



University Industry  
Demonstration Partnership

UIDP Academy

# **UIDP ACADEMY CONSORTIA WORKSHOP**

Atlanta, Georgia  
October 4-5, 2016



University Industry  
Demonstration Partnership

UIDP Academy

September 30, 2016

Dear Colleagues,

Thank you for participating in this UIDP Academy offering on consortia. We have assembled an impressive list of presenters and facilitators and know that you will truly benefit from attendance at this event. As is the case with all of our UIDP initiatives, we have a singular focus on helping people do their day jobs better by learning from their peers - from both the academic and corporate sectors.

We have invested significant time and energy in crafting this event and have structured it to maximize engagement and participation. Therefore, we seek your candid feedback through the survey instrument that will be sent to you immediately upon the workshop's conclusion.

Finally, I want to thank Georgia State and Georgia Tech for their support (financial and logistical) of this event and Dr. Rebecca Silveston-Keith for serving as the workshop coordinator.

Best,

*Tony*

Anthony Boccanfuso  
President of the UIDP

# UIDP ACADEMY

## CONSORTIA WORKSHOP

### THANKS ITS SPONSORS



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**Tuesday, October 4, 2016 - Centennial Hall, GSU**

**Facilitators**

	1:00 – 1:15 PM	Introduction and Desired Outcomes	Tony Boccanfuso, UIDP
Session 1	1:15 – 2:15 PM	Rationale & Planning for the Consortia and Recruiting	Mike Gallagher, Covestro Joe Fox, Ashland Performance Materials Babu DasGupta, Consultant
Session 2	2:15 – 3:15PM	Aligning Vision, Mission, and Resources of Participants	David Grewell, Iowa State Joe Fox, Ashland Performance Materials
Session 3	3:15 – 4:00PM	Establishing Governance: Leadership Roles, Structure and Decision Making Process	Larry Hornak, U. Georgia Mike Gallagher, Covestro
	4:00 – 4:15PM	Coffee Break	
Session 4	4:15 – 5:00PM	Managing Financial Resources	Taylor Eighmy, U. Tenn David Grewell, Iowa State Edward Han-Burgess, UCB
Session 5	5:00 – 5:45PM	Maximizing Operational Effectiveness	Taylor Eighmy, U. Tenn Margaret Wagner-Dahl, GaTech
	6:00PM	Closing Comments	Tony Boccanfuso, UIDP

**Wednesday, October 5, 2016 – Academy of Medicine, GaTech**

	8:00 – 8:05AM	Opening Statements	Tony Boccanfuso, UIDP
Session 6	8:05 – 8:50AM	Managing Intellectual Property /Licensing	Susan Capello, Intel Rachel Sievert, UC San Diego
Session 7	8:50 – 9:35AM	Managing Confidentiality, Data Sharing, Publications	Lynne Mumm, Iowa State Marla Gorges, GaTech Rachel Sievert, UC San Diego
Session 8	9:35 – 10:20AM	Managing Accountability, Outcomes and Evaluation	Lynne Mumm, Iowa State R. DasGupta, Consultant Edward Han-Burgess, UCB
Session 9	10:20 – 11:00AM	You asked for it Panel Discussion and Closing Comments	Industry, govt, other and academic facilitators from above

## SESSION DESCRIPTIONS

Tuesday, October 4th, 2016

### 1. Rationale, Planning and Recruiting members for the consortia

*Mike Gallagher, Covestro,  
Joe Fox, Ashland Performance Materials,  
R. DasGupta, Consultant*

The landscape of industry interactions for innovative external research is shifting. Companies are under pressure to create new products, solutions, and services and while the overall R&D budgets are increasing the proportion for academic partnership is shrinking (IRI study September 2016). Strategic activities with consortia provide a venue for leveraging multiple sources of funding (other people's money) as well as the strengths of many organizations to solve large complex issues in specific research thrusts. However, the consortia activities must strategically fit with a company's mission to warrant the risk reward analysis. This session will talk about the rational and internal analysis that goes on before a company commits to a consortia as well how to consortia can effectively position their objectives to attract the right industry partners.

