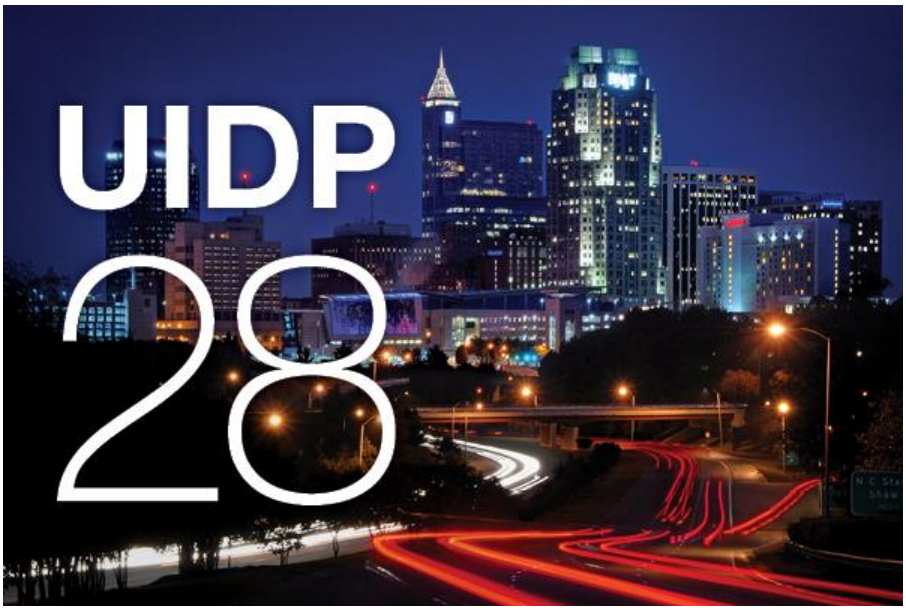
Strengthening
University-Industry
Partnerships



UIDP28 CONFERENCE REPORT

April 1–4, 2019

Hosted by North Carolina State University in partnership with
UNC-Chapel Hill, RTI International, and Duke University

Strengthening University-Industry Partnerships

DURING THE FIRST WEEK OF APRIL 2019 UIDP WELCOMED MEMBER REPRESENTATIVES AND OTHERS TO ITS SPRING CONFERENCE, UIDP28, HOSTED BY NC STATE UNIVERSITY IN PARTNERSHIP WITH UNC-CHAPEL HILL, RTI INTERNATIONAL, AND DUKE UNIVERSITY.

This conference was the largest UIDP conference to date with more than 300 attendees (including 150 first-time participants), four workshops, four tours, and 30 general/breakout sessions.

CONFERENCE AT A GLANCE

More than 300 professionals from across the United States and around the world participated in UIDP28, exploring various aspects of successful relationships between industry and academia, including leveraging emerging technologies, master research agreements, and startups to strengthen high-impact knowledge creation.

The conference opened with Anthony Annunziata, Global Lead for the IBM Q Network, delivering the keynote. His presentation focused on the fundamental properties of quantum mechanics and how it may solve some of the most difficult problems in business and science.

The agenda addressed: regional entrepreneurship ecosystems, public dedication of intellectual property (IP), cultivating public-private partnerships, as well as several company highlights including John Deere, Celgene, and InfoEd Global.

"UIDP28 was an excellent gathering of bright and capable minds all focused on a shared mission of collaboration and advancement. In our professional lives, we should all be so fortunate to have a group like the UIDP, who serve as facilitators of conversation and idea exchange."

(Quote from UIDP28 Conference Attendee – Kelsey Evans, Executive Director for Corporate Relations, The University of Texas at Austin)

DAY ONE
Monday – April 1, 2019

UIDP Academy Workshops

Reducing Time to Trial Activation

Organizer:
Andy Johns, UNC-Chapel Hill
Presenters:
Christine Nelson, UNC-Chapel Hill • Liz Moore, UNC-Chapel Hill • Debra Freedholm, Axiom • Denise Clutter Snyder, Duke University • Ahmad Ashanti, Merck • Brent Borneman, Merck • Robyn Sweet, Axiom • Selvin Ohene, Wake Forest Baptist Health

Delays in clinical trial activation have negative impacts on an individual study's feasibility and can affect a site's desirability in the eyes of a sponsor. Awareness and knowledge of best practices in place across the clinical research industry allow sites to assess workflows, resourcing, training, and quality elements within their research program.

