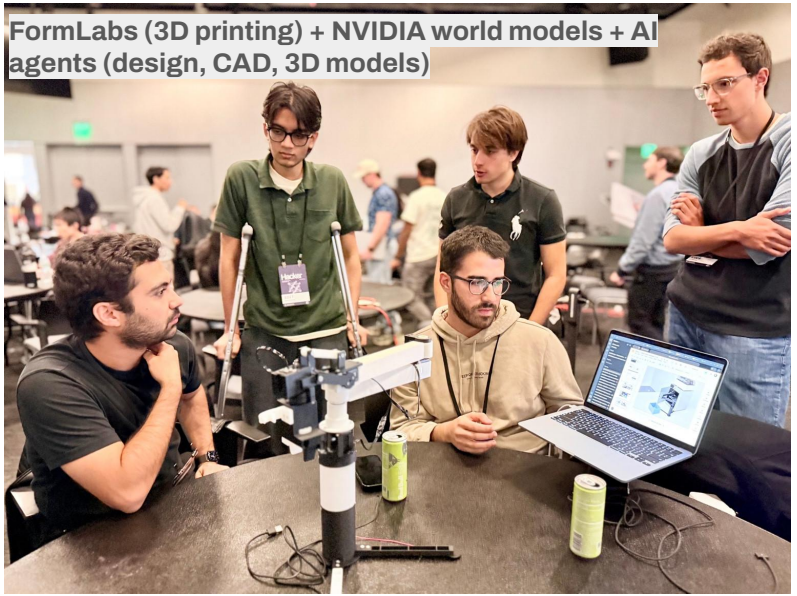
Reusable, composable reasoning



ScienceClaw Hackathon: research through collaboration

A weekend prototype by connecting expertise, agents, simulation and physical artifacts



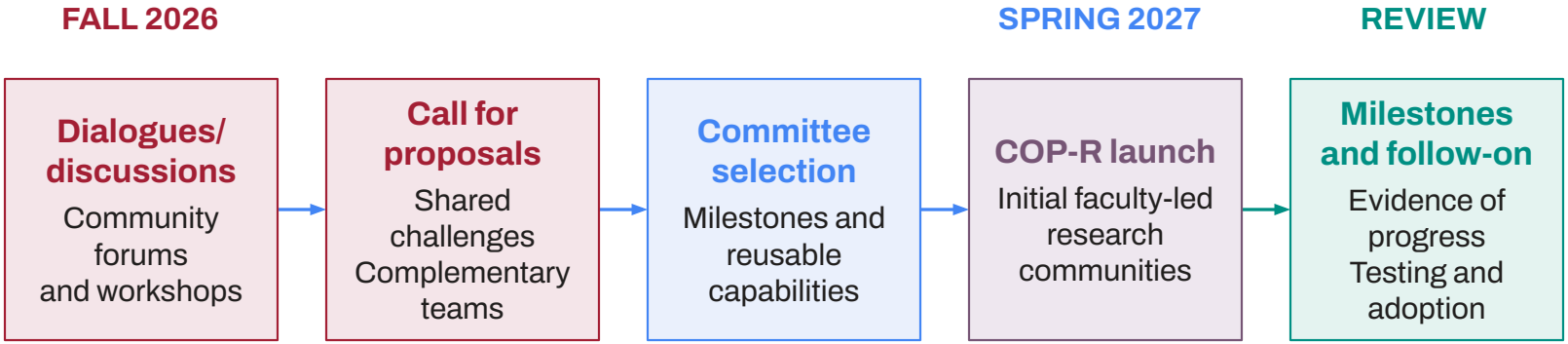


The opportunity: turn shared ideas and prototypes into reproducible research capabilities.

Photos: M.J. Buehler, ScienceClaw Hackathon, MIT Media Lab (2026) - Oct 30-Nov 2, 2026

Proposed launch and review pathway

Start with community dialogue; connect support to research milestones and reusable contributions



Community input shapes the agenda: Listen to research questions, collaboration opportunities, barriers and the shared resources people need.

Support is proposed around two contributions: An advance on the research problem, and a documented capability that another group can test and adopt.

Calls for proposals: Calls and launch details, events, are still to be announced.

