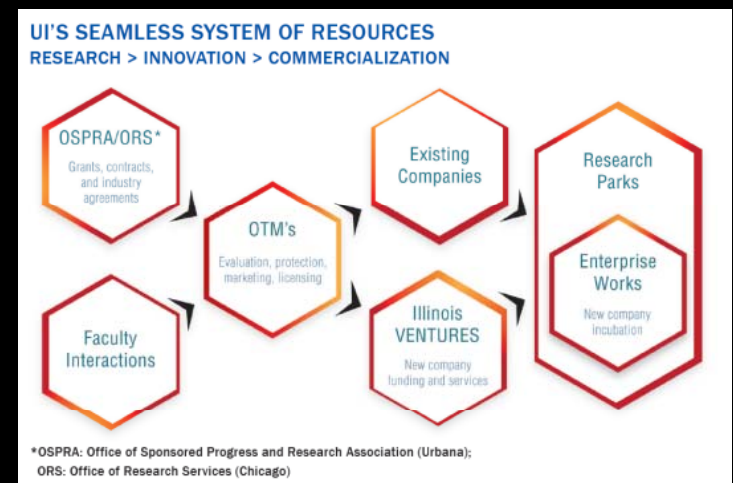


University of Illinois Startup Company Pipeline



University System for Technology Commercialization

- 2000: University of Illinois formalizes technology-based economic development “mission” of the University.
- The University has put in place a series of resources designed to facilitate all stages of the process of technology transfer.
- The OVPTED is responsible for managing the intellectual property assets of the University and for overseeing and facilitating the transfer and commercialization of those assets to provide opportunity for the University and its faculty, staff, and students to realize the commercial potential of their innovations.
- The OVPTED manages the University’s technology commercialization infrastructure
 - The Offices of Technology Management (OTM) at Chicago and Urbana-Champaign
 - IllinoisVENTURES LLC
 - The Research Park at the University of Illinois
- Additionally the campus has developed programs to support student entrepreneurs
 - Technology Entrepreneur Center
 - Academy for Entrepreneurial Leadership

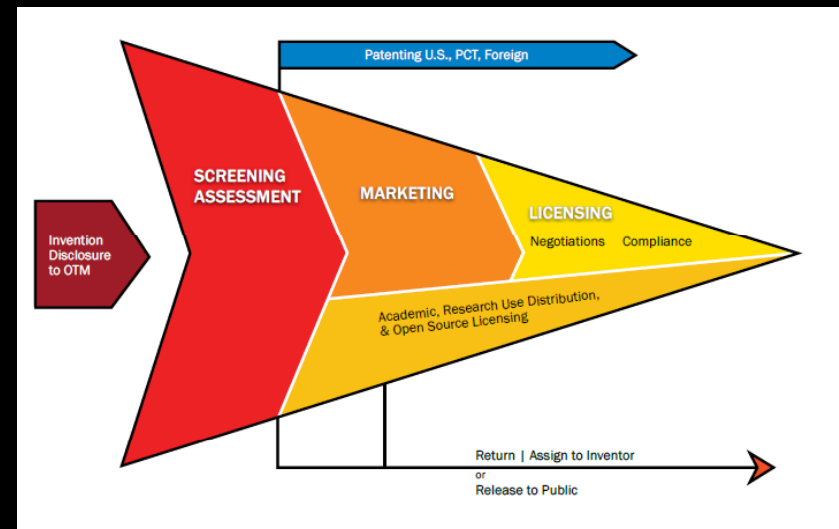


Office of Technology Management

- The Office of Technology Management (OTM) is responsible for managing the intellectual property generated by research and educational activities at the University of Illinois at Urbana-Champaign.
- The OTM is responsible for identifying, evaluating, protecting, marketing, and licensing IP developed on the University campus.
- The OTM tech managers have domain expertise and work with departments across campus to identify opportunities
- The Offices have developed a documented, systematic and timely process for the analysis, protection and commercialization of intellectual property.

5 Year Snapshot

- ✓ Disclosures: 1,067
- ✓ U.S. Patents Filed: 734
- ✓ U.S. Patents Issued: 194
- ✓ Licenses & Options: 213
- ✓ Startups with UI Licensed technology: 29
- ✓ Royalties Earned: \$25.12 million

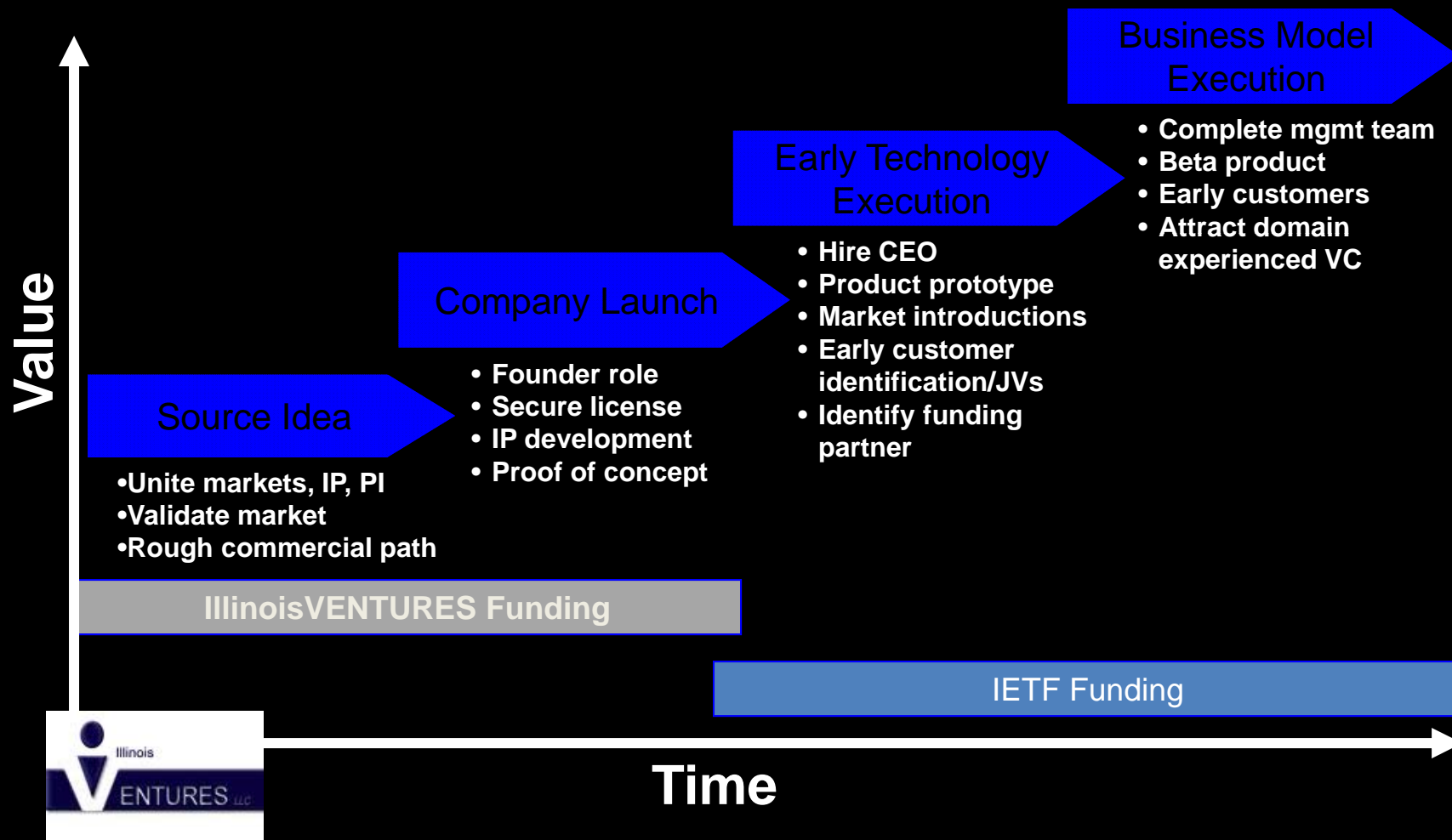


IllinoisVENTURES

- IllinoisVENTURES is a seed and early-stage technology investment firm created to help commercialize University of Illinois technologies.
 - Conceived and launched by the University of Illinois, IllinoisVENTURES has been consistently named by Entrepreneur magazine to its national list of the top 100 venture capital firms.
 - Provides early stage funding and consultation
- Given the limited presence of seed and early stage technology investors actively committing capital to the region, in 2004 they raised their first venture fund, the Illinois Emerging Technologies Fund.
- IllinoisVENTURES has led or collaborated on the initial funding of over 40 new ventures spanning a broad spectrum of scientific and technological innovation across multiple domains.
 - The most active start-up, seed-stage VC firm focused on IL



Proven Approach to Early Stage Investing



Research Park at the University of Illinois

- The Research Park at the University of Illinois provides an environment where technology-based businesses can work with the research faculty and students on collaborative research and access UI services.
- Developed through a development partnership with Fox/Atkins Development
- The Research Park has ~90 companies and employs people in high-technology jobs
 - 9 Fortune 500 companies including Yahoo, Caterpillar, State Farm, ADM, Sony, Raytheon, SAIC, Abbott
 - 38 companies currently in the EnterpriseWorks startup incubator (95 startups since the Research Park opened)
 - 53 startup/small businesses in the Research Park
- Approximately 400 UIUC student employees work year round for companies in the RP, gaining valuable work experience while making real contributions to internal corporate R&D and product development programs.
- Named by Forbes in 2010 as one of 10 Incubators that are Changing the World



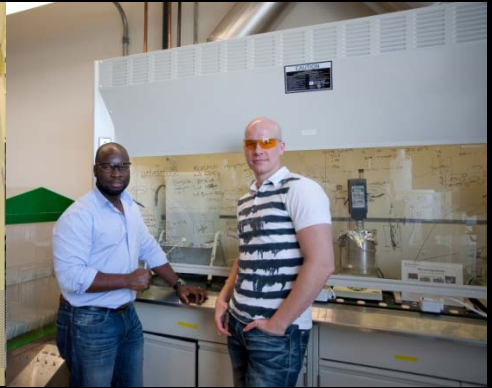
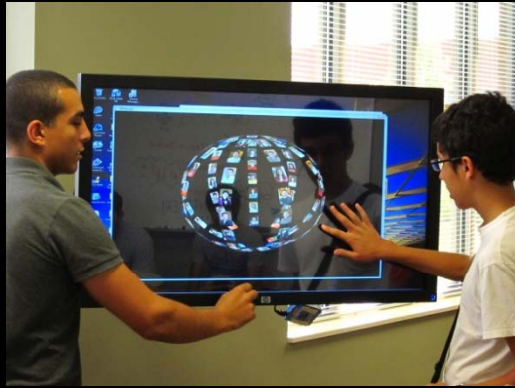
Research Park Tenants	FT/PT	Student Employees	Total Employees	Tenants
Total EnterpriseWorks Incubator Companies	140	54	194	38
Total Research Park Companies (Not in EW)	634	210	844	48
Total Hotel and Conference Center	130	35	165	2
Total University Units	136	42	178	9
Total Research Park	1,040	341	1,381	97