### 2. Aligning vision, mission, and resources of participants

*David Grewell, Iowa State,  
Joe Fox, Ashland Performance Materials*

Once the partners have identified that the consortia is a good fit with their overall strategy, then comes the work of aligning multiple needs into a single vision. Not only can the cultures and expectations of the participants can be very different on what the target mission should be but the resources and expectations of participation they bring to the consortia can vary. For example is the industry partner a participant or an observer. This session describes the time and processes it takes to review and align on consortia mission and project objectives in IACMI and I/URCR models.

### 3. Establishing Governance: leadership roles, structure and decision making process in consortia

*Larry Hornak, U. Georgia  
Mike Gallagher, Covestro*

Even when the mission and vision of the partners is aligned the consortia can still fail without a clear and transparent governance structure. The consortia governance outlines the decision making roles and

methods guide the consortium's scientific and operational strategy. For example, this includes the processes and protocols for project management such as the project cultivation, selection, execution and termination. The governance structure and leadership team establishes trust between participants as to how the consortia will be managed. It operationalizes the achievement of promised value. This session will give examples of consortia governance structures that support successful partnerships and insights into how a company looks to the governance structure to tactically assess the risk and rewards tradeoffs for participation.

#### **4. Managing Financial Resources**

*Taylor Eighmy, U. Tenn*

*David Grewell, Iowa State*

Consortium derive their funding from an often tiered membership fee structure for industry, state and federal agencies, universities and in kind contributions. The proposition value is company dependent and must be identified prior to engagement. The cost sharing dictated by the funding agency can be challenging and matching funding cycle and project cycle is critical. The effort involved to manage participants cannot be underestimated for small companies and faculty the funds can be often disproportionate to the size of the company. This session discuss the distribution of different funding sources and the challenges in managing those sources and participants

#### **5. Maximizing operational effectiveness**

*Taylor Eighmy, U. Tenn*

*Margaret Wagner Dahl, GaTech*

The management structure of a consortia involves many stakeholders from the Technical Directors/Faculty/ Principal Investigators/ student to the Director for General Operations, Membership Sales, SOW Development, Membership Communications, and Project Management. Clearly defined processes and procedures are recommended such as establishing memorandum of understanding (MOU) or Cooperative Agreements/ Membership Agreement that outline the charter, bylaws that describe BOD, Federal Advisors, C-level structure, Technical Advisory Board (TAB) composition, and staffing which evolves over time from a start-up to a fully functioning operation. This session will describe some operational structure as well as address the significant time, outreach, marketing efforts needed to keep the consortia running.

**Wednesday, October 5th, 2016**

#### **5. Intellectual Property and Licensing**

*Susan Capello, Intel*

*Rachel Sievert, UCSD*

Intellectual property ownership can be one of the most contentious issues in multi-party collaborations. Research may lead to discovery of new intellectual property (foreground intellectual property or FIP) that, in order to be practiced, may require access to background intellectual property (BIP) that is owned or controlled by the University, the Sponsor, or by a third party that was developed prior to, or outside of, the consortia. Developing a framework in an MOU outlining the goals and intent of the consortia – including intended IP framework which assures Industry that they won't be blocked from commercializing their own proprietary material will be an asset to recruiting corporate partners. This session will discuss how different consortia manage the process of establishing and IP management protocol in the membership agreement, and who is involved from the stakeholders in the process.

## 6. Managing confidentiality, data use, data sharing, publications

*Lynne Mumm, Iowa State University*

*Marla Gorges, GaTech*

*Rachel Sievert, UCSD*

With multiparty consortia collaborations the ability to share data efficiently becomes complicated by different timeline expectations of the participants, interoperability issues, and different expectations /requirements for confidentiality especially for highly sensitive healthcare data. However, special treatment and overprotection tends to be counterproductive and erode the element of trust needed for good communication between participants, as well as add burden to the administration of the consortia. This session will discuss the time it takes to establish a system data management, storage and access protocols while enabling report sharing and public disclosure of progress results.

## 7. Managing accountability, outcomes and evaluation

*Lynne Mumm, Iowa State University*

*Susan Capello, Intel*

*R. DasGupta, Consultant*

A means to communicate the progress of a project to the stakeholders is essential to the sustainability of consortia operation. This can involve multiple mechanisms from multi advisory boards, to internal and external evaluators and starts with clearly outlines expectations for all the parties involved about the outcomes. This session will describe different approaches to finding the white space for collaborations, managing a process to start and stop projects, and different evaluations used by different stakeholders to gauge the return on investment form the collaboration.

