The University of Illinois at Urbana-Champaign Research Park
Research Park at the University of Illinois

- The Research Park at the University of Illinois provides a tech community where businesses can work with the research faculty, students, and peer innovators on collaborative research and access UI services.
  - 200 Acres adjacent to campus, developed with a private partner
  - 15 buildings, a new building constructed every year since 2001
- The Research Park has 100 companies: mix of large corps and startups
  - Fortune 500 firms: Yahoo, Caterpillar, State Farm, ADM, Grainger, Raytheon, Abbott, Dow, Deere
  - 49 startups currently in the EnterpriseWorks tech incubator (230 startups since it opened)

Research Park Employment

<table>
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<tr>
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<th>FY2013</th>
<th>FY2014</th>
<th>FY2015</th>
<th>FY2016</th>
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<td>Employment</td>
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<td>1447</td>
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Research Park Area
CORPORATE INNOVATION CENTERS

Record year for new corporations opening centers at the University of Illinois Research Park

- ADM Sustainable Bioenergy Modeling Center
- Caterpillar Simulation Center
- Caterpillar Data Innovation Lab
- CME Group
- John Deere Technology Innovation Center
- Dow Chemical Innovation Center
- Dow Agrosciences
- Forcepoint (Raytheon)
- State Farm Research and Development Center
- Yahoo, Hadoop Center of Excellence
- Capital One Digital Campus Lab
- Abbott Laboratories
- Littelfuse
- Riverbed
- Ameren Innovation Center
- Anheuser-Busch InBev
- Foxconn Interconnect
- Abbvie Innovation Center
- Grainger Design Lab
- Corporate Executive Board
- AARP (new)
Why do Corporations Locate in Research Park?

- **Students**: Employ student interns year-round as a low-cost workforce with a high potential for full-time recruitment after graduation
- **Tech Talent**: Recruit engineering talent from campus and community
- **Scout**: Early awareness of technology and research trends and innovations
- **UI Relationships**: Proximity to sponsored research and engagements
- **Startups**: Corporate venture groups engage and partner with UI startups
- **Sharing**: Peer-to-Peer Learning from other corporations located here
- **Skills**: Continuing professional and technical education for employees

Companies need talent and disruptive innovation... And we have the skills they need and inventors in Champaign-Urbana
Student Year-Round Employment

- 516 students intern with Research Park companies part-time during the school year and full-time in the summer
  - 10-20 hours a week during school
  - Full time in the summer
  - Freshman – PhD level employed
  - Average wage: $18.19 per hour

- Students Employment examples:
  - Modeling and Simulation
  - Business intelligence
  - Mobile app development
  - Data analytics
  - Software development
  - User interface design
Projects Sent to the Research Park

- Students help determine the merits of moving forward with full time resources
  - Prototype, write white papers, or test possible opportunities by creating a minimum viable product (MVP)

- Project better completed with an interdisciplinary team
  - Ad hoc teams can be recruited and staffed on a dynamic basis based on the types of projects coming to the center

- Bring a new, unbiased perspective without fear of internal corporate consequences and politics
  - Disruptive innovation

- Pipeline for future talent
  - Students learn the skills as interns and provide needed staff augmentation in new areas

- Lower cost model
  - Student work can drive down the cost of completion
Research Park Internship Program Option

• Contract with campus for student hiring. Available only to companies located on campus at the Research Park.
  – Managed by the UIUC Office of Corporate Relations
• Access to international (F1) and domestic students
  – Students hired as on-campus employees
• 36% overhead rate for program above wages
• Flexible start/end dates with hourly positions
• Hiring flexibility
  – Grad research assistants with tuition waiver
  – Graduate hourly
  – Undergraduate hourly
Sample Project Structure

Sample Innovation Center organizational chart

Corporate offices

- Market Research
- Information Tech Team
- Product Development

Site Director

- Business Development Research
- Data Analytics Lead
- Regulatory Filings or White Papers

Site Director:
- Develop and operationalize the business plan
- Establish relationships on campus
- Manage operations
- Enable cross-discipline coordination
- Report performance

Tech, Business Leads:
- Mentor students
- Apply technical skills
- Understand tools and project implementation in the company
- Provide business research needs

Student Interns (6-8 per team):
- Support project work
- Lead other students

Research Park at University of Illinois operations

- GSUS, MBA's
- Student Interns
- Grad Students

RESEARCH PARK
UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN
# Sample Planning Process for Center

## Project Selection
- Choose projects for new Innovation Center
- Create “syllabus” for projects and milestones
- Determine skill needs for recruiting students
- Student Projects Begin with input from business corporate leads
- Initial Project Results presented to corporate leads

## Student Recruitment
- HR planning for interns (Direct or Indirect Hires)
- Recruiting strategy (Faculty Referrals & Career Fairs)
- On-campus recruiting events and info session
- Student interviews and offers completed
- On-board students and training begins