Research Exchange community conversations

November 2026 dates for listening and shaping the research agenda

Undergraduate researchers
Monday, November 9 · 4 pm
Grier Room B (34-401B)

Graduate students
Tuesday, November 10 · 2:30 pm
Chipman Room (6-104)

Postdoctoral scholars
Tuesday, November 10 · 4 pm
Chipman Room (6-104)

Faculty and research staff
Thursday, November 12 · 4 pm
Room 4-237

Community input shapes the Research Exchange
Introduce the mission and identify questions AI could make possible

Purpose: Hear research ideas, opportunities and barriers from across MIT. Discuss complementary expertise and shared models, tools, instruments and resources that could expand what researchers can accomplish.

We plan to use these discussions to shape prospective COP-Rs and other activities; as well as priorities for shared support, community needs and perspectives; bootcamps, etc.

MIT Research Futures Workshop: AI and the Next Era of Discovery

Connect MIT's research community around new AI tools, questions and AI-enabled discovery across MIT



Date TBD; February/March 2027 (TBD)

Potential partners

Faculty and lab groups, shared MIT facilities, research computing, student and postdoc communities

Goals: Define ambitious research questions across disciplines; develop new AI models, tools and instruments; identify shared needs and teams.

Proposed format: Keynote, leadership fireside chats, live campus research demos linking reasoning, simulation and experiments, and research-matching discussions.

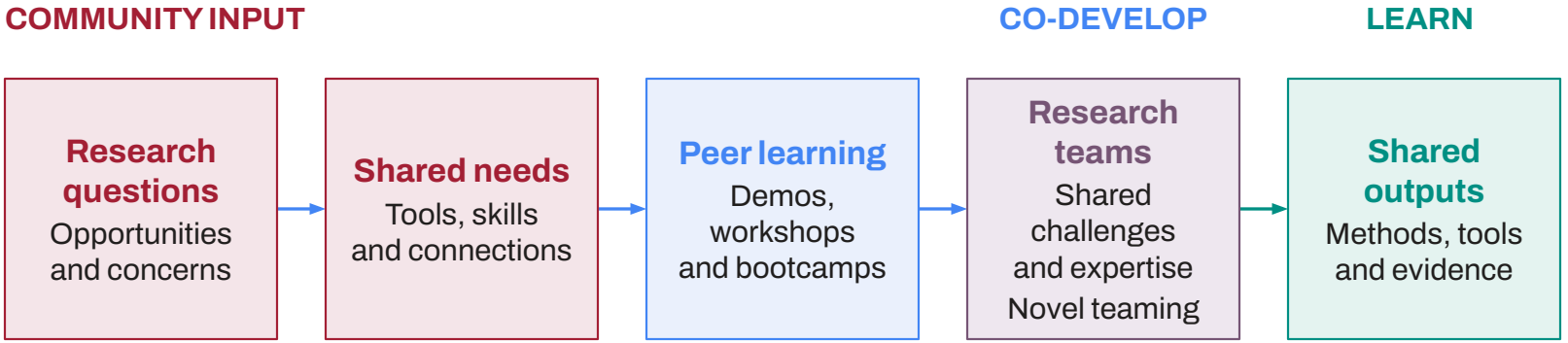
Student participation: Students and postdocs demonstrate work and help shape prospective COP-Rs and pilots.

Target outcomes

Priority questions; added/prospective COP-R teams and pilots; shared capability needs and follow-up leads. Engage RD, donors and supporters.

What we are shaping together

Your ideas help shape research priorities, collaboration and shared support



Your input: Help identify the questions, barriers, skills and resources that matter most.

Activities to shape: Prospective research communities, peer learning and priorities for shared support.

In development: Calls, program details and launch timing remain to be announced. E.g. workshops, hands-on-learning, research funding, access to ChatGPT-Pro licenses and tokens

Partnerships: Co-develop research capabilities with the College of Computing, Schools and partners.

What would make the Exchange useful to you?

- What research question or activity would you like to pursue, and where might AI help?
- What tools, skills, collaborators or guidance would help?
- What barriers or concerns should the Exchange address?
- What could you share or help shape?
- How would you like to get involved?
- If we could make one change this year what should it be?

Sign up for more information and share thoughts

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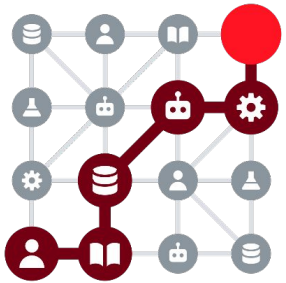

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