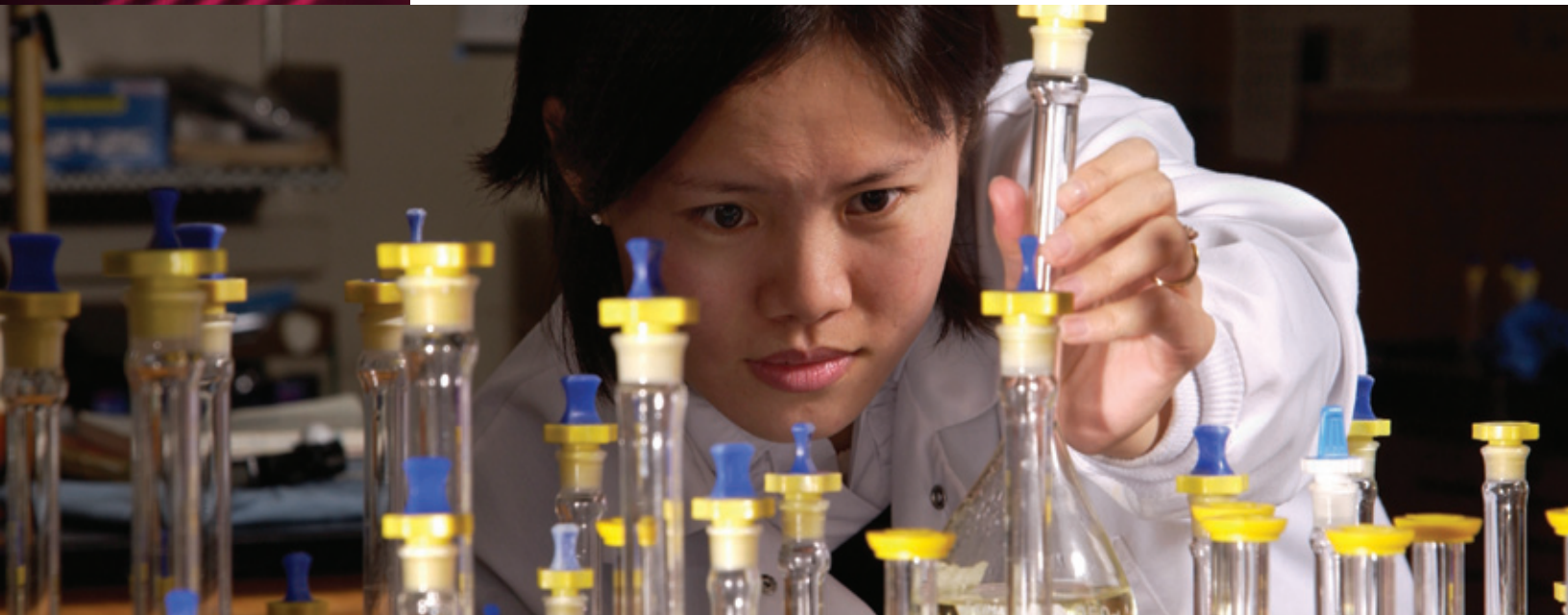




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SIU Technology & Innovation Expo



**Celebrating
University Innovation**

October 28, 2011

tie.siuc.edu



welcome

Dear Esteemed Colleagues,

Thank you for your attendance at the third annual Technology and Innovation Expo! We have assembled many of the premiere innovators of Southern Illinois University, together with top entrepreneurs from outside the University for this event.

An important aim of the Technology and Innovation Expo is to stimulate attraction of the capital and management expertise for University inventions in order to build successful businesses, create jobs and generate new income in southern Illinois. Entrepreneurs, investors and business executives can learn about business start-up opportunities stemming from University research and also gain insight into related early-stage investment issues.

Southern Illinois University Carbondale fosters technology-based innovation and business development through the efforts of the Technology Transfer Program and the Southern Illinois Research Park. In the past year alone, this partnership assisted in the creation of three new SIU research-based businesses securing several million dollars in funding.

Special thanks go out to our sponsors, who provided the funding and support necessary to bring you this event today. Please be sure to visit our sponsor information pages in this booklet and stop by their displays during the Expo.

We hope you enjoy the SIU Technology and Innovation Expo – Fall 2011. Please be sure to visit tie.siu.edu after the event in order to view videos and photos, get information about other upcoming events, and leave your feedback.

Sincerely,

TIE Organizers –

Dr. John Koropchak, Vice Chancellor for Research and Graduate Dean,
and Vice Chair of Jackson Growth Alliance

Mr. Tom Cheng, SIU Executive Assistant for Commercial Innovation and Technology Transfer

Dr. Kyle Harfst and Ms. Lynn Andersen Lindberg, Small Business Incubator and Southern Illinois Research Park