During this workshop, participants heard from organizations that have deployed novel approaches to addressing the many delays that slow trial activation. Participants also had the opportunity to share experiences, ideas, and approaches used to streamline and strengthen study activation and administration processes.

Takeaways:

- Centralized budget development support can be accomplished at the enterprise level.
- Reducing time to trial activation requires collaborative efforts and accountability.
- Site account managers help build partnerships with high-producing, quality sites and help facilitate the execution of master agreements.
- Execution of master agreements help reduce study startup timelines.

Strategic Roadmapping

Organizer:
Stewart Witzeman, UIDP
Presenters:
Angel Hedberg, RTI • Mark Schmidt, John Deere • Jaap Schut, PACE Consulting

Roadmapping is a technique for planning an organization's technological capabilities to ensure they meet its commercial or strategic goals. For many companies, academic institutions are a key component to their roadmapping and this workshop incorporated case studies to illuminate the key elements of the roadmapping exercise.

Takeaways:

- Important to align your long-term vision, values, and strategy with your goals.
- Need to clearly define your business' key components and determine how these components might be changed.
- Roadmapping is a journey; one needs to be flexible and make updates systematically.

DAY TWO
Tuesday – April 2, 2019

UIDP Academy Workshops

Tech Scouting's Role in Corporate Innovation
Organizer:
Chris Townsend, Wellspring Worldwide
Presenters:
Matthew Heim, Wellspring Worldwide

Given today's speed of technology development and innovation, a growing number of companies have found it necessary to build technology scouting practices to scan for ecosystem trends, follow competitors' moves, and identify promising technologies and external partners. In this workshop, attendees walked through the evolving best practices in this new and important discipline: how to create the right objectives and KPIs; how to grow the team; how to manage its workflows; how to set the right governance and reporting structure; how to leverage tech scouting's outputs across the organization; and more.

Takeaways:

- It's important to develop personal relationships as part of moving university-industry (U-I) collaborations forward.
- Metrics span from the initial part of the scouting funnel through validation and project implementation.
- Some discussion is warranted focusing on how to integrate startups into the tech scouting eco-systems.
- The dynamics of innovation ecosystem collaboration are changing.
- Corporations and universities can learn to make collaboration with outside entities easier.
- Having the right metrics, processes, and governance in place are crucial for corporate tech scouting at scale.

FAR and Away: IP in Triple Helix Projects
Organizer:
Elizabeth Adams, Princeton University

Presenters:
Elaine Brock, UIDP • Bob Hardy, COGR • Sury Vepa, NIH • Jackie Quay, UNC-Chapel Hill

Government-industry-university ("triple helix") projects are trending and becoming an increasingly important component of U-I engagement. IP rights represent a common interest and concern for all three parties under these projects. This workshop focused on IP terms as well as IP-related case studies that include government, industry, and university participants at different stages of triple helix projects—solicitation, agreement negotiation, agreement management/closeout and potential licensing/commercialization. The emerging topic of economic espionage involving federally-supported intellectual property was also discussed.

Takeaways:

- The Bayh-Dole Act is a very successful public/private partnership.
- Success should be measured in terms of overall social and economic impacts, not ROI to individual institutions.
- The Bayh-Dole Act was not intended to and should not act as a consumer price control mechanism.
- It is important to take tailored approaches to structuring Triple Helix.

Annual Member Meeting

Presenters:
Tony Boccanfuso, UIDP • Denise Duane, UIDP • Bob Starbuck, UIDP • Randy Hall, University of Southern California • Mark Schmidt, John Deere • Jay Walsh, Northwestern University

This session served as the annual meeting of the UIDP, a 501(c)3 membership association comprised of leading companies, universities, and other research performers. During this meeting, representatives were given an update on UIDP activities during Fiscal Year 2019 and provided other relevant information about the partnership.