## BIOGRAPHIES

### **ANTHONY BOCCANFUSO**

*President, UIDP*



As the UIDP's President, Tony is a leading expert on U-I relations, in print and on the speaker circuit, domestically and internationally. Tony holds a Ph.D. in Inorganic Chemistry from the University of South Carolina and a B.S. in Chemistry and Political Science from Furman University. Tony also serves as a consultant for government agencies, non-profit organizations and corporations and is Vice-Chair of the MedStar Health Research Institute. Tony and his family currently reside in Connecticut, where Tony's wife, Dr. Laura Boccanfuso, is a social robotics researcher at Yale.

### **SUSAN A. CAPELLO**

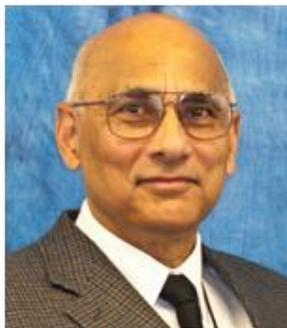
*Sr. IP Counsel, New Technology Group And Health & Life Sciences and University Engagements*



Susan A. Capello is a Senior Intellectual Property Counsel for Intel Corporation, with responsibilities focused on supporting HealthCare Life Science Group, Intel's University engagements and New Technology Group, including New Device business, New Business Initiatives, Intel Labs and Perceptual Computing. She graduated from West Chester University of Pennsylvania with a Bachelor of Science in Chemistry/Biology and Business Administration and worked in scientific research capacities with Hoffman-LaRoche, Inc. and the Rorer Group, Inc. Ms. Capello received her Juris Doctor from Pace University School of Law in 1989 and admitted to practice in New York in 1990. Ms. Capello spent several years in private practice before becoming an in-house IP attorney. As in-house counsel she has worked for Becton, Dickinson and Company; Lipid Sciences, Inc. and Connetics Corporation before joining Intel Corporation.

### **RATHINDRA DASGUPTA**

*Consultant, Innovation and Entrepreneurship*



Dr. Rathindra (Babu) DasGupta is a consultant for innovation and entrepreneurship activities. Prior to his current role, DasGupta served as a program director from June 2006 through April 2016 for various programs in the division of industrial innovation and partnerships at the National Science Foundation (NSF). Before joining NSF, DasGupta was the chief scientist for the CONTECH division of the SPX Corporation. Prior to joining the industry, DasGupta held various professorships at the Milwaukee School of Engineering, UW-Madison, UW-Milwaukee and Western Michigan University.

DasGupta has received multiple awards and honors including the Raymond D. Peters

Endowed Professorship in Materials Science at the Milwaukee School of Engineering (1987-1990), the Inland Steel-Ryerson outstanding undergraduate teacher award at the Milwaukee School of Engineering (1985), the Herman H. Doehler Award from the North American Die Casting Association (2000) and the Innovation Award at CONTECH (1997). He had the honor of being the ASM-IIM visiting lecturer to India in 2000 and has been granted the title of NAI Fellow (2013). In the summer of 1985, DasGupta was also invited as a visiting scientist to China Steel Corporation in Kaohsiung, Taiwan.

DasGupta has published numerous papers and presented at various international and domestic conferences, and he has five patents to his credit.



### **TAYLOR EIGHMY**

*Vice chancellor for research and engagement, Professor of civil and environmental engineering, University of Tennessee, Knoxville*

Dr. Eighmy serves on the boards of Oak Ridge Associated Universities, Collaborative Composites Solutions, East Tennessee Economic Council, the UT Research Foundation, and Cherokee Farm Development Corp. Eighmy represents UT on the National Academies' Government-University-Industry Research Roundtable and the University-Industry Demonstration Partnership as well as the Technology Leadership & Strategy Initiative of the Council on Competitiveness. He is an AAAS Fellow, a Diplomate of the American Academy of Environmental Engineers and Scientists, and a fellow of the National Academy of Inventors.