EnterpriseWorks

- EnterpriseWorks (EW) is a 43,000 sq ft startup business incubator in the Research Park for early stage tech firms. It is owned and operated by the University of Illinois to help launch successful start-up companies.
- Short term leasing of lab and office suites
- Atrium and meeting space used for Research Park weekly events
- Shipping/receiving area used for Research Park companies deliveries
- Shared labs with equipment available for use by Research Park companies
- Co-location server room for Research Park leasing by the server or rack
- Entrepreneur support services



Research Park: A Vibrant Tech Community



corporate innovation



building community

Entrepreneurs-in-Residence (EIR)

EIRs are local-experienced tech entrepreneurs that have commercialized technology, hired by the Research Park to consult startups

- The EIRs provide advice on business development, attracting investment, revenue creation, and engagements with industrial clients. They also provide entrepreneur training on business topics.
- Helps fill early management guidance for startups

Mentor Management: Harlee Sorkin



Harlee Sorkin



Tim Hoerr

- Harlee serves on the Board of Directors of Busey Wealth Management, the Board of Advisors for TEC, Steering Committee for the St. Louis Private Fund, previously was VP of Marketing for Degussa BioActives, and COO of Traco Labs in Champaign (a biotech with successful exit).

Serra Ventures: Tim Hoerr and Dennis Beard



Dennis Beard



Jed Taylor

- Tim is CEO of Serra Ventures and also serves as CEO of Cbana Labs and ImmuVen. Tim was CEO of iCyt through 2008, and grew the company from its beginning to eventually employ 54 people. Tim spent 15 years with RSM McGladrey. Tim is also a Shareholder and Vice President of Gameday Spirit, in Champaign, IL.
- Dennis is a Principal with Serra Ventures and also serves as a Partner and CFO for Open Prairie Ventures. Dennis is a CPA and worked as a Manager for PricewaterhouseCoopers, Controller for SLM Aminco, CFO for Segno Communications, CFO and CEO for the Home Recovery Group.

JLT Tech Services: Jed Taylor

- Jed is the Director of Sales and Operations at Pattern Insight. Jed helped attract funding by Venture Investors, an NSF Phase II SBIR award, and product sales to Cisco, Intel, Juniper Networks, Qualcomm, Telllabs, and NetApp. Jed previously worked at Honeywell Aircraft Landing Systems and is a UI grad.

Technology Entrepreneur Center (TEC)



www.tec.illinois.edu

[facebook.com/
technologyentrepreneurcenter](https://facebook.com/technologyentrepreneurcenter)

<http://twitter.com/TECenter>

- The TEC was created in 2000 to foster entrepreneurship through its courses, venture and product competitions, workshops, and events.

Curriculum: courses that feed into two undergraduate certificate programs

- Technology Commercialization
- Professional Skills
- Strategic Technology Management
- Business Management for Engineers

Competitions for various stages of technology

- V. Dale Cozad New Venture Competition
- \$30K Lemelson MIT-Illinois Student Prize for innovation
- Idea to Product (global)
- Others

Programs/Resources

- Illinois Launch
- Student Venture Accelerator
- Alumni Entrepreneurs-in-Residence
- Invention to Venture workshop
- Professional Resource Network
- Silicon Valley Workshop
- VentureLab
- Patent Clinic
- Charm School
- InnovationWeek
- Innovation Living Learning Community (new entrepreneur dorm)

The Academy for Entrepreneurial Leadership



- The Academy's mission is to encourage entrepreneurial awareness and initiatives across all disciplines of the University of Illinois
- Sponsor events for faculty, student entrepreneurs, and staff throughout the year, including workshops, public discussions, and lectures. Examples include:
 - Social Entrepreneurship Summer Institute
 - TEDxUIUC, forum for thinkers to inspire and create a better world
 - Lemonade Day community educational program for youth
- Illinois Launch is a student new venture pipeline to provide mentoring, financial support, and training to help students start new companies.
- The Faculty Fellows Program is designed to increase the number and scope of courses and experiences in entrepreneurship available at the graduate level.
 - The Academy solicits proposals from faculty interested in creating or revising courses in their primary discipline to add entrepreneurial principles and/or pedagogies.
 - The Creativity, Innovation and Entrepreneurship Research Fund provides grants of up to \$10,000 to scholars to examine the nexus of creativity, innovation and entrepreneurship.
- Graduate Scholars Program provides support to graduate students to conduct research in entrepreneurship and develop curriculum materials

business.illinois.edu/ael/

Startup Examples at EnterpriseWorks UI Campus Research Park Incubator



Research Park

UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN

NUVIXA

- Nuvixa is based on technology from the University, which was developed by Electrical and Computer Engineering faculty Sanjay Patel and Minh Do .
 - Sanjay Patel previously on the management team of AGEIA Technologies, a startup that was acquired in 2008 by Nvidia.
- Nuvixa is focused on delivering a platform for revolutionary and compelling user experiences involving presence.
 - Nuvixa's platform will enable users to experience exciting new applications where video and audio are integrated into the user interface, where remote video collaborations are fluidly integrated into applications for productivity, education, and entertainment.
 - Nuvixa creates a virtual green screen capability to imbed presence into digital settings.
- Working with major hardware and software companies on partnerships



CATERVA

- Caterva uses robust highly scalable technologies to track Twitter information, classify users, and provide advertisers and publishers the opportunity to target users based on real time preferences.
 - Categorizes Twitter users based on their real-time preferences
 - Aggregates user data across multiple dimensions - user profile, past tweets, shared URL's - to deliver targeted advertising
 - Leverages the power of natural language processing
 - Tracks shifts in user demographics to customize features or content
- Originally started by Computer Science students with IVentures help, now the firm has recruited full time leadership talent and closed on an initial round of funding

Personal
identity profile
of a an example
Twitter user




caterva

CAZOODLE

- Cazoodle is a startup company using University of Illinois technology from the Computer Science department developed by Dr. Kevin Chang
- Provides software and internet services for Web search, integration, and mining, with an objective to "deepen" search on the Web to access the vast amount of data beyond the reach of current search engines.
- Developing a series of vertical search products
 - ✓ 3-Step Formula: Discover, Crawl-&-Index, Integrate-&-Rank
- Launched deep web search engines for apartments, consumer electronics, and local event listings
 - ✓ The first and only comprehensive apartment search to cover data sources of all sizes

Novel Search Engines for End Users



Apartment Rentals
<http://apartments.cazoodle.com>
Integration of listings from over 10,000 rental websites.




Electronics Shopping
<http://shopping.cazoodle.com>
Over 2 Million merchant offers across 15 product categories.



Vacation Rentals
<http://vacation.cazoodle.com>
Home away from home -- over 1 Million Choices.

Data Factory Solution for Enterprise Customers



Data Factory

An end-to-end Web data crawling, extraction, and integration solution for supporting data gathering needs of enterprise customers.



INSTARECON

- InstaRecon's patented algorithms increase the computational efficiency of image reconstruction in CT, PET, SPECT, and MRI by a factor of 20-100. InstaRecon's technology can simultaneously improve image quality, increase reconstruction speed, and reduce reconstruction engine cost.
- The only means for speeding up the reconstruction with current technology is to use more powerful hardware: faster and/or more processors. In contrast, InstaRecon's technology provides a speedup (up to 100 fold for currently typical image size) by using advanced mathematical algorithms.
 - Such speedup is provided for any type of implementation, whether software or hardware-based.
 - Proportional reduction in the hardware required to achieve a given speed and resolution objective, offering significant cost reduction for the reconstruction engine, and/or improved accuracy, resolution, and speed specs for the scanner.
- Imaging Applications: Medical/Biomedical, Industrial, and Security
 - Current commercial sales for Micro CT scanners: Small-animal scans for drug assays in the pharmaceutical industry or for other biomedical research



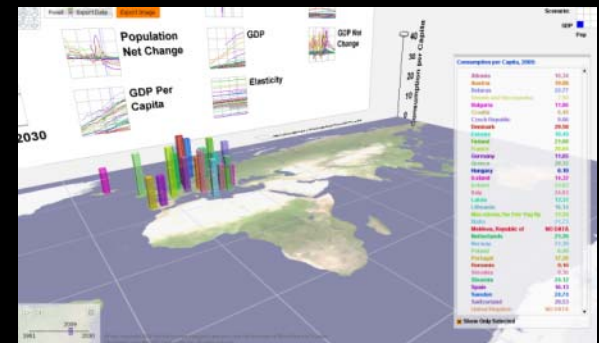
MULTICOREWARE, INC.

- MulticoreWare Inc is a Software and Systems Integration solutions company which provides heterogeneous multicore (h-multicore solutions) for high performance computing applications using multicore and many core processors.
- MulticoreWare embraces heterogeneous computing and its h-multicore solutions benefit customers who require a higher order of magnitude performance with power and space constraints.
- MulticoreWare Inc., has recently launched a new product called Mcore Platform Analyzer.
 - Mcore Platform Analyzer is a powerful and versatile tool that allows a developer to easily instrument, visualize, and interpret the way different parts of the application interact with one another, as well as with the CPU and GPU.
- UI Professor Wen-mei Hwu, is CTO . He is an expert in compiler design, computer architecture, and parallel processing.



INNOVOSOY

- Dynamic software work space in three dimensions developed by the National Soybean Research Laboratory and the Department of Agricultural and Consumer Economics
 - Funded by: The Illinois Soybean Association and USDA
- The software helps analysts understand the dynamics of the population and income growth, and the production, consumption, and income elasticities of key commodities.
 - Employing econometric and visualization tools Global 3-D provides a “video game” like workspace to explore the dynamics of commodities.
 - 5m pieces of information
 - Data fully downloadable and Figures fully exportable
 - 46 years of history, 23 years of forecast
 - Nine Population and income growth scenarios
 - 14 commodities (potential for 125 commodities)
 - 200 countries



COMMON GROUND PUBLISHING

- Founded as an educational and academic publisher, Common Ground has evolved into a producer and manager of content for print and the internet.
- The journal and book publishing processes, enlist the peer community as arbiter of intellectual quality, and use Common Ground's own, pathbreaking social networking software.
- The company works in four related areas:
 - Conferences
 - Publishing
 - Research
 - Software
- Common Ground creates knowledge communities which meet in person at annual conferences and also stay connected during the year between conferences as online knowledge communities through peer review journal and book publishing, presentations on their YouTube channel, blogs, monthly email newsletters, Facebook, Twitter, and Flickr feeds.