Panels & Presentations

Opening Remarks

The UIDP28 Conference began mid-afternoon with an introduction from Tony Boccanfuso, UIDP President, opening remarks from Mark Schmidt, John Deere; and the Chancellor's Address issued by William R. "Randy" Woodson, NC State University.

Keynote Address:
Quantum Computing: The Future of Computation for Science and Business

Presenter:
Anthony Annunziata, IBM Q Network Global Leader

Quantum computing is an entirely new paradigm of computation that uses the fundamental properties of quantum mechanics and promises to solve some of the most difficult problems in business and science. Although the technology is still in early development, progress over the last few years has been rapid, and the first practical use cases in the physical sciences, materials, financial services, and in applications of machine learning are in sight. However, quantum computers are different from the "classical" computers we use today, and it will likely take several years for organizations to acquire the talent and expertise needed to develop and take advantage of new applications that utilize quantum computers. IBM believes that a close collaboration between universities and industry can greatly help with the transition of quantum computing from pure science to practical use. NC State and IBM have partnered to create one of a select set of IBM Q Hubs to develop a program of academic and industry engagement to support applied research, advance education and workforce readiness, and create practical knowledge about programming quantum computers and potential applications of the technology. Q Hubs are a hallmark piece of the IBM Q Network, a collaboration of industrial, academic, and government organizations with the mission of advancing quantum computing. This session discussed this program and the progress in bringing quantum computing to practical reality.

Takeaways:

- NC State is a Q Hub with IBM, based on a 30-year relationship.
- Quantum computing is coming and will need U-I partnerships.
- Many applications exist, but the quantum advantage could be significant.

Panel:
Regional Entrepreneurship Ecosystems
Moderator:
Sara Lawrence, RTI International
Panelists:
Jay Bigelow, Council for Entrepreneurial Development • Vivian Doelling, NC Biotech Center • Wade Fulghum, North Carolina State University • Sheryl Waddell, UNC-Chapel Hill

Commercializing research involves many phases, people with different expertise, programs, resources, and capital. This panel discussion explored how the Research Triangle's innovation and entrepreneurial ecosystem leverages partnerships, programs, and resources to help build and scale successful startup companies and engage with industry partners. Each organization provided highlights about their programs and several success cases were discussed.

Takeaways:

- Moving from innovation/tech transfer to true entrepreneurship took an early commitment from both universities and the community ecosystem.
- There is a lack of experienced mentors in regional entrepreneurship ecosystems.
- There is an extraordinary level of cooperation among entities in the Research Triangle all supporting entrepreneurship.

- The Research Triangle has an amazing infrastructure to support startups but still struggles with venture capital funding and developing good leaders.
- State and federal funding is important to develop the technologies and, support the incubators, entrepreneurship programs, and infrastructure.

Breakout Sessions #1

Sustainability for Centers & Institutes

Moderator:
Genevieve Garland, North Carolina State University
Panelists:
Behnam Pourdeyhimi, North Carolina State University
Ruben Carbonell, North Carolina State University

Two of NC State's most successful center and institute executive directors shared their missions, structures and what has made them sustainable. Dr. Behnam Pourdeyhimi is a distinguished professor and executive director of the Nonwovens Institute (NWI). Operating on an "Open Innovation" platform, NWI engages experts from industry and higher education in building next-generation nonwoven applications while also providing training and guidance to the field's future leaders. Dr. Ruben Carbonell is a distinguished professor and executive director of the Golden LEAF Biomanufacturing Training and Education Center (BTEC). BTEC is a unique, cross-disciplinary instructional center that provides educational and training opportunities to develop skilled professionals for the biomanufacturing industry.

Takeaways:

- For centers and institutes to stay sustainable, they must be relevant. It is important to talk with customers that are not necessarily academic.
- Multi-disciplinary advancing technology beyond TRL 4-8 requires a multi-disciplinary team.
- It's important to have scale and equipment to work at all levels including pilot/manufacturing.

