The CMI Faculty-Industry Applied Research Opportunities Program

2025 CMI FIAR Program

The UB New York State Center of Excellence in Materials Informatics (CMI) annually supports Faculty-Industry Applied Research (FIAR) opportunities. The FIAR program focuses on opportunities to foster applied research efforts that drive economic growth and impact with commercial value to manufacturing businesses in New York State.

The Process: Submit a Letter of Intent (LOI) via this link. The LOI is due no later than 4:00 PM on March 7, 2025. The CMI will invite faculty-company teams to submit their full proposal. Full proposals are due no later than 4:00 PM on May 2, 2025.

CMI FIAR Awards will be announced by May 30, 2025. UB Technology Transfer will prepare CMI FIAR agreements. The FIAR agreements must be executed by the company partner in a timely manner and returned to UB Technology Transfer. Failure to execute or delays in signing the FIAR agreement will result in the award being rescinded. The CMI will host FIAR Project Kick-off meetings to be completed by mid-May.

The target date for setting up project accounts is July 1, 2025. The performance period will be from July 1, 2025 - June 30, 2026. Awards can range from $25K to $50K. The CMI expects to award up to 6 proposals in this period. The number and amounts are contingent on several factors such as the availability of funds from NYSTAR, the CMI's funding agency.

Applications must clearly and tangibly demonstrate a strong economic collaboration with a New York State manufacturing company that specifies its commitment to the proposed project outcome in terms of translating the applied research results into commercial practice (new products, processes, product improvements, new materials, new manufacturing methods, and so forth). While there is no formal cost-share requirement for this support, evidence of commitment from the company (e.g., current, recent, or promised financial support of the work; in-kind commitment of resources) will factor in the decision process.

Focus Areas: The CMI's mission emphasizes impact in areas of key societal, economic, and technological interest to UB and New York State. Proposals in the following areas are favorable, but not exclusive:

Energy	Clean energy, generation, harvesting, storage, grid, delivery, transmission
Environment	Life cycle assessment, recycling polymers, rare earths, water/waste purification, waste-to-energy
Sensors	Printed, medical, IoT, IIOT, wearables, flexible electronics, quantum
Semiconductors & related	2D, quantum, optoelectronics, power electronics, transistor technologies
Artificial Intelligence & related	Artificial intelligence, machine learning, natural language processing, neural networks, cognitive computing, generative AI.
Wireless Technology	5G, 6G, RFID, CBRS, IoT, IIoT

The terms and conditions contained in this document are made at the sole discretion of the CMI and are subject to change without notice. Questions? Contact Adrian Levesque at (716) 881-8932, apl3@buffalo.edu. Budget questions? Contact Steven Shepler at (716) 645-2990, shepler2@buffalo.edu.

Proposal: Provide a summary (up to 3 pages, Calibri or Times Roman, 11 pt.) that outlines the faculty-industry collaboration. The proposal must include each of the following nine sections, as listed:

1. **Proposal Title and Team:**
    a. **Project Title** – a clear, concise title for the applied research
    b. **Principal Investigator(s)** – name, department, phone, email, link to UB profile page
    c. **Company** – primary point of contact, name, address, phone, email
    d. **Company** - legal signatory (for executing the FIAR agreement), name, address, phone, email
2. **Project Executive Summary Statement**: In no more than three (3) sentences, use non-scientific, layman's terms to succinctly summarize the project objective(s).
3. **Summary:** Briefly summarize the how the project is impactful, innovative, and related to the commercial interests of the specific company partner, and the broader sector of manufacturing industries in New York State in terms of solving materials, process, product and related data analytics challenges. Why? Who? What? When? How?

    The summary must include the specific project tasks in this format:

Task	Description	Who?	Completion date	Deliverable
1	Describe the work that will be accomplished for the Task	Who will complete	By what date	What will be the outcome from this Task?
Etc.				