### **JOSEPH FOX**

*Director of Emerging & External Technologies, Ashland Inc.*

Dr. Fox is a key member of the Global Business Development group that supports Ashland's Performance Materials Division, a leading supplier of thermosetting resins for polymer composite applications. Ashland Inc. is a global diversified specialty chemical company. He is responsible for identifying significant growth opportunities for Ashland's composite resins' business by finding new applications for composites and by developing partnerships throughout the value chain. He is the focal point for Performance Materials' open innovation initiatives and for identifying technology at other companies, universities and federal laboratories that can impact Ashland.

Fox serves on the board of the Industrial Research Institute (IRI), Polymer Ohio, and the Ohio Bio products Innovation Center.

**MICHAEL GALLAGHER***Head, Innovation and Business Growth Services at Covestro LLC*

Mike is responsible for managing open innovation and business development investments to support the growth strategy for all business units. This includes collaboration with universities, research institutes, government agencies, and national labs. He also oversees business innovation programs including start-up and incubator community engagement, IP asset management, strategic alliance, consulting and other B2B innovation programs in coordination with Covestro's global innovation management community

**MARLA GORGES***Associate Director, Health IT Extension Services**Georgia Institute of Technology. Enterprise Innovation Institute*

Marla is a 25 years + experienced program and product builder. Her strategic planning, implementation and ongoing operational management experience spans B2B, B2C and public university-based non-profit programs and products in consumer packaged goods launch, manufacturing turn-around and health information technology adoption. Marla is a passionate driver of value proposition development and measurable ROI for both existing and start-up enterprises. She is experienced in federal grants writing and award management, procurement and contracting negotiation and program sustainability planning and execution. Marla designs and facilitates successful adoption strategies, implements pivots over a program's or product's life cycle, and addresses challenges and inspires cross-functional teams and partners.

For the past five years, Marla has drawn on her public-private federal program leadership experience to the Interoperability & Integration Innovation Lab (I3L). The I3L is a public-private, membership-based sandbox that addresses the challenge of interoperability among disparate electronic health records systems, devices and platforms in support of patient-centered, value-based healthcare.

Marla earned her BS in Marketing and an MBA with Marketing and Finance concentrations from the University of Central Florida.

**DAVID GREWELL**

*Professor, Agricultural and Biosystems Engineering, Iowa State University, NSF Center Director Bioplastics and Bio composites*

Dr. David Grewell received a BS, MS and Ph.D. in Industrial Systems and Welding Engineering from The Ohio State University with minors in biomedical engineering and polymer processing in 1989, 2002 and 2005, respectively. He holds 14 patents, has been given numerous honors and awards and as well as numerous publications, including two books. His interests include joining of plastics, micro-fabrication, laser processing of materials, bioplastics and biofuels.

His research group at Iowa State University focuses on using high power ultrasonics to enhance biofuel production as well as on using plant proteins for bio renewable, biodegradable plastics and composites. He instructs classes on manufacturing processes, materials for industrial technology, applied math for technology and a design/technology project study abroad experience in China.

Grewell is the Director of the NSF Center for Bioplastics and Bio composites, is the Chair of the Biopolymers & Bio composites Research Team, a Board Member of the Ultrasonic Industry Association, Society of Plastics Industry and Society of Plastics Engineers. He also has a position at the University of Erlangen in Germany and is Fellow of the Society of Plastics Engineers.

**EDWARD HAN BURGES**

*Epilepsy Portfolio Strategy & Intelligence, UCB*

After 15 years in healthcare investments and pharmaceuticals corporate strategy, Edward joined UCB in 2015 to build a portfolio of non-drug assets in the epilepsy space by marrying big data and cognitive computing. As a self-professed nerd, Edward finished undergraduate university at age 18 and is fluent in American English, passive-aggressive English, Spanish, Korean and strategy consultant speak. He is a non-linear thinker and linear speaker, an ENTJ, a PhD dropout, a Chartered Financial Analyst and a mediocre cook.