Enhancing Relationships to Optimize External Partnerships: Breaking Down Barriers Within Institutional Structures

Moderator:
Roy Zwahlen, UNC-Chapel Hill
Panelists:
Karen Heidelberger, Deerfield Management • Brian Johns, ViiV Healthcare • Mary Napier, UNC-Chapel Hill • Kay Wagoner, UNC-Chapel Hill

Focused efforts to develop early-stage partnerships between universities and industry with significant funding are becoming more common, especially for partnerships focused on new drug discovery. This session explored two partnerships.

Takeaways:

- UNC- Chapel Hill and GlaxoSmithKline (GSK) partnered to find a cure for AIDS through the formation of the UNC HIV Cure Center and co-founded a jointly owned company, Qura Therapeutics. Recently, ViiV Healthcare assumed the GSK roles and responsibilities as it pertains to the partnership.
- UNC-Chapel Hill and Deerfield Management have entered into a partnership to create Pinnacle Hill, LLC., a company seeking to discover promising new drugs across a range of therapeutic areas. This session shared insights on the culture required and other important factors necessary to maintain and grow these partnerships.
- The key to successful collaboration between the university and industry involves bringing the best talent from both parties together, being open to think beyond their current culture, and creating a new culture while working toward a common shared goal.
- In order to sustain a long-term mutually beneficial relationship, the university and industry need to work in tandem, with more aligned missions and goals.
- Success requires partners with complimentary expertise and interests building a common vision with buy-in from both sides.
- The partnership structure must reflect the nature of the problem, the human and instrumental university resources, and the priorities of the industry partner.

UIDP Project: High Impact Industry Days

Presenters:

Priya Baboo, Penn State • Camille Noel, Varian

Many universities invest in arranging industry days, where company representatives are invited to a campus to learn about specific R&D projects as well as the university's capabilities. These events require careful planning to ensure success. This project will establish best practice guidelines for planning and implementing industry days.

Takeaways:

- The goal of an industry day is for the university to walk away with increased funding and the company to increase their ability to recruit and engage students.
- Strategic partnerships can be improved by thinking of industry days as an engagement process instead of as events.
- Attendees agreed that the project should culminate in a quick guide of best practices with guiding questions.

UIDP Project: Contract Accord 14: Data Use Agreements

Presenter:
Elaine Brock, UIDP

The technology, regulations, and public attitudes related to data are changing daily. This discussion focused on how Contract Accord 14 can be updated and refocused to provide useful guidance for dealing with the topic of data in industry sponsored research agreements.

- This Contract Accord should address additional aspects of data privacy and security.
- New laws and regulations in the EU and the US should be more clearly explained.
- Describe how data issues differ depending on various disciplines and industry sectors, e.g., banking, healthcare, education, defense, agriculture.

Public Dedication of IP and Open Science: An Industry Perspective

Presenters:
Stewart Tansley, Facebook • Mike Willardson, Facebook • Umesh Patel, Michigan

Facebook presented their perspective on incorporating public dedication of IP in an open science context as part of a comprehensive approach to U-I research collaborations.

Takeaways:

- Facebook is more than a social media company with the manufacturing operation of the Oculus product and large investments in telecommunications infrastructure.
- Facebook views open source software and data computing systems as a better way to drive telecommunication advances.
- Public dedication projects can bring more connectivity to the world and still leave room for IP protection by working with universities on a project-by-project basis.

DAY THREE
Wednesday – April 3, 2019

Panels & Presentations

First Time Attendee Session

Tony Boccanfuso, UIDP • Angie Florentine, UIDP • UIDP Membership Committee

This session provided an overview of the UIDP and our operational model.

Takeaways:

- All members should register for access and share UIDP Resources.
- Members need to follow our email communications to learn about upcoming events, current projects, and latest news.
- Take time to connect with the network on LinkedIn and myUIDP to collaborate with members.
- Active members need to encourage participation to colleagues who would benefit from UIDP involvement.

Strategic Planning Input and Update

Presenters:
Liz O'Connor, Strategy Matters • UIDP Board Members

Members provided feedback on upcoming UIDP strategic planning process and how the UIDP can better meet member needs.