ARMORED COMPUTING

- The company was formed in September 2005 to commercialize the technology developed at the UI Center for Reliable and High Performance Computing
- The goal of Armored Computing is to bring inexpensive and easy to integrate technologies to improve network and IT security
 - ARMOR—a software middleware to provide high availability transparently to applications
 - NFTAPE—a software framework to enable automated fault tolerance assessment and benchmarking of proposed solutions
- Assessment and benchmarking of computing system dependability
- Software middleware for providing customizable high availability solutions to applications
- Examples of NFTAPE licensing
 - A large computing company – assistance in operating system benchmarking.
 - A major aerospace company – technical support in evaluation of single board computers for distributed space-borne applications.
 - A large telecommunication company – technical support and evaluation of error resilience of a single board computing platform employed in a monitoring and control loop of a telecommunication system.



VISUAL INFORMATION TECHNOLOGIES

- ZingZag! was developed based on advanced web technology developed at NCSA to satisfy a need for a simple, intuitive, flexible tool for creating and sharing multimedia web content.
- Zingzag lets users combine images, videos, widgets, text, audio, slideshows, files, links, notes, and captions from their desktop into a “canvas” website with a simple drag and drop functionality.
- ZingZag! Studio is a simple and fun program that empowers anyone to create, publish and share rich multimedia web content.



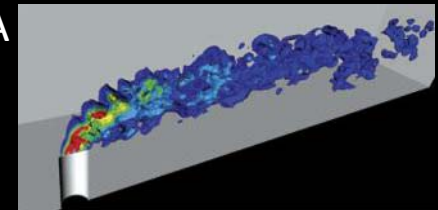
PRINTECO

- PrintEco's innovative plugins for Microsoft Office and Internet Explorer help reduce printing costs by optimizing print jobs.
 - Make documents optimized by removing unneeded images, content and spacing.
 - Also helps companies keep track of how much money and paper is being saved (environmental and monetary impact) by employee, department, and organization through PrintEco Analytics
 - Easy to use interface enables seamless printing through applications with existing printers
 - Initial pilot projects are being established with large established companies
- Started in 2010 by five University of Illinois students, PrintEco has been involved in the Cozad New Venture Competition, Illinois Launch, and the IVentures 10 programs to support student entrepreneurs



ILLINOISROCSTAR

- IllinoisRocstar LLC was founded in 2007 to perform computational engineering analyses for U.S. government agencies and industries
 - The firm is a spin-off from University of Illinois at Urbana-Champaign's Center for Simulation of Advanced Rockets (CSAR)
- Using simulation software, IllinoisRocstar employs first-principles based physics for high-fidelity numerical analysis of fluid flows, combustion, materials, structures, and their interactions in changing geometries
- The principals and members of the company are experienced leaders and senior scientists using advanced computation and simulation techniques to understand the implications of three-dimensional fluid-structure interactions on the design and application of engineered devices.
- Since its founding two years ago, IllinoisRocstar will have grown in revenue from \$100,000 to over \$2 million
 - Clients include industry and federal agencies: ATK and NASA
- Purchased their own high performance computing cluster in Fall 2009 for advanced computational analysis



FREQUENT BROWSER

- Frequent Browser is a loyalty network that rewards people for what they do on the internet.
 - Members earn points as they browse partner websites, and their partners benefit from having more visitors.
 - Using their patent-pending SplitSource™ Rewards technology, members earn points seamlessly and securely when they browse partner websites.
 - Members redeem their points for rewards such as access to premium online content.
- The company is founded by two recent University of Illinois law student graduates.
 - Brian Doxey had prior experience working at Ancestry.com and Dave Sargent is a co-founder of StudyBlue, Inc. a successful startup for online study tools.
- Frequent Browser launched their website in August
- Raised \$100,000 in angel investment seed funding
- Partner sites include: GrubHub, Rhapsody, Ugallery, Pravada Records



NETWORK GEOGRAPHICS

- Founded by Alan M. Carroll (UIUC PhD) and Susan Hinrichs (CMU PhD)
 - Worked on network security management software for Cisco Systems
 - Susan lectures at UIUC on network security
- InfoSecer product, the information security dissector
 - Dissects firewall configurations in to functional slices
 - Can search, filter, sort, query slices as visually display potential problems
 - In-memory database of firewall behavior
 - Locate root causes in configuration
 - Forward differences before deployment
 - Backward differences for live fixes
 - Forensics with change control
 - Migration / upgrade
 - Recovering from legacy configurations

File - View - Help						
Index	Range	Action	Lines	Protocol	Source Service	Destination Service
					Port	Port
75	Critm (malicious)	payload, CSharp-crypter-mpc-outside-1, translate	25, 96, 76	TCP	Any TCP	80
76	Critm (malicious)	payload, CSharp-crypter-mpc-outside-1, translate	25, 96, 76	TCP	Any TCP	80
77	Critm (malicious)	payload, translate	24, 95, 75	Any TCP	Any TCP	80
77	Critm (malicious)	payload, translate	25, 96, 76	Any TCP	Any TCP	80
78	Critm (malicious)	payload, translate	25, 96, 76	Any TCP	Any TCP	80
79	Critm (malicious)	payload, translate	25, 96, 76	Any TCP	Any TCP	80
80	Critm (malicious)	payload, translate	25, 96, 76	Any TCP	Any TCP	80
81	Critm (malicious)	payload, translate	25, 96, 76	Any TCP	Any TCP	80
82	Critm (malicious)	payload, translate	25, 96, 76	Any TCP	Any TCP	80
83	Critm (malicious)	payload, translate	25, 96, 76	Any TCP	Any TCP	80
84	Critm (malicious)	payload, translate	25, 96, 76	Any TCP	Any TCP	80
85	Critm (malicious)	payload, CSharp-crypter-mpc-outside-1, translate	25, 96, 76	TCP	10.0.0.0	10.0.0.0
86	Critm (malicious)	payload, CSharp-crypter-mpc-outside-1, translate	25, 96, 76	TCP	10.0.0.0	10.0.0.0
87	Critm (malicious)	payload, CSharp-crypter-mpc-outside-1, translate	25, 96, 76	TCP	10.0.0.0	10.0.0.0
88	Critm (malicious)	payload, translate	25, 96, 76	TCP	10.0.0.0	10.0.0.0
89	Critm (malicious)	payload, translate	25, 96, 76	TCP	10.0.0.0	10.0.0.0

ILLUMIA

- Illumia Corporation is a new safety and risk consulting business that provides Safety Culture measurement services.
 - The team's work in this area began in the mid 1990s and grew with the assistance of grants to the University of Illinois from the Federal Aviation Administration and the Air Force Office of Scientific Research, to develop tools to measure the culture of safety and risk and apply them in distributed environments.
- Initial clients are commercial aviation operators (including work with Lufthansa).
- Illumia will develop an online delivery system to provide survey services
- The company is lead by Dr. Terry von Thaden from the College of Aviation (on a one year leave to launch the company), she is an internationally recognized aviation expert whom developed the SCISMS safety evaluation survey tool.
 - The COO is Nancy Mason, former Program Director for Hazardous Materials & Terrorism at IFSI, institutionalized hazardous materials and terrorism training programs for State of Illinois.
 - The CIO is Brent Fegley, expert in relational data warehouse applications
- Illumia is located in Suites 230 and Suite 230-1



Graduate Startup Examples

Graduates of the Research Park Incubator



SHARE THIS

- ShareThis makes it easy to share ideas and sites online
- ShareThis is currently used by over 450 million users across 900,000 sites across the web
 - ShareThis is changing the economics of online publishing by creating a market of influence across the Web.
 - ShareThis allows users to share content from anywhere to anyone while simultaneously enabling publishers and advertisers to tap the value of sharing.
 - The ShareThis Audience Index enables Web-based publishers to see the aggregate sharing habits of their audiences and compare them by category against other sites
 - ShareThis pulls in information from about 10 billion Web pages per month
- Based in Mountain View, CA, the company is privately held with funding from Draper Fisher Jurvetson, Blue Chip Venture Company, DFJ Mercury, Reservoir Partners, Illinois Ventures, Queen City Angels and RPM Ventures.
- Founded with technology from the Director of the UI Genetic Algorithms Laboratory, Prof. David Goldberg and IllinoisVENTURES leadership



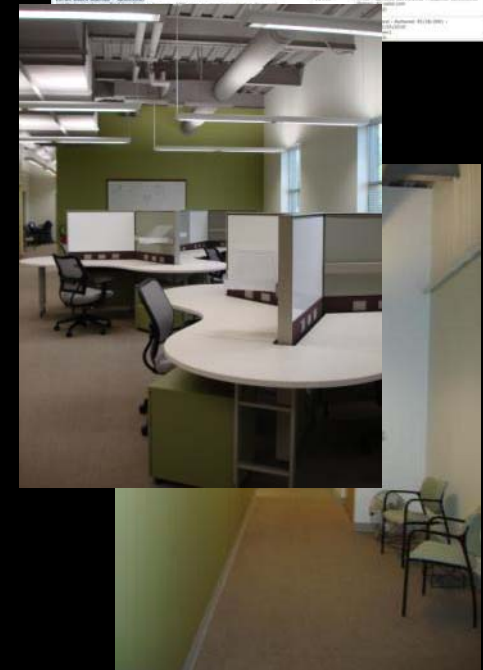
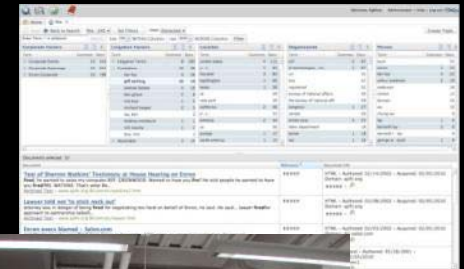
PATTERN INSIGHT

- Pattern Insight improves the way software-intensive products are developed, tested, and supported by applying sophisticated data mining techniques that intelligently identify and analyze patterns in technical data to improve software quality and customer experience while reducing development and support costs.
 - ✓ Scanning billions of lines of code in seconds
- Founded by a team of researchers with cutting edge expertise in systems mining lead by UI Computer Science Prof. Yuanyuan Zhou
- Data mining technology used for advanced, real-time analysis of every type of system data—code, logs, scripts, and more.
- Significant sales to Cisco, Intel, Juniper Networks, Qualcomm, Telllabs, and NetApp
- Located in Mountain View, CA with a satellite operation remaining at EnterpriseWorks in the UI Research Park



