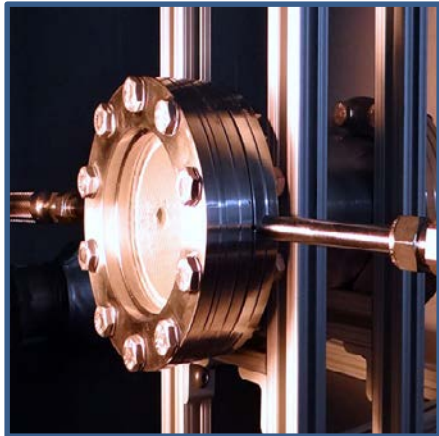




EMERGING ENERGY INNOVATION INSTITUTE



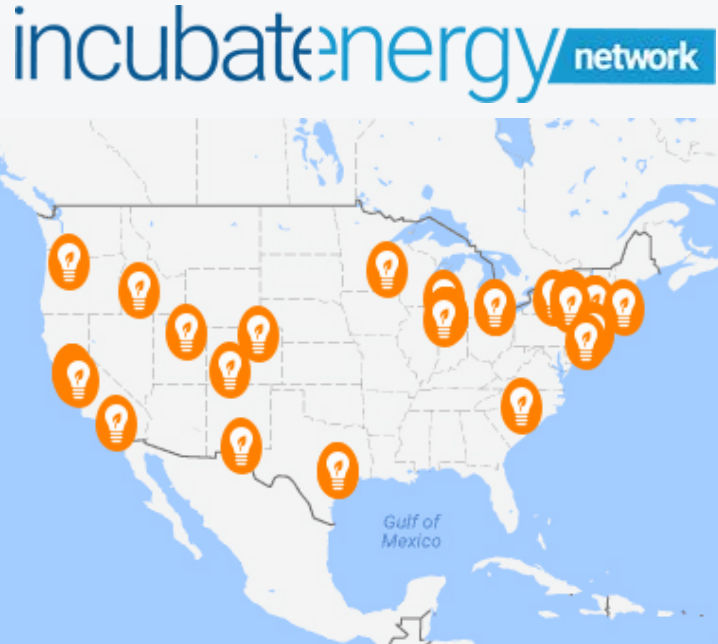
Prepared by:

Drs. Christopher Niezrecki*, Sukesh Aghara**, Juan Pablo Trelles*, Ertan Agar*,
Hunter Mack*, Fuqiang Liu*, and Walter Thomas*

Department of Mechanical Engineering*

Department of Chemical Engineering (Nuclear Engineering Program)**

EXISTING INCUBATORS



- ▶ The Incubatenergy Network is a consortium of clean energy focused incubators across the country that have supported over 500 companies to date and have a significant future pipeline.
- ▶ The Network features 25+ incubation programs across the US.
- ▶ More than \$1 billion in funding and \$330 million in revenue to date
- ▶ Economic Impact: Nearly 3,000 direct jobs, with over 500,000 clean energy jobs in the Midwest.

of Incubators per state (Top 5)