UIDP Project Process and Portfolio Overview

Presenter:
Liz Schenk, UIDP

All UIDP Projects and many panels, workshops, and presentations originate with our members. The session provided an overview of the current status of UIDP's projects and how members can participate in the UIDP Project Process. (https://www.uidp.org/projects/)

John Deere: Appreciating the Value of University and Industry Partnerships

Introduction:
Mark Schmidt, John Deere
Presentation:
John Reid, John Deere

Takeaways:

- U-I engagement exposes concept to the market and creates a pipeline to fresh talent.
- Industry benchmarking illustrated importance of U-I relationships.
- Spending needs to be strategic: there is a disconnect between people with university touchpoints.
- Creating a strategic plan for engaging universities over all areas is important, including research and human resources.
- Companies need to know when they are working with universities and strategically coordinate across departments.

Panel: The NC PSI: Cultivating Public-Private Partnerships

Moderator:

Dean Richard Linton, North Carolina State University

Panelists:

Amy Grunden, North Carolina State University • Dan Gerlach, Golden LEAF Foundation • Adam Monroe, Novozymes

The North Carolina Plant Sciences Initiative (NC PSI) will bring together world-class researchers from across disciplines and industries to collaborate in interdisciplinary teams to address key agricultural issues. It will build partnerships among academia, industry, and government, and will do so in a world-class 185,000 square-foot plant sciences research building – opening 2021 on NC State's Centennial Campus.

The College of Agriculture and Life Sciences (CALS) Dean Rich Linton hosted a panel discussion that examined how CALS is working with partners across different sectors in the agricultural and plant science communities.

Takeaways:

- Partners need to focus on making progress on grand challenges with vision and identifying moving the needle.
- Philanthropy requires a collaborative, believable plan, clear outcomes for success, and confidence in the metrics.
- Philanthropy takes risks and is opportunistic for involved parties.
- The North Carolina Plant Sciences Initiative will allow us to solve complex grand challenges through interdisciplinary plant science innovation.
- The North Carolina Plant Sciences Initiative was partnership driven from the beginning.

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A Case Study in Collaboration: North Carolina State University, RTI International and the Game-Changing Research Incentive Program (GRIP) Large-Scale Seed-Funding Initiative

Presenters:

Jacqueline Olich, RTI International • Jonathan Horowitz, North Carolina State University

In 2016, NC State University announced GRIP, a high-profile, dynamic interdisciplinary research initiative launched by the Office of Research & Innovation. The GRIP initiative was conceived to incentivize researchers to think "outside-the-box" and stimulate collaborations across institutional boundaries.

Presenters provided a glimpse behind the curtain for UIDP conference attendees by addressing the questions: How did administrators design the program with these goals in mind? Has GRIP stimulated research collaboration between NC State and RTI? What are the metrics by which administrators gauge its success? What are the research administration challenges inherent in implementing such a large-scale seed-funding program?

Takeaways:

- The session provided a case study of a public university and non-profit research institute that invested strategically to stimulate the formation of new, joint interdisciplinary teams.
- The model presented by this case study is successful and can be emulated.
- GRIP's collaboration has been impactful already and received recognition.

Breakout Sessions #2

UIDP Project
New Models for U-I Collaboration
Presenters:
Mark Schmidt, John Deere • Todd Guttman, The Ohio State University • Dan Kramer, The Ohio State University

It has been five years since publication of the UIDP guide, New Models for University-Industry Collaborations. Since that time, there have been multiple lessons learned and unintended consequences discovered by both academic institutions and industry partners. In this session, participants explored best practices and current methods for these new models.

Takeaways:

- Preparation of a new and expanded version of the project was discussed, including pros and cons of the models.
- The project requires committed volunteers to work on elements of this new document.

UIDP Project
Industry-Sponsored External Training for Students
Presenters:
Andrew Crain, University of Georgia • Alex Primis, Thermo Fisher

This concept session explored how industry partners can become accredited to provide courses to students and faculty used to earn professional certifications. This project sought to address how curriculum is developed and approved, which areas in the scientific research community would most benefit from training, and where the biggest knowledge gaps lie when new researchers start in a lab.

Takeaways:

- Attendees exchanged ideas regarding opportunities for further collaboration via existing industry-sponsored training resources.
- Leaders in academia are seeking partners to develop curriculum that can provide undergraduate, graduate, and seasoned researchers with courses to help them become marketable in their respective fields.
- Attendees indicated interest in UIDP pursuing a project on industry sponsored external training opportunities, but more clarification is needed to determine the scope of the project.