RIVERGLASS

- Startup from NCSA, using D2K (data-to-knowledge) software, completes streaming, real-time, data analytics to interpret large amounts of information
- RiverGlass delivers software solutions to Home Depot, NFL, Gates Foundation, and numerous state fusion centers and state police departments
- In July, RiverGlass announced an agreement with Boeing, granting exclusive license rights to resell their software to U. S. government agencies, treaty organizations and port authorities.
 - The agreement was sponsored within Boeing's Intelligence and Security Systems (I&SS) Mission Systems to offer new software solutions to government clients.
- Software products for information gathering, intelligent search and relevancy assessment.
 - Determine the various meanings of a term within text to return more accurate results.
- Founded April 2004 with 32 employees in Chicago, West Chicago and Champaign in the Research Park



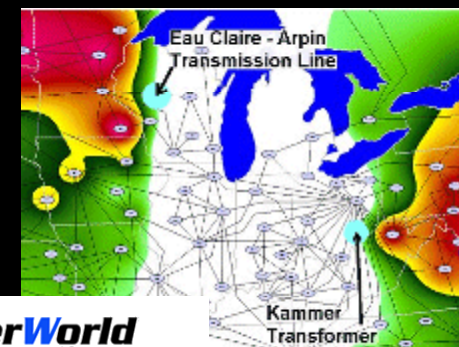
ICYT, A SONY GROUP COMPANY

- On 2/9/2010 Sony announced that it acquired iCyt and would continue to operate the flow cytometry business in the UI Research Park
- iCyt is an example of how technology moves from the laboratory to the marketplace
 - Gary Durack, the former director of flow cytometry at the University's Biotechnology Center, began iCyt as a flow cytometry consultation business in 1995
 - Collaborating with University researchers gave iCyt an inside track in the race to license technology, access facilities, and demonstrate technologies
 - iCyt began in an incubator setting and in 2005, iCyt moved into the "iCyt building", where they design, test, and assemble cell sorting instrumentation
- iCyt Mission Technology manufactures the Reflection cell sorting instrument a sophisticated droplet cell sorting instrument using Highly Automated Parallel Sorting (HAPS) modules; now being used by major research institutions and hospitals.
- The new Eclipse instrument is an affordable solution for most flow cytometry, cell counting, and particle sizing applications
- Customers include: Monsanto, St. Jude's Children's Research Hospital, Yale, Washington University School of Medicine, UNC Chapel Hill, etc...



POWERWORLD – *Smart Grid Technology*

- PowerWorld Corporation develops and markets visualization and analysis software for the electric grid, which is used in over 40 countries
- The current methodology for real-time network analysis of power grids is antiquated, inefficient, and inaccurate. The models used in operating the grid are different than the models used in analyzing the grid. This separation of models needlessly persists, leading to difficulty in modeling and linking data between operations and analysis tools and an under utilization of existing grid resources. This problem will become worse as more renewable resources and smart meters add stress and additional data requirements to power grid modeling.
- PowerWorld Corporation has developed a solution – a model unification algorithm that eliminates the need for reduced information (planning) models by using the full topology of the grid (operations models) for all analysis in a way that is seamless to the user. This solution is a proven technology already installed in several control rooms and is unavailable from any other source.
- PowerWorld has a major new project with Abu Dhabi Water and Electricity Authority (ADWEA) on smart grid technology



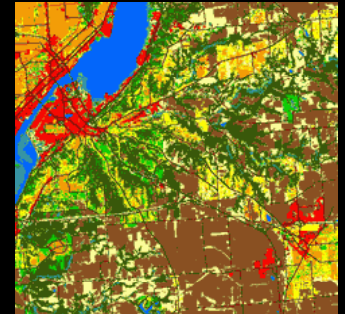
MERGE.FM

- A web application allowing music fans to access and interact with the creative process of their favorite bands and giving music artists a scalable way to monetize their creative process.
- Website launched with paying customers in July 2010, significant blog and grassroots excitement has followed
 - Check out a video demo at: <http://www.youtube.com/watch?v=uPu7VQveMYo>
- The business model comprises four steps:
 1. Artists sign up for free and open their creative process.
 2. Artists market it to their fans with merge.fm's help to subscribe.
 3. Fans pay for access and interaction, then get final product for free.
 4. Market-driven pricing that scales with demand and popularity for each artist.



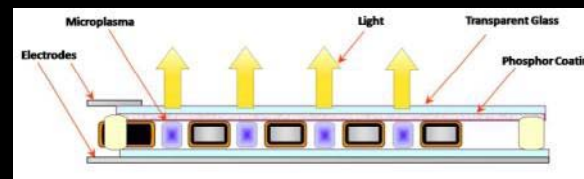
LEAMgroup, Inc.

- LEAMgroup, Inc. specializes in harnessing the power of dynamic spatial models in understanding complex real-world problems
 - Provide consulting services to local, metropolitan, and regional planning organizations that require sophisticated simulations of land-use change and its impacts.
 - Clients leverage their expertise in integrating the Landuse Evolution and Impact Analysis Model (LEAM) into planning and analysis processes for very large regions.
- The LEAM spatial modeling environment: Simulation, Drivers, and Impacts
 - Models drivers include: Land Price, Economic factors, Population factors, Social factors, Geographic limits and factors, Transportation mechanisms and factors, Utility and Infrastructure requirements, Neighborhood development factors, Resource limitations and factors, Open space requirements, and Stochastic scenario drivers.
 - Impact models include: Water quality and quantity, Air quality, Habitat fragmentation, Threatened/Endangered species, Energy impacts, Economic impacts (societal and fiscal), and Ecological impacts.
 - LEAM model applications are processed in a distributed, high-performance computing environment and results are presented using an easy-to-navigate, Web-based graphic user interface.



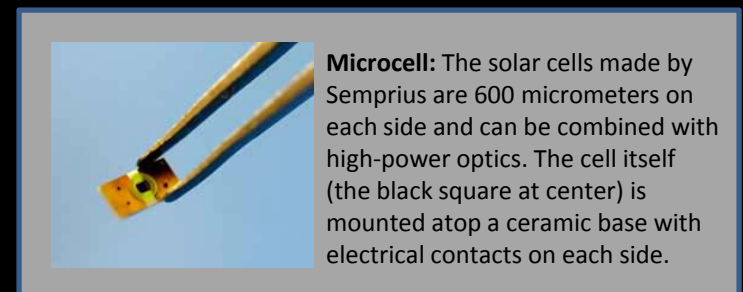
EDEN PARK ILLUMINATION

- Eden Park Illumination, Inc. was founded in May, 2007, to develop and commercialize products based on a new platform lighting technology called Microplasma.
 - Microplasma lamps are mercury-free flat panel microcavity discharge devices. The technology originates from traditional plasma lighting technology, but microplasma, by virtue of its unique structure, overcome the limitations of conventional macro-scale plasmas and offers an ultrathin, lightweight, flexible, robust and long-lasting alternative.
 - Microplasma is a unique, proprietary, energy-efficient, ultra thin lighting technology. It can be flexible, formed and produces white or colored light. Microplasma lighting technology consists of micro scale devices which emit light using a plasma discharge, and involves creating microplasmas in large arrays. The technology resides at the intersection of optoelectronics, microfabrication and plasma science.
- The company's co-founders, Professors Gary Eden and Sung-Jin Park, are recognized world leaders in this field, with many years of research at the University of Illinois.
- Eden Park graduated from the incubator in 2009 and moved into a new research facility in Champaign to begin producing their initial product for market
- Video demo from news:
 - Part 1: http://illinoishomepage.net/fulltext/?nxd_id=185626
 - Part 2: http://illinoishomepage.net/fulltext/?nxd_id=185636



SEMPRIUS

- Semprius is developing low cost, high performance concentrator photovoltaic (CPV) modules to make solar power generation economically viable in sunny, dry climates.
- The core of Semprius technology is micro-transfer printing. This patented process enables the parallel transfer of many pre-formed circuit elements from a source semiconductor wafer to almost any other substrate.
- The company was formed based on the research of Dr. John Rogers, who received the MacArthur Foundation Genius award
- Semprius, based in Durham, NC: solar panels for large-scale electrical generation
- Financing:
 - **Semprius raising \$35M “C” round** for solar panel pilot production, major investors Arch Venture Fund and Intersouth Partners, In-Q-Tel, Applied Ventures, IVentuers;
- In 2010 Semprius announced:
 - Agreement with Siemens to advance solar energy technology
 - DOE subcontract to scale up solar technology
 - Investment from X-FAB



SOLARBRIDGE

- Solarbridge Microinverter Solar Technology allows solar panels to be installed on rooftops with a simple plug-n-power functionality.
 - The microinverter is plugged into the back of the solar panel, which allows the DC power output to be optimized and converted to AC power for direct connection to the utility grid on a rooftop.
 - Reduces costs for installation of solar panels lower costs, increased energy harvest, and greater reliability.
- Started by University Professors Phil Krein and Patrick Chapman, this company incubated at EnterpriseWorks before graduating into the Research Park
- Received venture capital funding from Battery Ventures and initial seed funding from IllinoisVENTURES
- SolarBridge Technologies announced on 4/26/10 that it secured \$15 million in series B funding. The company has raised more than \$27 million to date.
- Headquarters are now in Austin, TX, but R&D facilities remain in the Research Park working on integrated microinverter solutions



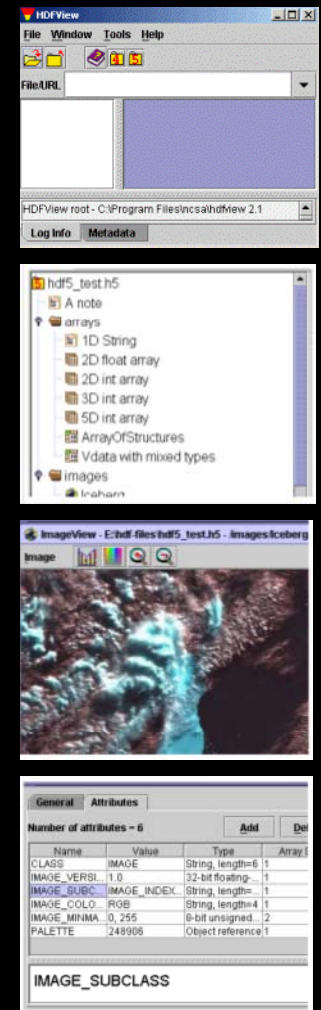
THE HDF GROUP

THG is a not for profit corporation spin-out of NCSA, which now has 25+ employees. They make data storage technology using open source software that is being used by large government agencies and large Fortune 100 corporations including Boeing and Sony Imageworks.