New York: 6

California: 4

Illinois: 4

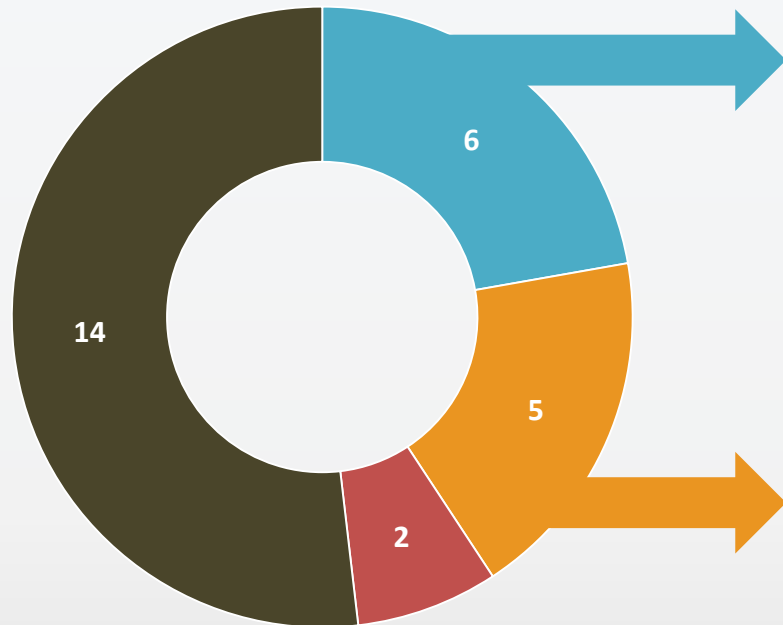
Colorado: 2

MA, Etc: 1



EXISTING INCUBATORS

UNIVERSITY DRIVEN INCUBATORS



■ University Run
■ National Lab Affiliation

■ University Partnership
■ Other Incubators/Accelerators

Acre & PowerBridgeNY / Urban Future Labs

New York University, Columbia University, Stony Brook University, Cornell NYC Tech and City University of New York
Sectors: Clean Tech, Energy Efficiency, Clean Energy, and Smart Cities

Arrowhead Technology Incubator

New Mexico State University
Sectors: Water-Energy-Agriculture Nexus and Digital Health

Austin Technology Incubator

University of Texas at Austin
Focuses: Bio/Health Sciences, Clean Energy, IT/Wireless

iCLEAN

SUNY Polytechnic Institute
Sectors: Clean Energy Technology

Rutgers University EcoComplex

Rutgers University
Sectors: Agricultural & Environmental, Landfill Gas Recovery & Utilization

Clean Tech Center

Leading New York State colleges and universities
Sectors: Renewable Energy, Alternative Fuels, System Integration & Smart Grid Technologies, Transportation, Buildings & Construction Technologies

Innosphere

Colorado University
Sectors: Health Innovations, Software & Hardware, Energy & Advanced Materials

Next Energy

Leading Michigan State colleges and universities
Sectors: Advanced Mobility, Energy Efficiency, Energy Storage, Power Electronics

Oregon Best

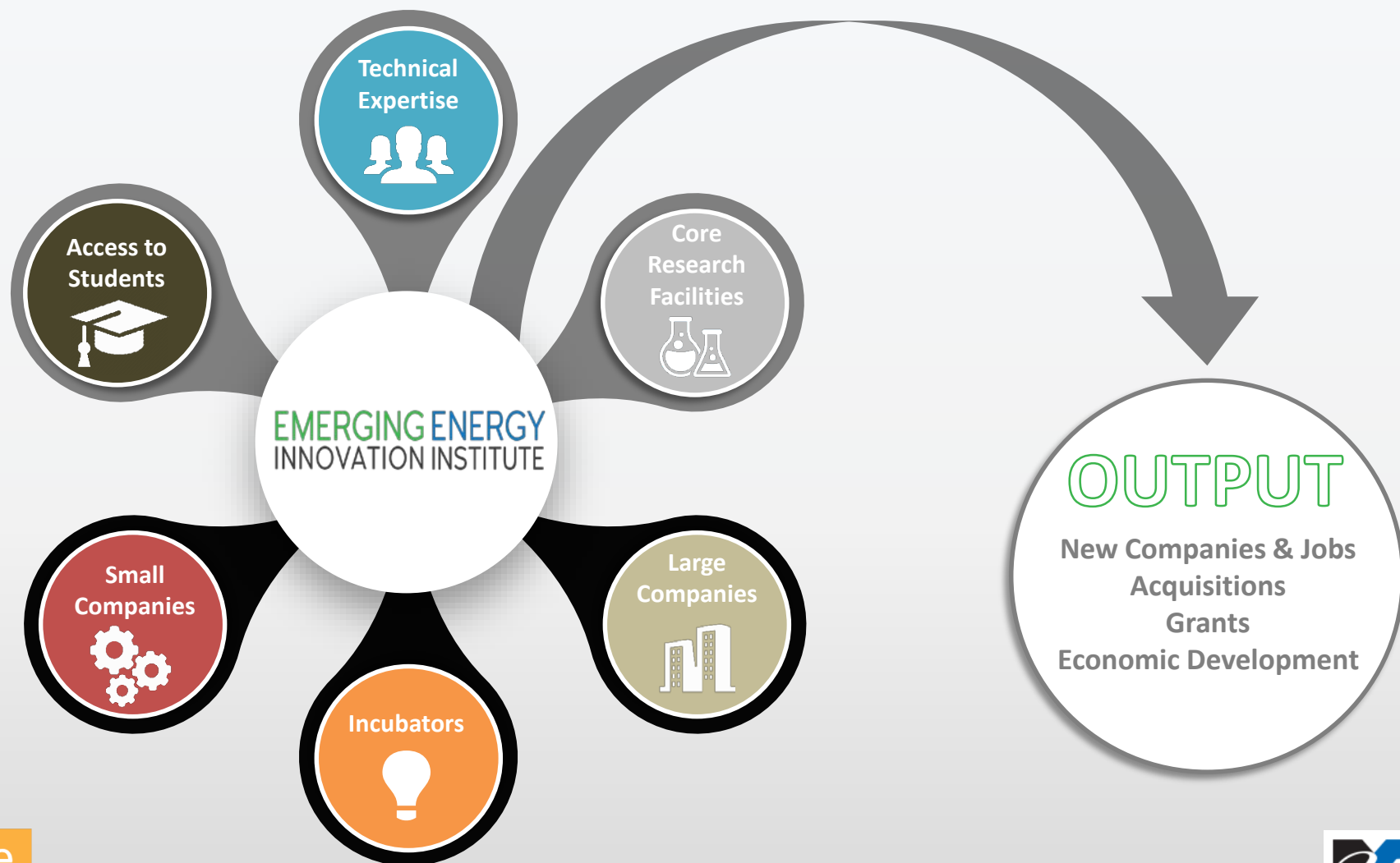
Oregon Institute of Technology, University of Oregon, Portland State University, Oregon State University
Sectors: Clean Technologies