## Office Planning
- Choose UIRP Location
- Design Space
- Lease Completion
- Construction, Furnishings, Computing, Office Setup
- Occupancy at UI RP

## Site Management
- Define Position & Goals
- Recruit from within company or consider external candidates
- Selection Process
- Briefing on key issues, introductions to UI key contacts
- Site Director Begins

## Student Engagement
- IBC, OTCR, MS Tech, ISE Senior Projects
- Plan 1 Project per Semester
- Plan 1 Project per Summer

## Sponsored Research
- Targeted Projects with Faculty
- Example: $150k to $500k
- Target a Key Interest Area
- Projects begin after initial operations open

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*Cycle Repeats each Semester*

**Multi-Year Commitment**

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Optional
Research Park Operation Examples
Caterpillar Simulation Center Started it All

- Caterpillar created an “apprenticeship” model employing UI students on teams led by experienced Caterpillar engineers, who serve as mentors, jointly deliver modeling services.
  - Identify the top students from campus, starting as freshman
  - 500+ interns have worked at the Caterpillar Simulation Center
  - More than 100 interns have become full time engineers
Yahoo! Champaign
Yahoo! Champaign

- Hired talent in mass from Motorola
- Won competitive multi-state site selection process for the new Yahoo office
- 98% annual retention rate of employees. Critical projects moved to Champaign.
- Yahoo! now has 165 employees in the Research Park office, highly skilled software development engineers
- Hadoop Center of Excellence and Data Team
- Flurry development team in Champaign
- 90+ patents from the 3 “Master Inventors” located here
- Data sharing collaboration for research with CS Department
State Farm Research & Development Center

• Problem: Not getting enough actuaries
• Now the Research Center has 94 interns
  – 800+ students have gone through the internship program since 2005
  – Added a Maker Lab in 2015, work on everything from augmented reality and drones to actuarial science
• Most patents of any State Farm location
ABInBev Bud Analytics Lab

- Bud Analytics lab opened in Fall 2013
- Focuses on data analytics, developing data models to solve problems ranging from assortment optimization, pricing, supply chain optimization, and HR.
- Currently managing 50+ concurrent projects for 7 international zones
- Hosted a Hardware Hackathon for “smart bar” new technologies
- Doubled in size in 2016
Caterpillar Data Innovation Lab

- New Caterpillar Data Innovation Lab opened on in 2015, for data analytics projects and innovation
- The center provides an entrepreneurial setting for testing new ideas and projects within Caterpillar, also plan to work with startup companies
The Digital Campus Lab is Capital One’s newest lab and the company’s first partnership with a university.

The Lab will focus on research and experimentation in data science, infrastructure automation, and software programming:
- Frameworks and technologies such as: Open Source, Big Data, Cloud, DevOps, mobile development

UIUC is #1 university for student recruitment into their tech college recruitment program.
Dow Innovation Center & Dow Agrosciences

• Dow Agrosciences opened new R&D office in 2015
  – Grand opening event was on 9/28/15
  – DAS information technology projects and bioinformatics

• Dow Chemical projects areas include:
  – Software development
  – User interface improvement
  – High performance computing
  – Math modeling
  – Automation and Robotics
  – Internet of Things

• Total of 28 students currently, plus full time staff
  – DAS CEO Tim Hassinger, “a special relationship with the University of Illinois”
  – Florian Schattenmann VP of R&D "industry and academia can come together to solve grand challenges"
John Deere Technology Innovation Center

• John Deere Technology Innovation Center doubled size of operation in 2014, mobile and human factors focus

• Broad range of domain areas, including engineering, agronomy, computer science, statistics, industrial design, psychology and information library sciences.

• Agile working environment to increase collaboration and project team flexibility..
Abbott in the Research Park

• The Research Park office employs graduate students to work on pediatric nutrition product development
  o Developing educational materials about nutritional ingredients like prebiotics, which are ingredients that aid in the healthy development of the immune system
  o Students work on regulatory filing preparation including manuscripts and GRAS dossiers for new ingredients, replacing work previously outsourced

• Abbott made a 5 year investment in research to create The Center for Nutrition, Learning, and Memory (CNLM) to research nutrition’s impact on brain cognition. The Center is the first interdisciplinary cognition and nutrition research center in the country.
AbbVie Innovation Center

- New Innovation Center opened in Fall 2014
- Employing students to work on IT/software projects to support development of therapeutics
  - Visualization tools (D3), data analytics, CRM programming, software development
- 12 students plus full time manager & 1 technical lead
Ameren Innovation Center

• Ameren opened a new innovation center in the Research Park in January 2015
  – Ameren center is working on data analytics, smart meter technologies, LED analysis, marketing projects, and mobile applications
  – 12 students and one full time site director to start
  – Local site director moved here on rotation from St. Louis

• Mary Heger, Ameren CIO said of the new center, “It makes us feel good when we step in the room because students think differently about our work and now we are integrating student work into our business. We are also learning from others in the Research Park.”
Grainger Design Center