The purpose of The HDF Group is to ensure the sustainable development of hierarchal data format (HDF) technologies, developed at the University of Illinois, and the ongoing accessibility of HDF-stored data. This is important because of the government and public organizations that have mission-critical systems relying on HDF technologies.

The HDF Group is lessening the burdens of its government users and advancing science in research communities by developing, maintaining and servicing technologies that:

- Reduce the costs of maintaining mission-critical archival data;
- Enhance the reliability of archived data;
- Enhance interaction and cross-fertilization across research disciplines;
- Promote the use of standardized data formats.
- Ensure uniform access to data, regardless of resources or ability-to-pay.



AMBIENT: AUDEO

- The audeo is being developed by Ambient as an innovative new way of silently communicating by translating neurological signals from the brain which control the vocal cords
 - The Audeo allows a person to directly utilize the minute neurological signals which normally control the muscles.
 - With some practice, a user can intentionally produce these same signals without any visual indication of activity.
 - Ambient demonstrated the World's First Voiceless Cell Phone Call and was named one of Popular Science's Inventions of the Year in 2009.
 - Additional applications have been demonstrated in the areas of silent communication, mobility, gaming, robotics, and disabled communication, enabling those who have lost their voice due to disease or disability to communicate again.
- Ambient used their technology to develop a mind controlled wheelchair (powered by thoughts)

Video Demos: <http://www.theaudeo.com/?action=technology>
<http://www.youtube.com/watch?v=BW444H26j0M>



EPIWORKS

- EpiWorks develops and manufactures compound semiconductor epitaxial wafers for application in optical components, wireless devices and high-speed communication systems. The company's products provide these applications additional performance, such as greater efficiency, bandwidth and reliability.
 - The company was founded by University of Illinois Electrical Engineering PhD graduates in 1999.
 - EpiWorks finished the second phase of the expansion of its Champaign, IL, production facility in 2010. Epiworks now has a solar-cell wafer product line and has doubled its cleanroom space for III-V semiconductor substrate manufacturing
 - Received \$20 Million+ in venture capital funding to date, including Open Prairie Ventures in the Midwest
- Epiworks is now working on the development of technology to address the concentrated photovoltaic (CPV) market. EpiWorks has demonstrated a 6-inch, compound semiconductor PV wafer capability that is the first step in establishing the infrastructure and capability to produce low-cost solar cells with the highest conversion efficiency.
 - To ensure rapid and successful adoption of this CPV technology, EpiWorks is working closely with key partners, including a US-based semiconductor manufacturer listed on the NASDAQ
 - Received IL DCEO energy funding, which was announced in November 2010

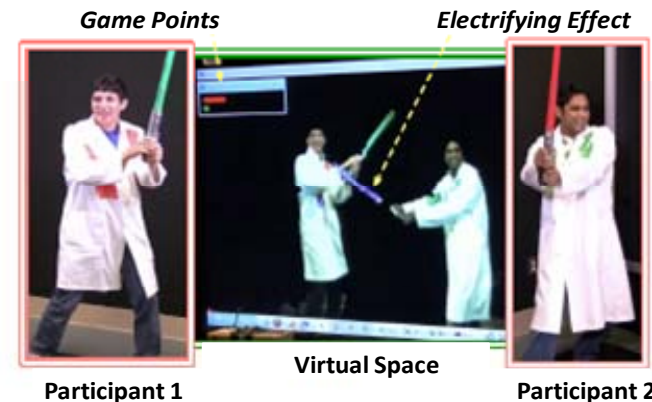


A man with short brown hair, wearing a blue and green plaid shirt and a black watch, is looking down at a smartphone he is holding with both hands. He is standing in a modern interior space with bright yellow walls and a white ceiling. Two silver, cone-shaped light fixtures are mounted on the yellow wall. The scene is brightly lit, and the man has a slight smile on his face.

OTHER UNIVERSITY OF ILLINOIS NEW STARTUP COMPANY EXAMPLES

4D TELEPORT TECHNOLOGIES

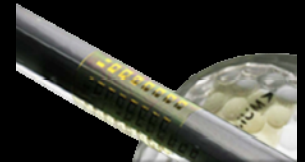
- **The problem space:** At the present time, setting up a distributed 3D real time multi-video, multi-site interactive teleimmersion session requires IT experts and set-up times ranging from hours to months depending on the complexity of the system. The ability for 3D teleimmersion to transform the use and content availability for 3D TVs and other 3D devices requires that this problem be solved in a user friendly manner.
- **The solution:** 4D Teleport's solution is a distributed software platform incorporating gateways at each teleimmersion site to actively manage the capture synchronization and integration of multiple correlated multimedia streams. The technology is based on five years of work at Illinois.
- **Applications** that can take advantage of full body real time immersion include:
 - Distributed 3D gaming
 - Remote ad hoc maintenance training
 - Health care and remote physiotherapy
 - Cultural and activity-based education



Two light-saber gamers are immersed together. A distinct aspect of the 4D interface is the ability to bring in physical objects and then manipulate these using graphics. The system has enabled dancers as far away as Berkeley and Illinois to dance together in real time in a shared virtual space.

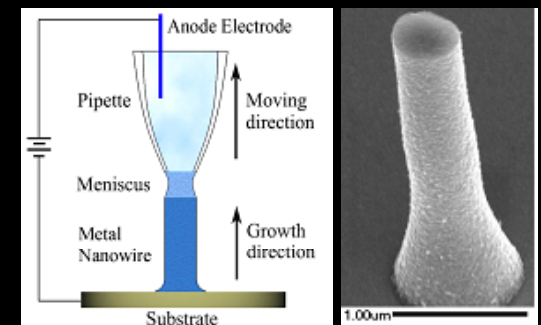
MC10

- mc10, Inc. is an advanced materials company commercializing conformal, high performance CMOS (complementary metal–oxide–semiconductor) electronics.
- mc10's competitive advantage stems from its ability to transform rigid, planar electronics into new types of systems that can bend, stretch and wrap into novel form factors.
 1. Maintains the high performance characteristics product designers have come to expect from silicon based CMOS based electronics and
 2. Exploits existing industry infrastructure, processes, and materials.
- mc10 works with partners in a joint development model to prototype and manufacture novel applications for consumer, military, medical and industrial applications.
 - mc10 enables high performance sensing and therapeutics that gently conform to the body's complex shapes and sensitive tissues.
 - Conformal Electronics provide product designers unprecedented freedom to integrate electronics and 'smart' features into products and parts of products that cannot accommodate the rigid packaging of today's semiconductors.



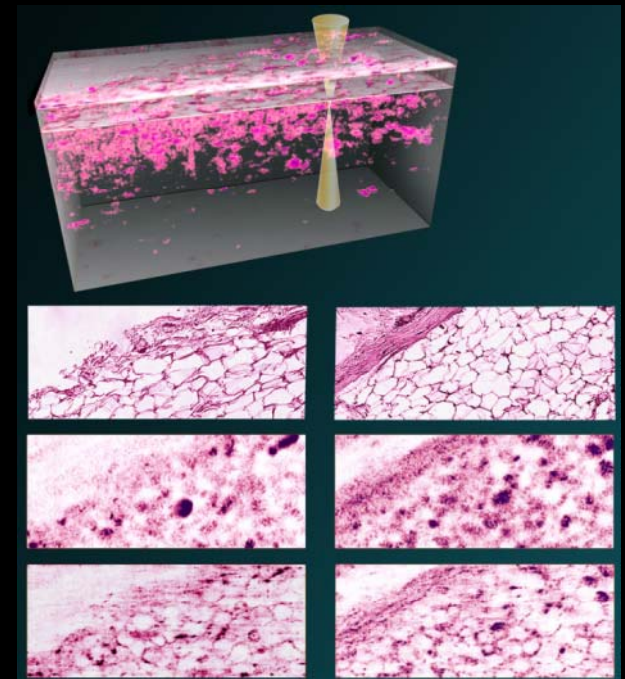
NANOFAB 3D

- Nanofabrication technologies that remove the limitations of current process techniques by producing 3-dimensional nanoscale structures with a variety of materials in an ambient environment.
 - Complex nanoscale structures that are not possible with traditional surface lithography or micromachining
 - Fabricate on existing structures with surfaces that may be incompatible with lithography
 - Quicker than lithography
 - Low cost, especially for small batches
- We have developed two proprietary technologies that both employ a glass pipette dispensing system to produce discrete products or a continuous wire, coiled on a spindle.
 1. Electrochemical Deposition System: wires, arrays, coils, bridges, freeform designs up to 1mm in length
 2. Evaporation/Precipitation System: Continuous wire from 2 microns to 25 nm in diameter



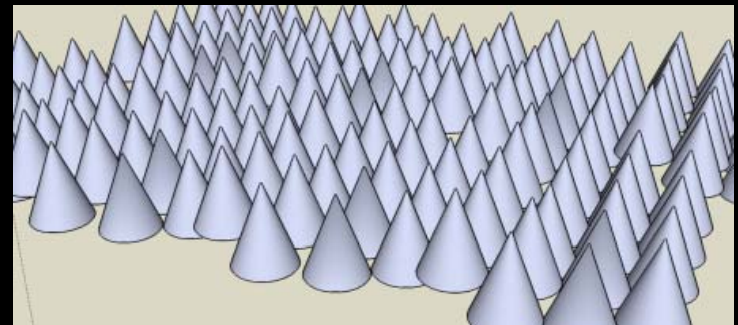
DIAGNOSTIC PHOTONICS

- Faculty founders: Stephen Boppart and Scott Carney, based in Champaign, IL
- Diagnostic Photonics, Inc. is developing an ultra-high resolution, in vivo, microscopic imaging platform for intra-operative use.
- DxP's initial focus in cancer will enable in vivo and real time scanning of tumor margins and nearby lymph nodes, giving immediate feedback to optimize surgical efficacy.
- The result will be fewer repeat surgeries, improved prognoses, lower cost, and higher quality care.
- Financing: initial funding from IllinoisVENTURES



HOOWAKI

- Start-up company based on the research of Dr. William King, based in Pendleton, SC
- Microstructured patterns for tires and other applications
- Allows products to exceed the performance of natural surfaces, such as making tires hydrophobic
- Financing: closed an “A” round with angel investors; also, received an SBIR Phase 1 grant in January 2010



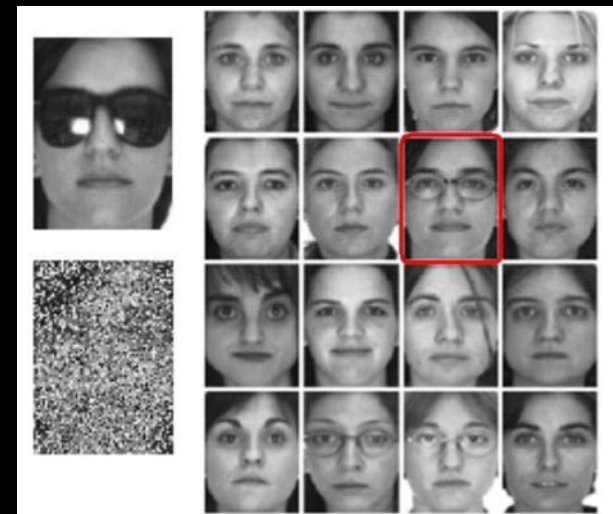
QEOS

- Dr. Nick Holonyak's Native Oxide enables the formation of high quality oxide layers on aluminum III-V compound semiconductors.
- Creates superior laser diodes and lasers; has been extensively licensed and has applications in semiconductor devices, laser printers, fiber optic communications, and microelectronic devices
- Dr Holonyak and longtime collaborator Dr. Milton Feng have now invented a light emitting transistor technology; groundbreaking advance for semiconductors



ESEERIGHT

- Startup based on facial recognition software from the research group of Dr. Yi Ma, headquartered in Beijing
- Sophisticated face recognition system, remarkably accurate in realistic situations
- Potential for individual picture sorting, human-computer interaction and security systems
- Current financing: Angel investor and self-funded



Examples of technologies identified by the Office of Technology Management at the University of Illinois Urbana campus as opportunities for startups. Faculty members have expressed interest in entrepreneurship.