**LAWRENCE HORNAK**

*Professor, Distinguished Faculty Scholar and Associate Dean for Research in the College of Engineering at the University of Georgia*

With experience in academia, government and private industry sectors, Dr. Hornak has a diverse background in multi-institutional interdisciplinary research and education programs in the nanosciences, photonics and biometric systems. He received his B.S. in Physics from Binghamton University (SUNY) in 1982 after which he joined AT&T Bell Laboratories, Holmdel, NJ where he completed his M.E. at Stevens Institute of Technology, and his Ph.D. in Electrical Engineering at Rutgers University in 1991. As a Member of Technical Staff at Bell Labs, his research spanned robotic sensors, vision and assembly systems; high-Tc superconducting interconnections; wafer-scale systems and novel optical interconnection materials, design and co-integration. Joining West Virginia University (WVU) in 1991, Hornak was the founding director of the Center for Identification Technology Research (CITeR), the National Science Foundation's only center focusing on biometric identification. He is a founding partner of NexID Biometrics, LLC; a start-up company spun out from CITeR in 2006. In addition, Hornak was founding co-director for the state's first Nanoscience, Engineering and Education Initiative focusing on sensing and molecular biometrics.

During his four-year rotation at the NSF completed just prior to joining the University of Georgia, Hornak served as program director for the Industry/University Cooperative Research Centers Program. Hornak has over 150 refereed publications and is a senior member of the IEEE and member of the SPIE, and OSA as well as Sigma Pi Sigma and Eta Kappa Nu.

**LYNNE MUMM**

*Office of Intellectual Property and Technology Transfer, Iowa State University.*

Lynne Mumm is a Senior Negotiator for OIPTT at Iowa State University. She focuses on contracts related to sponsored research with industry, including confidentiality and material transfer agreements for several ISU research institutes and departments in agriculture, Biosystems and transportation engineering. She advises several industry-university consortia on best practices and operational effectiveness. Lynne is a certified research administrator with over twenty years' experience at Iowa State in various research administration roles. She is a member of the Society of Research Administrators and the National Council of University Research Administrators.



## **RACHEL SIEVERT**

*Assistant Director at University of California, San Diego*

Sievert has 15+ years of experience in managing complex and high profile contracts and grants, including acting on behalf of UC San Diego as the lead negotiator for the many large industry collaborations, consortia and alliances. She presently supports industry contracting and strategic industry partnerships at both the San Diego and Santa Cruz campuses. Previously she held positions at UC Santa Cruz as Special Agreements Officer in the Sponsored Projects Office and Business Contracts lead for UCSC Procurement. Rachel has worked for numerous law firms, including owning her own practice. Her first position in higher education was at San Jose State University where she served as the lead coordinator and researcher for Education Department grants where she managed dozens of supporting sites and project team members. Rachel is a member of the California Bar and holds a Bachelor of Arts in Psychology from UC Santa Cruz, a Masters of Arts in Education and Counseling from San Jose State University, and a JD from Santa Clara University School of Law.



## **MARGARET WAGNER-DAHL**

*Associate Vice President for Informatics and Analytics at the Georgia Institute of Technology's Office of Industry Collaboration*

Margaret Wagner Dahl works with a team devoted to the challenges of healthcare information technology interoperability and data integration. She has responsibility for assisting industry partners to productively partner with Georgia Tech. Her previous positions include those with multinational pharmaceutical companies Pharmacia and Organon Teknika. She also co-founded two successful startup companies (Video Electronics Ltd., MediScope Ltd.) in Dublin, Ireland. She subsequently moved to academia focusing on technology commercialization in leadership roles at the University of Washington, the University of Texas at Austin and the University of Georgia in Athens.

Ms. Dahl serves as a board member for the WellStar Health Network Accountable Care Organization in Marietta, Georgia. She previously served as board chair for the Athens Regional Medical Center and the Georgia Hospital Association. She is currently the chair of the American Hospital Association's (AHA) Committee on Governance and a member of the AHA's Leadership Development Council. She also serves on the board of Project Safe, a nonprofit organization combating domestic violence in Athens, Georgia. Her degree is in geography and sociology from Maynooth University, Co. Kildare, Ireland.

## REFERENCE MATERIALS

### DIFFERENT MODELS OF CONSORTIA

For the purposes of the UIDP Academy Consortia Workshop, we will be discussing consortia that have industry and academic membership with formal structures for their operations including, among other things, governance, confidentiality and intellectual property. While there are many consortia models, consortia can be further categorized by their funding sources (government, academic, industry or other initiated) which imposes similar requirements with respect to governance and financial management.

Below is a list of some of the public private consortia acronyms, some of which will be discussed at the workshop and some that we did not have time to include. This is by no means an exhaustive list nor does it differentiate on success of the consortia.