UIDP Project

Enhancing Internal Relationships to Optimize External Partnerships: Breaking Down Barriers within Institutional Structures

Presenters:

Sebastian Fries, Columbia University • Christina McCarthy, Columbia University • Chase Kasper, Clemson University • Mike Matthews, EMD

University and industry partners share some common challenges when it comes to coordinating outreach efforts between different business units. Physical separation, different financial incentives, and operational barriers all contribute to a decentralized approach to fostering relationships with external partners and result in organizations being unable to leverage all the resources that could add value to partnerships. In this facilitated conversation, participants looked at some of the challenges facing universities in collaborating across departments, centers, and colleges; heard from industry partners who have similar obstacles in their own organizations and heard from partners on both sides who have succeeded in building systems to address these challenges.

NSF's Convergence Accelerator (C-Accel) Pilot

Presenter:

Evan Heit, NSF

NSF has recently announced a $100 million investment to develop a new Convergence Accelerator (C-Accel) capability at NSF. The goal is to transform how NSF supports innovative, use-inspired research by bringing multidisciplinary teams of academic and non-academic partners together to focus on grand challenges of national importance. This session described the first call for proposals released in March 2019 and provided opportunities to discuss convergent research and university-industry partnerships in this context.

Takeaways:

- NSF has a new funding opportunity, called Convergence Accelerator, encouraging U-I partnerships.
- Research topics for the Convergence Accelerator pilot address the national data infrastructure and the workforce of the future.

Presentations

Accelerate to Industry (A2i): Innovations in Workforce Readiness

Presenter:

Laura Demarse, North Carolina State University

The A2i program serves as a platform for engagement between universities and industry. A2i provides a "menu" of options that addresses talent development, recruitment, and retention. It has already gained national exposure as an innovative workforce development model that spans all job sectors. The program is modular and is licensed free of cost to other universities. This talk covered the basic elements and best practices for implementation.

Takeaways:

- A2i is modular and is licensed free of cost to other universities.
- Both academic and industrial stakeholders must work together in creating the curriculum.
- A2i can benefit other organizations brand and visibility.

Why Conflict of Interest Management Matters

Presenter:
Jeffrey Waldin, InfoEd Global

Conflict of interest management is not just about satisfying regulations or preventing scientific results from being bought. As the relationships between universities and industry increase, both are protected by improvements in policy.

Takeaways:

- Communicate the role of U-I partnerships, not just the major initiatives or projects, but the day-to-day benefits of each side providing expertise to the other.
- Avoid the inclination to understate or overstate the potential for conflict of interest, recognizing that subtle predispositions are also cause for concern and need to be mitigated (but they are not indications of misconduct).
- There is a need to manage conflict of interest in a way that is clear and easy to digest.

Innovative Approaches to Medical Education Facility Design in a New Age of Healthcare Delivery

Presenter:
Bradley Lukanic, CannonDesign

The Kaiser Permanente (KP) School of Medicine seeks to prepare a new generation of physicians to influence positive change within the US health care system. Part of its strategy includes redefining its approach to medical education and healthcare delivery by rejecting the binds of established institutional legacies and pedagogical systems. This new School of Medicine provides KP an opportunity to revamp its academic curriculum and transform the future of medicine from more reactive diagnostic care, to forward-looking preventative care. This talk discussed how the design team and KP worked together to create a facility that utilizes hands-on learning and interaction, advances KP's unique culture, and supports its pioneering medical education academic program.

Takeaways:

- The presenter explored the evolution in medical education through a case study.

- It is crucial to focus on the opportunity where a leading health client moves into educating future doctors.
- Synergies can be leveraged in learning, teaching, and practice to create pioneering programs.

Breakout Tours – The Future

NC State University offered a series of tours highlighting "The Future of" technology, business, and academia at NC State University: The Hunt Library, Lake Wheeler Road Field Laboratory, and Wilson College of Textiles.