Opportunity: Media Monitoring System

- Pending start-up based on the research of Kalev H. Leetaru
- System for monitoring news services and social media from around the world to offer the latest news topics
- Updated every 24 hours, 7 days a week, 365 days a year.
- 15 daily reports, automated creation of biographical databases, geographical intelligence, social media
 - The Interactive Timeline lets shows more than 45 indicators about a given topic and more than 15 about any person, organization, location, or news outlet.
 - Biography Databases profile the people, organizations, news and blog outlets, Twitterers, and locations of the news that define the global discourse.
 - Geographic Intelligence dives into the content of each story, identifies nuanced worldwide geographic mentions down to the remote hilltop, and delivers that insight overlaid onto Google Maps and Google Earth.
- Advanced analytics, filtering



Opportunity : **MarketMaker**

- Team from University of Illinois Extension, headed by Darlene and Richard Knipe
- Website to connect food producers with new, economically viable markets
- Website being utilized by 65,000 people every month; more than 350,000 profiles registered
- Licensed to 14 states with 4 more pending



Opportunity: **BeeSpace and Population Health Monitoring Systems**

- Two pending companies, both based on the research of Bruce Schatz
- BeeSpace: Search environment enables semantic indexing and concept navigation across distributed repositories. Currently focused on biomedical literature and genome databases. Could be applied toward the rest of the web
- Population Health Monitoring Systems: Applying natural language processing to personal health messages to detect adverse drug reactions
- The research programs have received major funding



Opportunity: Live Forensics

- Pending start-up based on the research of Roy Campbell
- Live forensics ability for investigators
 - Current technologies, e.g. Encase require computer to be shut down. They do not work well with encrypted disks or network sessions.
 - Non-intrusive technology does not require computer shutdown.
 - Malware-resistant analysis to combat rootkits and viral deception.
- Develop domain-specific forensic modules to augment existing functionality, e.g. collecting passwords, sites visited, encrypted disk files
- Use for law enforcement, investigators inundated with volume of analysis.

Opportunity: **Secure Web Browsing**

- Pending start-up based on the research of CS Professor Sam King
- Technology
 - Small trusted computing base for web browsing
 - The most secure browsing platform to date
- Business Opportunity
 - Cooperate with hardware manufacturers
 - Provide service for tuning software on their platforms

Research Park Appendix

The image shows a low-angle shot of a multi-story brick building with large windows. The Caterpillar logo, consisting of the word "CATERPILLAR" in dark blue 3D letters and a yellow triangle, is mounted on the brick wall. The sky is blue with light clouds.

CATERPILLAR

Research Park Buildings

12 Buildings
607,000 Square Feet

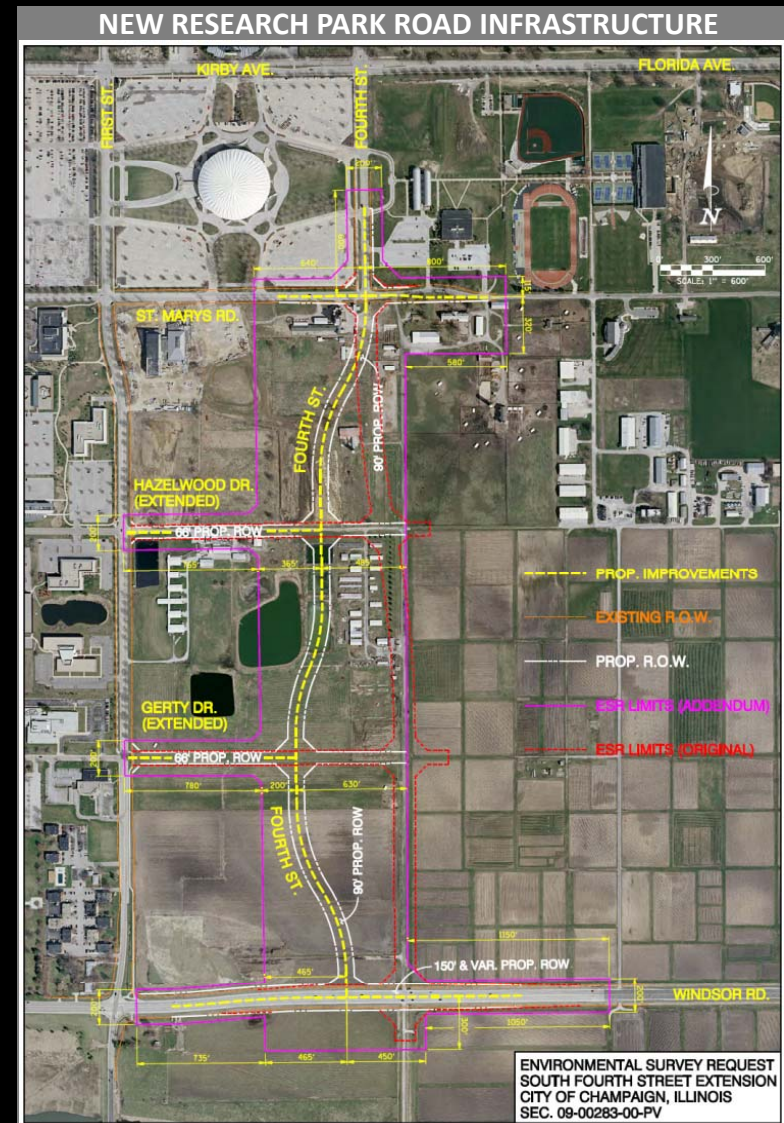
EnterpriseWorks Incubator run by the University for early stage startup companies

Fox/Atkins multi-tenants Buildings are constructed as “shell” buildings with common areas and build-to-suit suites are fit out for individual companies to lease space. Fox/Atkins leases space to companies in their properties, and they have a long term ground lease for use of the University land.

Auxiliary Amenities include the Hotel, Conference Center, Restaurant, and Daycare Facility.



UI Research Park Area

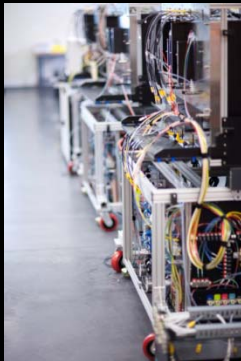


EnterpriseWorks

- EnterpriseWorks (EW) is a 43,000 sq ft startup business incubator in the Research Park for early stage tech firms. It is owned and operated by the University of Illinois to help launch successful start-up companies.
- Short term leasing of lab and office suites
- Atrium and meeting space used for Research Park weekly events
- Shipping/receiving area used for Research Park companies deliveries
- Shared labs with equipment available for use by Research Park companies
- Co-location server room for Research Park leasing by the server or rack
- Entrepreneur support services



STARTUPS FROM THE UI ENTERPRISEWORKS INCUBATION PROGRAM



STARTUP LOCATION

Currently in EnterpriseWorks
 Graduates in Research Park
 Graduates in Champaign County
 Graduates in other IL locations
 Graduates out of State
 Graduates out of active business
TOTAL

NUMBER OF FIRMS

36
 12
 14
 5
 9
 19
 95

Of graduates, location in Research Park
 Of graduates, location in Champaign County
 Of graduates, location in Illinois
 Of graduates, no longer actively in business

30%
 65%
 78%
 28%

STARTUP EMPLOYMENT

Startups in EnterpriseWorks
 Graduates in Research Park
 Graduates in Champaign County
 Graduates in other IL locations

TOTAL EMPLOYEES

201
 204
 83
 378



ENTERPRISEWORKS SUITES

Office Example

Furnished for full time employees and interns. Range of office sizes from 130-600 SF.
Monthly lease rate = \$200-\$850



Lab Example

Labs available with casework, fume hood, plumbing, gas, shelving. Basic lab available and full fit out labs for chemical and life science companies.
Monthly lease rate = \$800-\$1,900



All leases in EnterpriseWorks are administered through the University of Illinois. Leases are one year in length, renewal is determined based on company progress and need for incubation services. Typical start-up length in incubation is three years. Affiliate program for pre-incubation companies is available for \$100 per month.

SERVER/CO-LOCATION DATA CENTER

Server room with 15 Rack capacity for server (per U) and rack leasing

- New co-location data center with redundant power from building generator, cooling infrastructure, and security system.
- Companies can lease space by the server or by the rack (provided by EW)
- One year lease agreements
- Connected to the other Research Park buildings with direct fiber for remote computing
- For information regarding the server co-location facility, please contact Jay Geistlinger at 217-333-8324.