Smart Grid Cluster

Illinois Institute of Technology
Sectors: Advanced Materials, Battery Management, Building Technologies, Energy Storage & Efficiency, MicroGrid, Power Electronics, Security, Smart Grid, Solar, Transmission



DEFINING A NEW ENERGY INCUBATOR MODEL IN MASSACHUSETTS



SUCCESSFUL INNOVATION HISTORY

UMass Lowell has a strong track record in the development of centers around the Big Company - Little Company model.



WHY UMASS LOWELL?

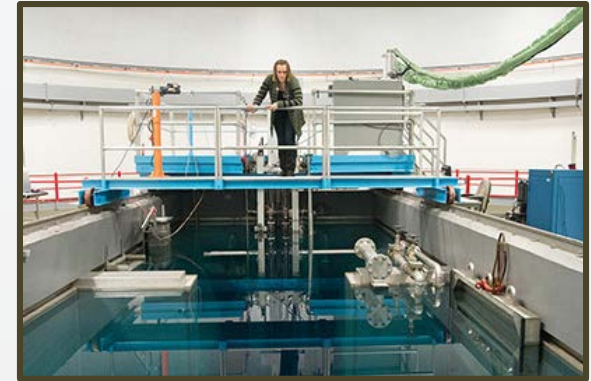
SERVING AS A PORTAL FOR UMASS AND
THE ENTIRE COMMONWEALTH



KNOWLEDGE



FACILITIES



RESOURCES



WHY UMASS LOWELL? - KNOWLEDGE

FACULTY EXPERTISE ACROSS MULTIPLE ENERGY SECTORS



WIND

- Materials Performance/ Testing
- Non-Destructive Inspection
- Composites Manufacturing
- Simulation/ Modeling
- Structural Health Monitoring
- Structural Dynamics



SOLAR

- Concentrated Solar Power
- PV Module Evaluation
- Solar Chemical Synthesis
- Graduate Program in Solar Energy



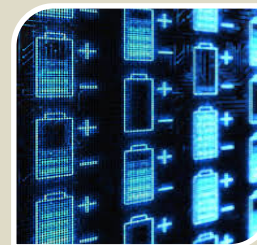
FUELS

- Fuel Properties
- Engine Emissions
- Engine Fuel Composition
- Engine performance
- Bio-fuels and Synthetic Gas Production