4. **Relevance to Materials Informatics:** Describe the relevance of the project to materials informatics (broadly defined) and how the project team will employ MI in the applied research. Include any reference to the use of the UB CCR High Performance Computing Center resources or other related resources.
5. **Relevance to Economic Impact:** Describe the relevance of the project to economic development (ex. the expected or potential commercial value of the expected outcome of the applied research project to the company partner in terms of:
    a. The potential for creating jobs in New York State, the growth of the company employee count
    b. Increasing sales revenue
    c. Enabling the company partner to break into a new market or overcoming competitive pressures
    d. Securing new sources of funding or investment
    e. Realistic cost savings and so forth

    It is important that the company partner participate in describing the prospective economic impact to their company in this section and in their letter of support.
6. **Intellectual Property:** List any relevant intellectual property (IP) considerations. State here if the faculty investigator intends to use a previously developed technology during the course of the project. If so, please list the New Technology Disclosure or patent information. Likewise, state if the project requires use of intellectual

property owned by the partner company or a third party. Indicate if it is likely, possible, or unlikely that new IP will be generated as part of the project and describe what that might encompass.

7. **DEI Alignment:** UB and the CMI are committed to the principles of diversity, equity and inclusion and deem these as central to the programs, projects, and activities it considers and supports. The CMI's mission calls for the broadening of opportunities and expanding participation of groups that are underrepresented in STEM disciplines, which is essential to the health and vitality of science and engineering. In alignment with UB's Diversity, Equity and Inclusion initiatives, a diverse team will be beneficial to a proposal's strength.

   Describe how you, your team, the industry partner, and the proposal effort will align with UB's and the CMI's commitment to the principles of diversity, equity, and inclusion.

8. **Budget:** Provide a standard, preliminary budget (up to $50k) that will be the basis for a full SPS approved budget, if awarded. Note that there is a 15% IDC charge on Salary and Fringe; please take this into account when developing the budget. Questions and a preliminary review of budgets (IDC charge on salary and fringe) should be directed to Steven Shepler, Finance & Grants Manager, at (716) 645-2990, shepler2@buffalo.edu. An official SPS-approved budget will be required if awarded.

9. **Industry Partner Support:** Provide a signed PDF letter of commitment on company letterhead from the industry partner as a separate document. The LOC must clearly detail the company's commitment to the project, if awarded, including the reasons why the applied research project is of importance to the company from an economic impact perspective and the amount of any financial or in-kind commitment from the industry partner.

   The CMI reports to NYSTAR annually using New York State economic development metrics. CMI FIAR industry partners are required to contribute to our economic reporting to New York State. The focus of this program is on applied research related to materials and informatics – the use of data driven methods to enhance decision-making in materials development, utilization, processing, and recycling.

   The industry partner will be required to agree to the terms of the UB CMI FIAR agreement that includes their obligation to report economic impact (jobs, investment, etc.) that can be attributed to the FIAR project on an annual basis via an on-line survey portal for a period of five (5) years. Note that the economic impact statements that the company will be asked to provide are considered public domain information. The letter should confirm the company's acceptance of this provision.

Scoring Criteria (0 – 5):					
Company Alignment	**Company Involvement**	**Technology Novelty**	**Potential Impact to NYS**	**Relevance to Materials and Informatics**	**DEI Alignment**
Does the technology, project, outcome align with the company's core technology, mission, industry?	What is the company's level of involvement, engagement, commitment, including the ability of the company to realize and demonstrate economic impact in New York State?	How impactful, innovative, interesting is the research area and technology to the commercial interests of the company and the relevant manufacturing domain?	What is the potential economic impact of the award on the advancement of the technology, from a commercialization perspective?	Does the applied research align well with the theme of materials informatics?	Does the proposal align well with UB and the CMI's DEI initiatives from the faculty, student and company's perspectives?

NOTE: Do not include citations or any references to publications as attachments or additional pages. References can be included at the end of Section 9, if appropriate. Prior publications may be requested during the review periods (LOI and full proposal periods).

Proposals will not be funded that:

a. Do not follow the above proposal format instructions.
b. Do not have manufacturing operations in NYS.
c. Exhibit an excessive delay in the execution of the UB CMI FIAR agreement;
d. May result in significant, major issues related to any intellectual property or agreement to participate in the annual survey obligation that may preclude an effective project outcome or long-term win-win relationship; or
e. Do not show a tangible connection to or involvement with data (materials data, modeling, simulations, data sets, analysis of, and so forth).