EW SHARED LAB EQUIPMENT

- High Performance Liquid Chromatograph
- Gas Chromatograph
- Waters LC Mass Spectrometer
- Minus 80 Degree Freezer
- Isotemp Lab Refrigerators
- Spectrophotometer
- Sorvall RC-5B Plus centrifuge
- New Brunswick G-25 incubator shaker
- Cary temperature Controller Unit
- Cary 3E UV-Vis spectrophotometer
- Gradient thermal cycler (Multigene)
- Track Pole Stand Microscope System
- Water baths
- Fluorescence Detector
- pH/mV/°C Meter
- Ice Maker
- Autoclave
- Distilled Water
- Glassware Washer
- Scale
- Reflow Oven
- Thermo Box Furnace
- Soldering Iron
- Ice Chipper
- Freezers
- Stratalinker
- Dry Ice
- Icemaker
- Drill Press



RESEARCH PARK SERVICES

Support Services

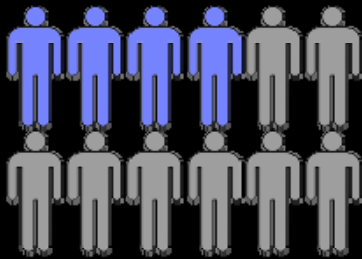
- On-site 4 full time UI employees for RP, plus support from numerous campus departments
- Assistance hiring student employees
- Discounted University of Illinois facility use and technical testing agreements
- Procurement assistance
- Onsite Lab supply stock room, Fisher Scientific
- Free Entrepreneur-in-Residence consulting service with experienced executives
- Illini Entrepreneur Center

Weekly Programs

- Software User Group Meetings
- Tech CEO Roundtables with speakers
- Startup Café with successful entrepreneurs
- Monthly business educational seminars
- Monthly social events, Fire @ Five, Golf outing, Ping Pong, soccer, swing dancing
- TechCocktail tech demonstrations
- Annual Career Fair, student awards
- Summer concert series with Krannert
- Charitable events organized for employees
- VIP speakers and business introductions



Employing Students



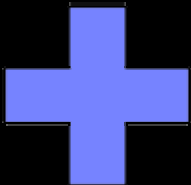
- ⦿ 1/3 of total Research Park workforce are students

- › Approximately 350-400 students per semester
- › Supplement research staff with highly-skilled graduate and undergraduate students from top University of Illinois programs
- › Student employees and research assistants can work on projects year round (not just summer interns)



- ⦿ Workforce cost efficiency:

- › Student wages are substantially lower than full time hires (40-50% less).
- › Interns are prepared for full-time employment through pre-training and familiarization of business culture and structure



- ⦿ Intellectual property remains with company

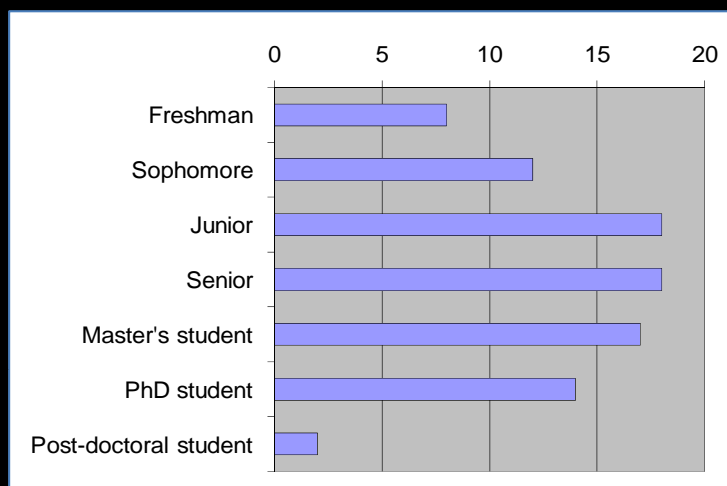
- ⦿ Optional Research Park Intern Program

- › HR administration services for companies with interns and GRA positions, including visa documentation through Corporate Relations

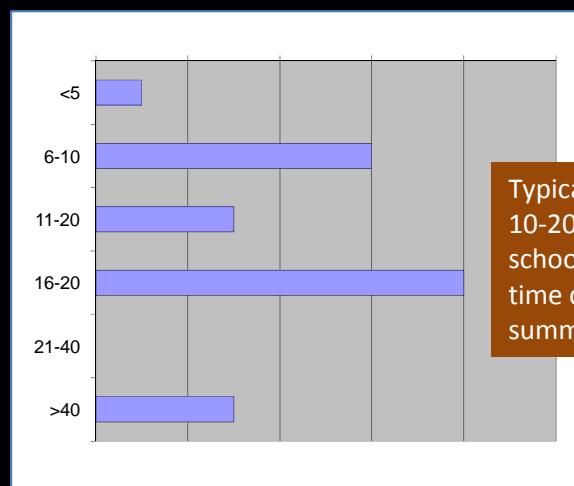
Student Wages in the Research Park

Internship area	Lowest hourly salary reported	Average hourly salary reported	Highest hourly salary reported
Business planning/strategy/competitive intelligence/market research	\$10.00	\$17.00	\$25.00
Chemistry/chemical engineering	\$10.00	\$13.90	\$21.00
Computer applications/software development	\$8.00	\$16.39	\$30.00
Computer networks/hardware	\$10.00	\$17.50	\$25.00
Electrical engineering	\$10.00	\$18.20	\$30.00
Finance/accounting	\$8.00	\$14.31	\$20.00
Marketing/business development/sales	\$9.00	\$14.33	\$20.00
Mechanical engineering	\$8.00	\$14.85	\$25.00
Research & development (scientific/technical)	\$10.00	\$19.00	\$29.82
Average Student Wage (not weighted):	\$18.19		

Class Levels Hired

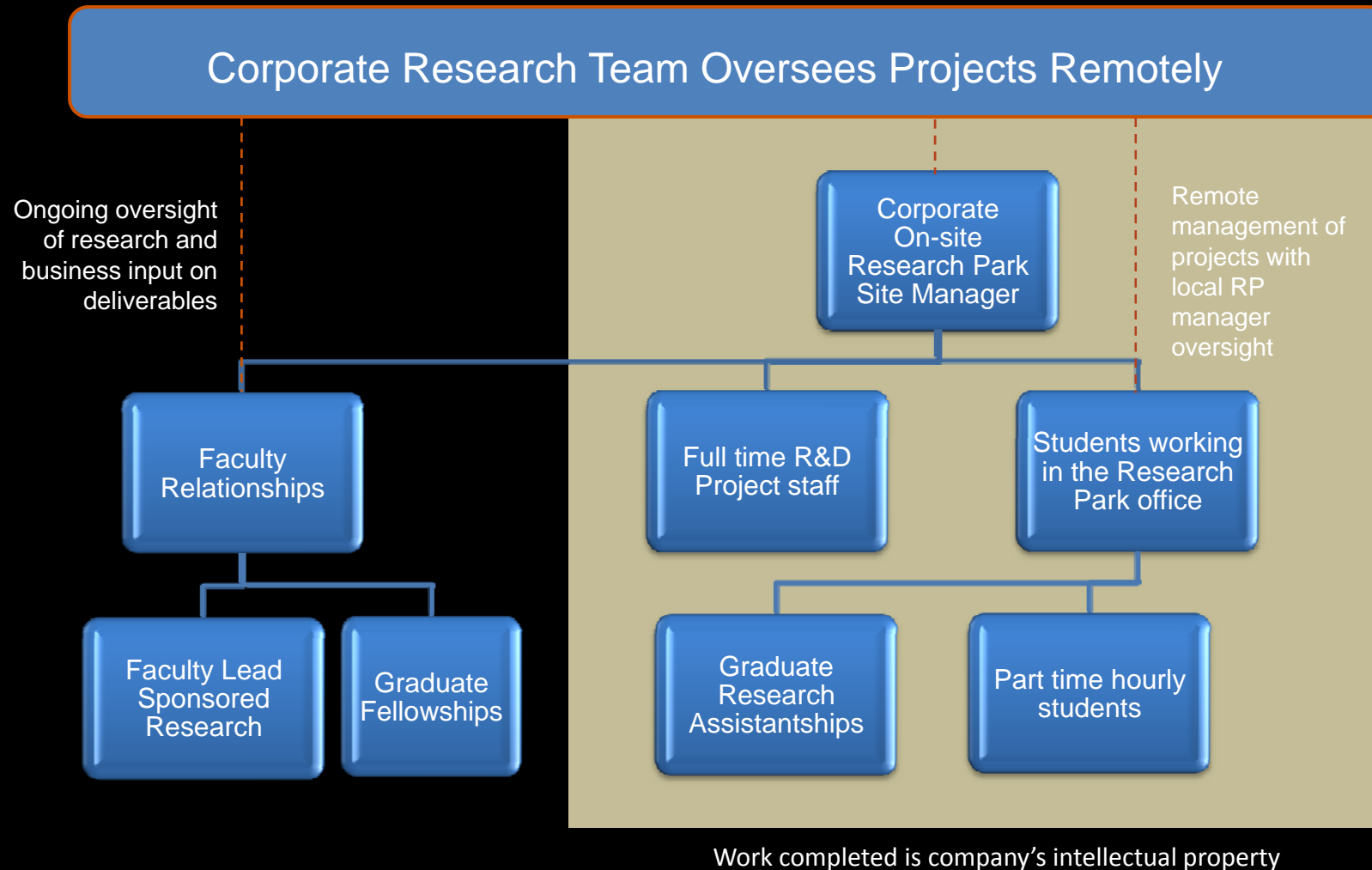


Hours Worked During School Semesters



Typical schedule:
10-20 hours during the
school year and full
time during the
summer

Research Park Operation Example



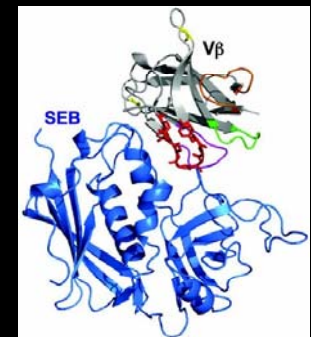
TETRAVITAE

- Tetravita Biosciences is developing next-generation production platforms for renewable Bio-based specialty chemicals based on conventional and cellulosic feedstock.
- TetraVita's focus is the production of biobutanol using a proprietary fermentation process and enhanced microorganism platform.
- Series A and Series B Funding
 - ✓ Illinois Ventures, RPM Ventures, Harris & Harris Group, Country Financial
- Currently have incubator labs for genetics/biology and fermentation process for 40 liter scale production
 - ✓ Largest company currently in EnterpriseWorks
- Pilot production tests being completed at the National Corn-to-Ethanol-Research Center (NCERC) at Southern Illinois University in Edwardsville



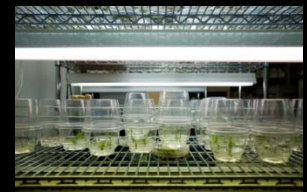
IMMUVEN

- Start-up co-founded by Dr. David Kranz of the University of Illinois and Dr. Patrick Schlievert of the University of Minnesota. ImmuVen and the University of Illinois have entered into a license agreement.
- High-affinity T cell receptors: a novel class of immune-targeting and diagnostic agents being development for treating cancer and MRSA
- Detection and treatment of selected bacterial toxins that cause infectious diseases
 - ImmuVen plans to engineer and develop T cell receptor proteins through contract research and strategic partnerships with pharmaceutical and biotechnology companies. Signed a licensing agreement with Abbott Labs.
 - ImmuVen's internal discovery program will include drug candidates with proven pre-clinical efficacy against serious infectious diseases
 - Will exploit the broad coverage of its IP position in the area of T cell receptor proteins for use in a range of diseases (cancer, autoimmune diseases) through key strategic partnerships.
- Modified T cell receptors have been successful in treating MRSA in animal studies.
- Successfully awarded NIH grant funding for R&D
- ImmuVen has a biotech laboratory in EnterpriseWorks.