The Library of the Future: The Hunt Library

A great research library is more than collections, technologies, and comfortable workspaces–a great library inspires. Its architecture and technology create spaces that encourage collaboration, reflection, creativity, and awe. At the core of the vision for the Hunt Library is the ability for our students, faculty, and partners to immerse themselves in interactive computing, multimedia creation, and large-scale visualization—tools that are enabling revolutionary ways to see and use information.

Future Ready Farms: Lake Wheeler Road Field Laboratory

Agriculture built North Carolina and remains the state's largest economic driver at $87 Billion. No other US region or state is as uniquely positioned as North Carolina to drive the agricultural innovation required to feed, fuel, and clothe a growing population. Today's farms are using technology and innovation to make data-driven decisions and to change the way crops are produced. This tour visited the Lake Wheeler Road Field Laboratory, just a few miles away from campus; a tour focusing on modernizing research stations and building future-ready.

Textiles of the Future: Wilson College of Textiles and the Nonwovens Institute

As the only college in the US devoted entirely to textiles, the Wilson College of Textiles is uniquely poised to educate new leaders, support industry, and advance research within this evolving and expansive field. Guests of this tour learned how the textiles industry has transformed and toured the facilities where industry partners come to innovate. The tour also visited the Nonwovens Institute, the world's first accredited academic program for the interdisciplinary field of engineered fabrics and saw their state-of-the-art pilot facilities.

Centennial Campus Guided Walking Tour

A one hour guided walking tour of NC State's award-winning Centennial Campus, guests learned about the history, layout, and master plan of the campus. The tour provided insight as to how the campus is physically designed to increase creative collisions between students, faculty, corporate, and government employees.

DAY FOUR
Thursday – April 4, 2019

Panels & Presentations

Welcome/UIDP Upcoming Events
Cynthia Sides, University of Arkansas
Charlotte Bell, Oxford University • Dan Kramer, The Ohio State University

Introduction to Sony Corporation's R&D Center
Presenter:
Mark Ortiz, Sony

This session provided a brief introduction to Sony's R&D activities. Key Sony technologies and research activities were introduced in the context of their commercial application.

Takeaways:

- Sony Research Award Program will hold a call for proposals July 15, 2019 – September 15, 2019.
- The presentation provided an overview of Sony's organization and its technology portfolio.
- 2018 Sony Research Award Program awardees are to be announced but are expected to be many more research collaborations than in prior program years.

Mach 1: Approaching the Speed of Business
Presenter:
Rochelle Blaustein, Department of Energy

The Department of Energy (DOE) has significantly stepped up its efforts to support innovation and commercialization – combining expertise and capabilities of the National Laboratories with the energy and ideas of the private sector to foster commercialization and speed the movement of products from the bench to the marketplace. DOE is increasingly focused on bringing the technology development and commercialization ecosystems together, reducing barriers to partnerships with its National Labs and facilities. Efforts have streamlined engagements and reduced or eliminated known, long-standing barriers by providing greater flexibility to the labs in establishing partnerships. DOE lab researchers are engaged and excited to increase their capabilities in working with industry and others through new opportunities to build a more entrepreneurial R&D workforce. DOE is focusing on strategic technology areas to increase outreach and engagement with potential partners, including private sector technology development experts and investors. All these efforts combined with new information tools and improved access to existing tools are aiding in making the expertise, facilities, and technologies of the National Labs more accessible and the inclusion of National Lab partnerships a sound strategy for your R&D.

Takeaways:

- Partnering with the National Labs is easier than ever before.
- National Labs have amazing resources for advancing science and technology.
- DOE is listening and delivering on stakeholder concerns.

Breakout Sessions #3

UIDP Project: U-I Collaborations in Pursuit of Public Funding Opportunities

Presenters:

Chris Hewitt, BASF • Ivelina Metcheva, Virginia Commonwealth University

US federal and state governments are the largest funders of research in the world. Though federal funding of research was over $142B in 2018, UIDP members have had mixed success in securing funding for collaborative projects. This breakout session sought to determine whether support exists for a project to address best practices for securing Federal and State funding for U-I collaborative research.

Takeaways:

- There is significant opportunity for universities and industry to partner to secure federal and state funding.
- The process to partner for government funding requires significant time and resources.
- The session brainstormed ideas of how UIDP members can best work together to impact our success in effectively and efficiently attracting funding and adding value to our organizations and the economy.