Other reading material on this topic includes the Faster Cures report called [Consortia-pedia](#). This is a quantitative and qualitative analysis designed for stakeholders in medical R&D that are part of a consortium or interested in participating in or creating a consortium. It discusses the breadth and scope of approaches that a wide range of consortia have adopted in efforts to bring together non-traditional partners with a shared R&D goals. For more information see <http://consortiapedia.fastercures.org/>

Consortia that are mentioned during the workshop include

Center of Identification Technology Research (CITeR) <http://www.clarkson.edu/citer/>

Advanced Structures and Composite Center (ASCC) <https://composites.umaine.edu/>

Center for Bio-Plastics and Bio-Polymers: <http://www.cb2.iastate.edu/>

Industrial Partnership for Research in Interfacial Mat'l's & Engineering (iPRIME) <http://iprime.umn.edu/>. The

Center for Sustainable Polymers: <http://csp.umn.edu/>

Institute for Advanced Composite Manufacturing Innovation (IACMI) <http://iacmi.org>)

Interoperability Integration Innovation Lab (I3L) <http://i3l.gatech.edu/>

### GOVERNMENT INITIATED/SUPPORTED CONSORTIA

#### I/UCRC

Industry/University Cooperative Research Centers are multi-member, sustained partnerships between industry, academe, nonprofits and government for industrially-relevant, pre-competitive/fundamental research in science, engineering, technology area(s) of interest to industry and that can drive innovation and develop an industrially savvy workforce to benefit US economy. The National Science Foundation (NSF) supports the development and evolution of I/UCRCs, providing a financial and procedural framework for membership and

operations as well as requirements derived from extensive Center experience and evaluation. Primary support for these consortia comes from the private and public sector. I/UCRC members are approximately 60% large business, 20% Small Businesses, 10% Others Federal Agencies, ~10% (State and Others)

For more information on I/UCRC's in general see:

- <https://www.nsf.gov/eng/iip/iucrc/home.jsp>

## ERC

Engineering Research Centers are interdisciplinary centers located at universities all across the United States, each in close partnership with industry. The NSF supports the inception and support for up to ten years and provides the intellectual foundation for the collaboration. The focus of ERC's is strategic advances in complex engineered systems and systems-level technologies that have the potential to spawn new industries, transform the product lines, processing technologies, or service delivery methodologies of current industries. Each ERC is established as a 3-way partnership involving academe, industry, and NSF (in some cases with the participation of state, local, and/or other Federal government agencies). In FY 2012, total annual funding from all sources provided directly to each Center ranged from \$3.5 to \$10.0 million. Since 1985, a total of 61 ERCs and 3 Earthquake ERCs, 2 have been formed across the United States, with 20 ERCs currently in operation.

For more information see

- <http://erc-assoc.org/>
- [https://www.nsf.gov/funding/pgm\\_summ.jsp?pims\\_id=5502](https://www.nsf.gov/funding/pgm_summ.jsp?pims_id=5502)

## NMMI

The National Network for Manufacturing Innovation is a series of public private partnerships with a diverse membership includes small, mid-sized, and large manufacturers, as well as researchers from universities and government laboratories across the USA. The institutes all share a common goal: to secure America's future through manufacturing innovation, education, and collaboration. They also all share a common focus to move promising, early-stage research into proven capabilities ready for adoption by U.S. manufacturers. Over the past four years of the program, nine manufacturing innovation institutes have been established or announced, with six more planned by 2017 where each NNMI is centered on a distinct technology area.

The national NNMI organization called *Manufacturing USA* operates in partnership with the Department of Defense, the Department of Energy, NASA, the National Science Foundation, the Department of Education and the Department of Agriculture. The office is operated by the interagency Advanced Manufacturing National Program Office, which is headquartered in the National Institute of Standards and Technology, in the Department of Commerce. The office is staffed by representatives from federal agencies with manufacturing-related missions as well as fellows from manufacturing companies and universities.