CHROMATIN

- Chromatin, Inc. develops novel proprietary technology that enables entire chromosomes to be designed and incorporated into plant cells.
- Engineered chromosomes make it possible for the first time to simultaneously introduce multiple genes into a plant cell while maintaining precise control of gene expression
- The technology was developed at the University of Chicago, but has transitioned to bioenergy feedstock plant modification in Champaign
- \$27 Million in VC funding, including Burrill & Company and IVentures
- Chromatin's Champaign, IL development center is at the Research Park, the company graduated from EnterpriseWorks incubator into the "Graduation Building" in April 2010.
 - Employ 12 people in the Champaign research operation
 - Chromatin also leases BL2 greenhouse facilities on campus
- Chromatin has corporate partnership agreements with Syngenta, Monsanto, DowAgrosciences, and Bayer Crop-Science
- In April, Chromatin acquired Sorghum Partners, Inc. and Milo Genetics, LP, which provides Chromatin access to a multi-national network of sorghum growers and distributors for bioenergy growth.



ANDALYZE

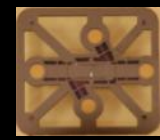
- ANDalyze has designed and manufactured a modernized hand held fluorimeter which, in combination with the consumable DNA based sensors can quickly measure water contaminants at the sample site, greatly reducing the time and effort required by current technologies.
- Based on technology developed by Chemistry Professor Yi Lu
- The portable instrument can do in 30 seconds what conventional detection technologies take 20 minutes to do
 - Measuring the metal ions is done through a reaction that occurs when a water sample is introduced to a sensor unit specific for that metal contaminant. This produces fluorescence (light) in direct correlation to the amount of metal ion present.
- In addition to detecting lead, the instrument will be able to detect uranium and other metals
- Video demonstration of the fluorimeter

http://www.youtube.com/watch?v=rA-ei2VTb8g&feature=player_embedded



CBANA LABS

- Developing small handheld gas analyzers to amplify the sensitivity and speed of how gases are sensed and measured
 - Prototype was completed in Fall 2009
 - Current technology takes a trained scientist to operate and costs about \$200,000, Cbana's device can be operated by a field agent and will be produced for under \$200/unit
- New market to use gas analyzers for first responders, medical applications, homeland security, and other applications that are currently underserved because of the expensive, large, and difficult to operate gas analytical instrumentation.
- Cbana has partnered with GE for product development
- Cbana has multiple SBIR awards including a new NASA Phase II award to design a new micro-gas chromatograph system to separate and detect contaminants in spacecraft to maximize the detection of the contaminants with high-sensitivity and accuracy.



STARFIRE INDUSTRIES

- Starfire Industries specializes in innovative plasma engineering across a range of markets, including aerospace/defense, nuclear/homeland security and manufacturing/semiconductors
 - Bridge the gap from the applied research stage to industrial prototype stage suitable for beta-level commercial insertion and field testing.
 - Plasma-based neutron generation for on-line materials analysis, NDE/NDT and homeland security.
 - Damage-free plasma sources for semiconductor processing and thin-film materials treatment.
- People: 12 Full-Time
 - 5 PhD-level researchers, 2 Product design engineers, 3 Test engineers, 2 Technicians/machinists, 1 Senior Fellow (UI Professor), 3 Students (part-time), and hiring 3 more engineers this fall
- Revenue: +20% revenue growth from last year
 - Split: 40% commercial, 60% federal in 2009
 - Corporate Partnerships include: GE, Thermo Scientific, Aerojet, SAIC, Novellus, Sematech, Intel



CATERPILLAR SIMULATION CENTER

The demand from Caterpillar's various business units for virtual product development and simulation has grown. To meet the need, the company opened its Champaign Simulation Center in cooperation with NCSA. Caterpillar tapped a ready source of knowledgeable employees by locating near the University of Illinois and students to work with them on projects. The vision of the CSC was to cost effectively provide advanced analysis, design, and simulation services.

- Caterpillar hires UI students, putting them to work on teams led by experienced Caterpillar engineers, who served as mentors. They typically have a 1:1 ratio of students to full time employees on projects, 38 students now, creating a lower cost structure for engineering.
- Highly Skilled University Interns
 - Identify the top students from campus, highly coveted positions
 - Hire both Engineering graduate and undergraduate students
 - Over 300 interns have worked at the Caterpillar Simulation Center since it opened
- Retention of Interns After Graduation
 - Successfully hired 65% of students offered positions, a total of 88 students that have interned at the CSC have been hired by Caterpillar
 - Able to place foreign students directly in international offices

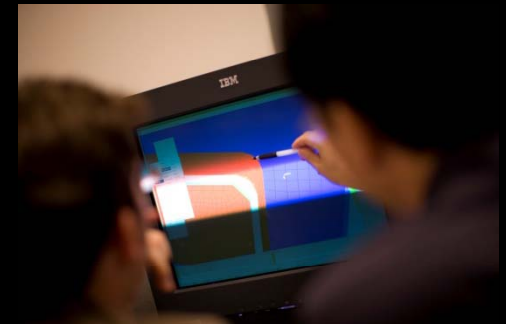


CATERPILLAR SIMULATION CENTER

Projects at the CSC include: Machine Performance Analysis, Casting Simulation, Stress Analysis and Life Prediction, Manufacturing Process Simulation, System Structural Analysis, Computational Fluid Dynamics, Hydraulic System Modeling, Symbolic/Numeric Analysis, 6 Sigma Tolerance Analysis, and Materials optimization.

Examples of Caterpillar Simulation Center Students:

- ***Ryne Beeson, MS Aerospace Engineering***
Ryne performs CAD modeling using Pro Engineer, mesh generation using Hypermesh, casting simulation using MAGMASoft, and stamping, welding, and structural simulations using ABAQUS. Over the three years he has worked at Caterpillar, Ryne has worked with full-time engineers and contributed to over 30 projects.
- ***Brad Derickson, MS Mechanical Engineering***
Brad worked as a part of the Structural Dynamics Team and learned the processes very quickly. When project deadlines were tight, he put in the extra hours necessary to keep things on schedule. His accomplishments have significant and far exceed what is typically expected for a first year intern. His internal Caterpillar customers consistently appreciate and praise his effort and delivery.



STATE FARM RESEARCH CENTER

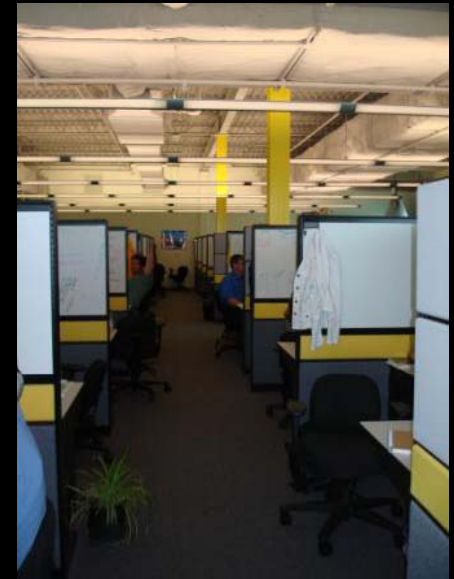
- The State Farm Research and Development Center is a place where State Farm staff and UIUC students guide and support Company programs with research
- The work at the Research Center supports three State Farm departments:
 - Property & Casualty Actuarial: pricing and financial analyses
 - Systems : application development, information systems, information technology
 - Strategic Resources: research, competitor analysis, knowledge management
- Modeling and Analytic Graduate Network (MAGNet) is a graduate program in applied statistics with 50% graduate assistantships
- The Research Center has 92 interns and 28 full time employees
 - Innovation Ready projects each summer allow students to work in interdisciplinary teams to create enterprise level innovations across departments. These are presented to State Farm leadership each summer.
 - Each intern works 10 hours per week during school and full time in the summer
 - 450 students have gone through the internship program since 2005
 - 42 students have been hired full time after completing internships
- State Farm expanded for the 3rd time in 2009 by 78%



www.sfresearchcenter.com
check out their video on
the research center

YAHOO!

- Yahoo! has 90+ full time employees in the Research Park office, highly skilled software development engineers, 92% of staff works in the Cloud Computing area of Yahoo
 - Primarily hire Software Engineers and Software Quality Assurance Engineers
- Hadoop Center of Excellence for Yahoo
- Despite not being a research center, the Yahoo Research Park team filed 12 patents in 2009 and published papers for Yahoo on audience targeting, mobile applications, social networks, advertisement placement.
 - Yahoo corporate was surprised to see the amount of innovation from this center. Employees were asked to submit ideas for patenting and publishing to headquarters. YTD in 2010, over 15 have been patented or published.
- Yahoo is collaborating with the University of Illinois on the Illinois Cloud Computing Testbed (CCT), the world's first cloud testbed aimed at supporting both systems innovation and applications research within a single microcosm.
 - Yahoo added interns doing PhD level researcher to work on cloud computing at the Research Park site to compliment the research done on campus. Students became a liaison between the Yahoo Research Park and UI research groups.
- 95% retention rate of employees vs. roughly 50% in California for equivalent positions



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- One of the world's great research universities: UIUC
- The leading university-based performing arts center: Krannert Center
 - Recent CU performances : Itzhak Perlman, Moscow Festival Ballet, Ani DiFranco, Jay Z, comedian Dane Cook, Sara Bareilles
- An international film festival: Roger Ebert's Ebertfest
- The Illinois Marathon starts at the Research Park: 14,000 participants
- Carle Hospital has a research affiliation with the world-renowned Mayo Clinic
- Affordable Housing: **Media home price = \$146,000**
- Award-winning: Mass transit district, Libraries, Scientists, Entertainers, Authors
- Improved work-life balance in a micro-urban metro
 - **14 Minute average commute time**
 - **2 hours to Chicago, Indianapolis, and St. Louis**
- An **airport** with direct flights to Chicago and Dallas
- Train service with **3 daily trains between Champaign-Chicago**, 2hr 10 min
- Regional daily Bus service from campus to Chicago suburbs, Chicago airport, Indianapolis airport, St. Louis airport, Bloomington airport, ISU, Decatur
- Companies site C-U as a strong market for attracting a high tech workforce:
 - Concentration of software and technical talent
 - Lower cost of living, results in an affordable workforce
 - Strong retention of employees once hired
 - Access to flexible student workforce and recruiting

