Partnerships for Innovation in Energy

This program seeds new research directions in sustainable energy science, technology, and policy with funding for a University of Michigan Energy Institute (UMEI) Research Fellowship. Successful proposals will combine innovative research plans with concrete plans and timelines for establishing independent funding.

Program Structure

- Applications are welcomed for new grants from teams of two or more UM PIs in sustainable energy science, technology, and policy.
- A post-doctoral fellow must be necessary to pursue the new research direction.
- A joint mentorship plan must be provided with the proposal.
- Teams may include private partners, but funds will be dispersed only to Michigan faculty.
- Funds must be used to appoint UMEI Research Fellows.
- UMEI will advertise the position through appropriate vehicles.
- Postdoctoral candidates will be vetted by the PIs directly.

Projects should be identified with respect to their relationship to current UMEI themes and primary projects:
- Carbon-free energy sources
- Energy storage and utilization
- Transportation systems and fuels
- Energy policy, economics and societal impact

Seed projects outside the existing Energy Institute initiatives will also be considered. The decision to add a new seed area to the Energy Institute initiative will be an explicit part of the review in this case. Energy Institute will conduct reviews of proposals in consultation with ad hoc reviewers as needed from within the U-M.

Cost Structure

UMEI will provide $40K towards each fellow appointment. In most cases the PIs will be expected to equally supplement this funding to provide a salary of at least $40K and corresponding benefits package. Instrumentation and infrastructure must be substantially in place for the project as these costs are not allowable under the project although this is a valid cost sharing mechanism for new proposals. PI contributions can come from discretionary funds or other suitable sources. For proposals in fields for which such sources of funds are not typically available, UMEI will consider requests to fund a larger fraction of the project budget, if appropriately documented.

Proposal Evaluation Criteria

- Research excellence, relevance to energy sustainability and anticipated impact
- Infrastructure and research support available from PIs
- Description of a new research direction distinct from ongoing research programs
- Need for a research team and appropriateness of the funding mechanism (resumes of potential postdoctoral candidates may be included in the submission.)
- Potential for follow-on funding based on results to be developed with UMEI funds

Proposal Structure

- Introduction to the problem: 1 page
- Proposed approach: 2 pages
- Description of how the project advances the state of the art: 1 page
- Strategy for attracting external funding: 1 page
- PI profiles and mentorship plan: 1-2 pages

Milestones

- Nine months after the fellow’s appointment date, PIs and the Fellow will present their progress and discuss the past and future proposal submissions.
- New grant activity is expected of this program, and projects not on this trajectory may be placed on a ramp-down period of nine months maximum at a reduced funding level.
- Any proposals using results generated from this project can be submitted through and administered by UMEI.
- Second-year renewal will require a two-page proposal describing how the second year will help to accomplish the program goals.

Proposal Deadlines

Proposals should be e-mailed to umei-post-doc@umich.edu by October 31, 2014.

PIs can participate in a maximum of one submission each cycle, and may have only one funded program at a given time.
### Examples of Previously Funded Projects

<table>
<thead>
<tr>
<th>Title of Proposal</th>
<th>Departments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Metabolic Engineering of Yeast for Biofuel Production</td>
<td>Medicinal Chemistry/Life Sciences Institute</td>
</tr>
<tr>
<td></td>
<td>Molecular, Cellular and Developmental Biology</td>
</tr>
<tr>
<td>Integrated Enzyme and Pathway Engineering and Hydrocarbon Biofuels</td>
<td>Chemical Engineering/Biomedical Engineering</td>
</tr>
<tr>
<td></td>
<td>Chemistry/Biological Chemistry</td>
</tr>
<tr>
<td>Consumer Uptake of Seamless Multi-Modal Mobility: Energy and Sustainability Implications</td>
<td>UMTRI</td>
</tr>
<tr>
<td></td>
<td>Psychology/Statistics/Marketing</td>
</tr>
<tr>
<td>Chromium Coordination Complexes for Non-Aqueous Redox Flow Batteries</td>
<td>Chemical Engineering/Mechanical Engineering</td>
</tr>
<tr>
<td></td>
<td>Chemistry</td>
</tr>
<tr>
<td>Incorporating Future Energy Technology Choices into Climate Forcing Models</td>
<td>Civil and Environmental Engineering</td>
</tr>
<tr>
<td></td>
<td>Atmospheric, Oceanic and Space Sciences</td>
</tr>
<tr>
<td>Control of Thermal Conductivity in Electrically Conducting Polymers for Efficient Thermoelectric Energy Conversion</td>
<td>ME, EECS and Applied Physics</td>
</tr>
<tr>
<td></td>
<td>MSE, ChemE, Biomedical Eng, Chemistry, Macromolecular Sci and Eng</td>
</tr>
<tr>
<td>Assessing the Environmental Impacts of Providing Power System Reserves with Demand Response and Distributed Energy Storage</td>
<td>School of Natural Resources, Electrical Engineering &amp; Computer Science</td>
</tr>
</tbody>
</table>