- Grainger new R&D office and prototyping lab opened in January 2015
  - Internet of Things theme and Analytics theme in the new Research Park to add prototyping and innovation capabilities
  - Includes lab and office
  - Reports to Innovation Team
- Employing mechanical, electrical, and computer engineering students
  - 50% bachelors, 40% masters, 10% PhD students
  - All students learn from each other, jointly complete projects
- Early prototypes created by students have already been shared with the Grainger CEO
Trading Firms in Research Park

• **Jump Trading** (Jump Labs) opened in March 2015
  – Jump Trading is a trading firm with HQ in Chicago focused on technology and algorithmic high-frequency trading strategies
  – The Research Park lab focus is high performance computing, data analytics, algorithms, and software programming
  – Co-located with Jump Capital and SimNext

• **Akuna Capital** is a trading firm specializing in option market making
  – Opened in September 2013 and initially hired 4 interns and by summer 2014 Akuna had 20 interns
    • Transitioned interns to full-time developers with Akuna in Chicago
  – Disciplines include physics, computer science, engineering and finance and with different graduation levels – undergraduate, master level, PhD and post-doctoral research.
Ag Analytics in Research Park

- **Agrible** predictive analytic tools that deliver field-specific data and forecasts to help with decision-making in the field
  - Customers include independent growers, software developers, soil test laboratories, crop consultants, insurance agencies, commodities companies, traders, and major ag chemical companies
  - $4.1 Million in Series A Funding Led by Serra Ventures and ADM in 2015
  - Founded at the University of Illinois Research Park
  - New larger office opened in Fall 2015 for staff of 50+, expertise in atmospheric sciences, agronomy, high performance computing, software engineering

- **Granular** farm management software and analytics platform to help improve efficiency, profit and yield
  - Opened center in the Research Park in November 2015
  - San Francisco based company with investors including Google Ventures, Andreessen Horowitz, Kholsa Ventures, and Tao Capital Partners
Events in the Research Park: Examples
In addition to recruitment opportunities on campus, the Research Park offers its companies additional contact with student groups all year-long

• Research Park Annual Career Fair: 650 students attend this targeted event
• Student Open House at The Research Park: company tours, bus students to the Research Park
• Quad Day: Before class starts, student explore organizations for extracurricular and engagement options while at UIUC. Research Park has a table with our clients, “swiped” 1,600 students last year interested in learning about jobs.
• Research Park Reverse Career Fair: 20 student organizations with interest areas related to STEM fields and technology innovation present their organizations to companies at booths
Student Recruitment Assistance

- After Hours at Siebel: The Research Park held a showcase for Computer Science and Electrical and Computer Engineering students
- Career Services Workshops: workshops by UIUC career services offices on topics pertaining to student recruitment.
- Hiring International Students: The International Student and Scholar Services Office provides guidance to Research Park companies
- Panel Tech/Talks on Campus: tech talks for targeted departments, tech professionals from companies share their experiences in their fields
- Info Sessions: Research Park staff gives information sessions to targeted student audiences and employs student ambassadors to share their internship experiences
- Summer internship series: professional education and networking lunch events for students working in the Research Park
EnterpriseWorks Incubator

EnterpriseWorks (EW) is a 43,000 sq ft startup business incubator in the Research Park for early stage tech firms. It is operated by the University of Illinois to launch successful startups.

Founders: Over half of our current client companies were founded by UIUC faculty members. 93% of our clients have founders affiliated with the university.

EnterpriseWorks Company Industry Sectors

- Biotechnology
- Clean Technology
- Information Technology
- Materials/Nanotech
- Business/Consulting

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Founders:

- 52% UIUC faculty
- 93% clients with UI affiliations
- 65% UI Faculty
- 17% UI Students
- 9% UI Alumni
- 2% UI Staff
- 7% External
$893 Million in equity-based capital raised by EnterpriseWorks incubated companies

- $394,772,762
- $224,203,616
- $189,811,278
- $63,397,151
- $1,737,160

Brookings Institute in 2015, March 6, 2015
New names crack the top 20: Boulder; Ann Arbor, Mich.; Champaign-Urbana, Ill
Entrepreneurs-in-Residence (EIR)

EIRs are local and regional experienced tech entrepreneurs who have commercialized technology, hired by the Research Park to consult startups.

Harlee Sarkin
Mentor Management & Common Place, Traco Labs Founder

James Janega
Chicago Ideas Week, Slalom, previously Chicago Tribune Blue Sky Innovation

Tim Hoerr
Serra Ventures, Gameday Sports, CPA, Valuation expert

Dennis Beard
Serra Ventures & Open Prairie Ventures, UI Business Adj. Faculty - Finance

Jed Taylor
TEC, JLT Consulting and Pattern Insight, Siebel Scholar

Alan Singleton
Singleton Law Firm, tech startups and IP

Lori Patterson
Pixo founder and CEO, former Accenture consultant

Craig Vodnik
Cleverbridge Founder and VP Operations, Hyde Park Angels

Karin O’Connor
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