Industry Fellowship Models in Strategic Alliances: Case Study, Oxford and Celgene

Presenters:

Charlotte Bell, Oxford University • Leon Carayannopoulos, Celgene

The Business and Partnering Team within the University of Oxford's Medical Sciences Division supports the establishment and long-term sustainability of strategic research alliances between industry and academia. Many strategic alliances incorporate industrial fellowship programs as a model of collaboration. Insights were shared from varied experiences – from the single fellow to the cohort – and the crucial role these programs can play in strengthening early stage and long-term academic-industry alliances, with a focus on the relationship between Oxford and Celgene. Audience interaction was welcomed, inviting input about experiences with fellowship models to compare and contrast and share knowledge. The session was formatted as an interactive presentation with Q&A throughout and at the end.

Takeaways:

- It's important to understand the value that fellowships could create for your researchers, universities, and companies.

- Explore whether industrial fellowships could work for your institution or company.
- Consider operational aspects of initiating, setting up, and running fellowship schemes.

The Business Case for Diversity

Presenter:
Richard Warr, North Carolina State University

It's widely accepted that pro-diversity policies are the "right thing to do" but less widely accepted that such policies are good for business. This talk provided evidence, and key takeaways, that research shows how firms promoting diversity throughout their organizations are rewarded with more innovation.

Takeaways:

- Firms that promote diversity are rewarded with more innovations and new products.
- Innovations fueled from pro-diversity firms are value increasing.
- There is a clear link between pro-diversity policies and innovation.

Tax Exempt Bond Issues and Industry Engagement

Presenters:
Lori Johnson, North Carolina State University • Bob Saunders, Brooks Pierce • Lisa Lorenzen, Iowa State University

Prior to entering into any sponsored scientific research agreement, American universities and their for-profit collaborators must consider legal restrictions affecting agreements between these two parties. Current implementation of tax law by the IRS and interpretation by many universities and their bond counsel is that industry sponsored research, if not structured appropriately, can jeopardize the tax-exempt status of universities (under the former) and constitute private business use of research facilities built with tax-exempt bonds (under the latter). These interpretations affect negotiation of sponsored research agreements and current information suggests that this is creating incentives for industries to invest in R&D abroad. This session investigated current practices utilized by universities, the ramifications of the tax guidance from the IRS, and assessed whether it constitutes a real or perceived barrier for successful negotiations.

Takeaways:

- The 10% rule is important to keep in mind.
- State rules and institutional policies impact how tax-exempt bonds are managed.
- Don't take "no" for an answer, there are ways to successfully manage tax exempt bonds and have productive interactions with industry.
- The state of North Carolina will not allow universities any private u-c in tax exempt financed buildings unless pre-approved in advance.

Presentations

Engaging the Life Sciences Industry in Academic Design and Innovation Programs

Presenter:
Eric Richardson, Duke University

Product design and innovation are the lifeblood of life science companies yet have only recently been a focus in academic training. Successful education in product design relies heavily on expertise that is often not found in academia, thus requiring a close partnership with industry.

Takeaways:

- Academic educational engagement with industry offers a pipeline of talent, fresh insights into customers and technology, and improved research relationships at minimal cost.
- In exchange, students receive valuable knowledge and experiences otherwise inaccessible to them.

Data Science University (DSU): Transforming a Fortune 5 Workforce

Presenter:
Marc Paradis, Optum

Research Challenge – Automated Compliance Verification

Presenter:
Jim Warren, Cisco

For many businesses, the rate of change is at an all-time high. Customer expectations are changing. Regulatory and industry requirements are changing. Technology change is accelerating. New business priorities require creative solutions. All these factors expose new problems that do not have established solutions. This drives new research areas and questions, but it can be tough to coax research questions from business and engineering leaders. This presentation explained this challenge using Cisco's cybersecurity research program as a case study.

Takeaways:

- The changing world requires identifying new research areas and research questions.
- Jim Warren discussed tactics that have worked well at Cisco and facilitated a discussion of best practices across industry and academia.

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