NUCLEAR

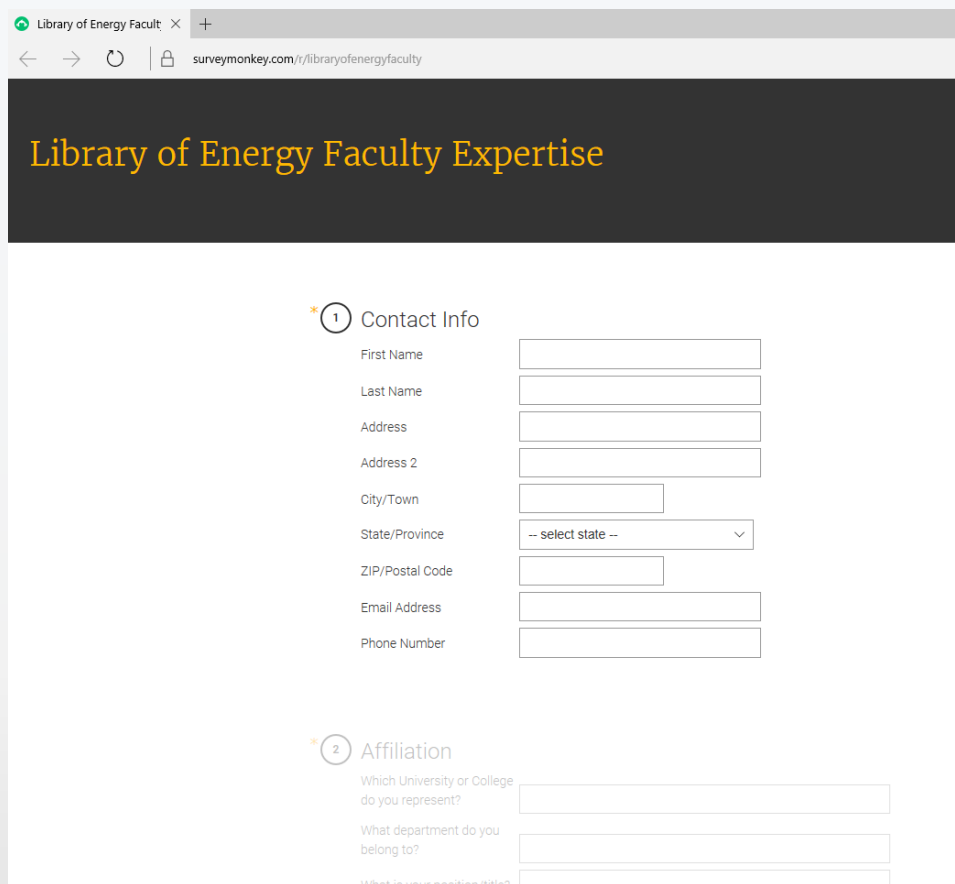
- 1 MW Nuclear Reactor; Thermal & Fast Neutrons; Neutron Radiography; High Intensity Gamma Ray Sources
- Simulation/ Modeling; Reactor Safety; Reactor Physics and Kinetics
- Advanced Radiation Detection Lab/ Materials Testing in Radiation Environment; Int'l Standards
- Nuclear Security
- Graduate Program in Nuclear Energy



ENERGY STORAGE & GRID

- Battery Performance Diagnostics/ Optimization
- Electrolyte and Transport Characterization
- Energy Storage Evaluation and Cost Assessment
- Electrochemical Cell Component Design and Development

COLLABORATE with EEI



The screenshot shows a web browser window with the address bar displaying 'surveymonkey.com/r/libraryofenergyfaculty'. The survey title 'Library of Energy Faculty Expertise' is prominently displayed in orange text on a dark background. Below the title, the survey is divided into two sections: 'Contact Info' and 'Affiliation'. The 'Contact Info' section includes fields for First Name, Last Name, Address, Address 2, City/Town, State/Province (a dropdown menu), ZIP/Postal Code, Email Address, and Phone Number. The 'Affiliation' section includes fields for 'Which University or College do you represent?', 'What department do you belong to?', and 'What is your position/title?'.

Library of Energy Faculty Expertise

1 Contact Info

First Name

Last Name

Address

Address 2

City/Town

State/Province

ZIP/Postal Code

Email Address

Phone Number

2 Affiliation

Which University or College do you represent?

What department do you belong to?

What is your position/title?

<https://www.surveymonkey.com/r/libraryofenergyfaculty>

E-mail: Christopher_Niezrecki@uml.edu

Phone: 978-934-2963 (W)