For more information see:

- <https://www.manufacturing.gov/nnmi/>
- [https://manufacturing.sites.usa.gov/files/2015/12/NNMI\\_prelim\\_design.pdf](https://manufacturing.sites.usa.gov/files/2015/12/NNMI_prelim_design.pdf) - Preliminary design report
- <https://www.manufacturing.gov/files/2016/02/2015-NNMI-Annual-Report.pdf> - Annual Report
- <https://www.manufacturing.gov/news-2/news/reports/> - All docs

## DMDII

The Digital Manufacturing and Design Innovation Institute, is a federally-funded research and development organization of industry, academia, the nonprofit sector and government from UI LABS ([www.uilabs.org](http://www.uilabs.org)) established in February 2014 through collaboration with the Department of Defense and a host of other partners. The goal is to transform American manufacturing through by encouraging factories and suppliers across America to deploy digital manufacturing and design technologies, so those factories can become more efficient and cost-competitive. The DMDII sponsors research projects in digital manufacturing and design; disseminates the lessons learned; and helps educate the workforce of tomorrow. It currently has 250 partner organizations and more than \$30 million awarded to research and development projects throughout the country.

For more information see:

- <http://dmdii.uilabs.org/>
- <http://www.uilabs.org/#about>

## STATE INITIATED

### OBIC

Bio products Innovation Center (OBIC) is a public private partnership that began in 2005, as a Wright Center of Innovation, serving as Ohio's first statewide and Ohio Department of Development funded bio products center, established with a grant award of \$9.6M in capital funds and \$1.9M in operating funds.

For more information see

- <http://bioproducts.osu.edu/>

## INDUSTRY INITIATED/SUPPORTED CONSORTIA

### NEETRAC

The National Electric Energy Testing Research and Applications Center is a self-supporting, membership based center within the School of Electrical and Computer Engineering at Georgia Tech. The membership includes over 40 industry partners electric utility companies located throughout North America as well as manufacturers that provide products and services to utilities. The goal is to help the electric utility industry solve the everyday problems associated with the complex task of transmitting

and distributing electric energy reliably and efficiently by providing a wide array of analytical, engineering, research and testing services.

For more information see:

- <http://www.neetrac.gatech.edu/>

### INDUSTRIAL INTERNET CONSORTIUM

The Industrial Internet Consortium is an industry run consortia with a steering committee of 12 members (plus the Executive Director, ex-officio), each of whom is affiliated with an Industrial Internet Consortium member company. The Founding Member seats are occupied by General Electric, IBM and Intel. Five seats are for Contributing Members and consist of four-year terms; these seats are currently held by SAP and Schneider Electric until September 2019 and Bosch, EMC and Huawei until September 2020. The remaining Steering Committee seats are for either one-year or two-year terms and consist of two representatives from large industry members, one representative from small industry, and one representative from academia or a nonprofit member. There are currently over 100 corporate entities that are members from all across the world. The consortium runs a series of working Groups in order to accelerate market adoption and drive down the barriers to entry. There are currently 19 Working Groups and teams, broken into 7 broad areas.

For more information see

- <https://www.iiconsortium.org/working-committees.htm>

### GELATO FEDERATION

The Gelato Federation was a global public private consortia dedicated to advancing Linux on the Intel Itanium platform that ran from 2001-2007 with more than seventy universities, research centers, national labs and industrial partners around the world. The members shared data (code) within the context of the open source community and had loose accountability since most members voluntarily joined and contributed work. The members were motivated by:

- seeing their academic work adapted and used more broadly, and in some cases commercially
- being in community with like-minded researchers and software developers
- having a voice in shaping a commercial computing platform and providing the underlying software infrastructure.

Each institution provided financial backing, IT infrastructure and human resources to oversee and support Gelato's mission and operations.

For more information see

- [http://www8.hp.com/us/en/hp-news/press-release.html?id=302586#.V\\_F5BvArk00](http://www8.hp.com/us/en/hp-news/press-release.html?id=302586#.V_F5BvArk00)

### ACADEME INITIATED CONSORTIA

#### ACTSI



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Clinical & Translational Science Institute (ACTSI) is a multi-institutional consortium that concentrates basic, translational and clinical investigators, community clinicians, professional societies, and industry collaborators in dynamic clinical and translational research projects.

For more information see

- <http://www.actsi.org/>

#### Center for Wearable Sensors

This public private consortia is centered on one academic institution: University of Dan Diego Jacobs School of Engineering in UCSD and the School of Medicine with over industry partners. The focus is to develop wearable sensors to improve human health.

For more information see

- <http://jacobsschool.ucsd.edu/wearablesensors/about.shtml>