Mr. Jeff Myers and Ms. Amy McMorrow Hunter, Technology Transfer Program

Ms. Jenni Janssen, College of Business

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agenda

9:00 am	Registration & Continental Breakfast
9:30 am	Welcome John Koropchak, Vice Chancellor for Research and Graduate Dean Morning Address Chancellor Rita Hartung Cheng
10:00-12:00	Scientist Presentations
10:00 am	Dr. Kathleen Campbell School of Medicine, Springfield
10:20 am	Dr. David Lightfoot and Dr. Khalid Meksem College of Agricultural Sciences, Plant, Soil Science and Agricultural Systems
10:40 am	Dr. Yoginder "Paul" Chugh College of Engineering, Mining and Mineral Resources Engineering
11:00 am	Break
11:10 am	Dr. Andrei Kolmakov College of Science, Physics
11:30 am	Dr. Colleen Scott College of Science, Chemistry and Biochemistry
12:00 pm	Lunch (catered by 17th Street Barbeque) Keynote: Mr. Phil Pfeffer President and CEO of Treemont Capital Inc. Technology - WATCH OUT! It Can Sneak Up On You!
1:30 pm	University "Spin-Out" Panel Mr. Bill Rowe (Incubation Factory), Moderator Dr. Ken Anderson (Thermaquatica) Dr. Hurley Myers (DxR Development Group) Dr. Bakul Dave (Enki, Nanoaqueonics)
3:00 pm	Student Poster Contest Winners Announced & Tour of Saluki Innovation Lab
3:30 pm	Awards: Inventor, Innovator, and Start-up of the Year Ribbon-Cutting at Saluki Innovation Lab
4:00 pm	Reception (catered by Kindling and Alto Vineyards)

Chancellor Rita Hartung Cheng



Rita Hartung Cheng became chancellor of Southern Illinois University Carbondale on June 1, 2010 after serving as provost and vice chancellor for academic affairs at the University of Wisconsin-Milwaukee for the past five years. In her role as chief executive and academic officer of the Carbondale and School of Medicine campuses, she has oversight of an operating budget of \$592M and 7,500 faculty and staff providing over 200 undergraduate and graduate degree programs to approximately 20,000 students.

Chancellor Cheng also holds the academic rank of Professor of Accounting at SIU and is internationally recognized for her research in governmental and nonprofit accounting. A certified public accountant and certified government financial manager, she earned her doctorate in management from Temple University and her MBA from the University of Rhode Island.



Phil Pfeffer

 President and CEO - Treemont Capital Inc.

Phil is President and CEO of Treemont Capital Inc. a private equity investment company. The Company's activities, through its investments, include specialized newspaper and magazine publishing; web-based data management, data analytics and data delivery; web-based training, occupational health management, reverse logistics, brick and mortar retailing; and internet retailing and real estate.

Prior to his quasi-retirement, he served as President and Chief Operating Officer, Director and member of the Executive Committee of Random House, Inc. Before joining Random House, Phil served as Chairman of the Board and Chief Executive Officer of the Ingram Distribution Group Inc., headquartered in Nashville, Tennessee. While at Ingram, Phil served as Executive Vice President and as a member of the Board of Directors, and the Executive Committee of Ingram Industries, Inc. (the parent company of the Ingram Distribution Group).

He continued to serve on the Board of Directors of Ingram Micro Inc., Santa Ana, California until his retirement in 2001. He now serves as Chairman of the Board of Directors of the Essex Technology Group, Nashville, Tennessee; serves on the Board of Directors of PureWorks, Inc., Nashville, Tennessee; Optoro, Inc., Washington, D.C. and Casual Furniture Repair and Sales, St. Petersburg, Florida, and serves on the boards of several not-for-profit organizations.

He received his Bachelor of Arts in Mathematics and Chemistry in 1965 and his Master of Arts in Economics in 1966 from Southern Illinois University. Phil completed postgraduate studies in Economics at Vanderbilt University from 1966 –1968 as a National Science Foundation Fellow, and holds an honorary Doctor of Humane Letters from Southern Illinois University, 1997.

Phil is a U.S. Coast Guard licensed Captain in the United States Merchant Marine. Phil and his wife Pam have been married for 39 years and they have three grown sons.

Kathleen C. M. Campbell, PhD

D-methionine (D-met) as a Protective Agent



Biography

Dr. Campbell is currently Professor & Director of Audiology Research in the Division of Otolaryngology, Department of Surgery and is cross appointed in the Department of Pharmacology at SIU School of Medicine. She is also a member of the SIU Cancer Center. She obtained her PhD at the University of Iowa and did her doctoral fellowship with the Department of Veterans Affairs. She worked as a clinician for over two decades but now conducts full-time research. She has published two textbooks and over 200 abstracts, manuscripts, and book chapters. She consults with Pharmaceutical Companies and the FDA on ototoxicity issues. Her current funding is from

the US Department of Defense and NIH exceeds \$6 million. Contact: (217) 545-7310, kcampbell@siumed.edu.

Abstract:

D-met protects against radiation-induced oral mucositis, cisplatin-induced ototoxicity and other cisplatin side effects, aminoglycoside-induced hearing loss, and noise-induced hearing loss. Successful small scale Phase II clinical trials for radiation-induced oral mucositis and cisplatin-induced hearing loss have been completed, which have shown significant protection with oral D-met administration. D-met also provides partial protection from aminoglycoside-induced hearing loss with no antimicrobial interference in animal studies. D-met protects against noise-induced hearing loss if given before, during or even when first started up to seven hours after noise-cessation. The U.S. Department of Defense has funded Phase II clinical trials to test oral D-met to prevent permanent noise-induced hearing loss in soldiers during weapons training. Internal Review Board (IRB) and Food and Drug Administration (FDA) documents are currently being filed. The research program is currently funded by the National Institutes of Health and the U.S. Department of Defense.

Intellectual Property Status:

Five U.S. patents issued, some with foreign coverage; available for license.

David Lightfoot, PhD and Khalid Meksem, PhD

Agricultural Biotechnology



Biographies

Dr. Lightfoot is a Professor of Genetics, Biotechnology and Genomics at Southern Illinois University Carbondale. He has conducted Research for 26 years and has received three grants from the NSF, two grants from the USDA, six grants from the United Soybean Board, one grant from the Frascch Foundation, 10 grants from the Illinois Soybean Board, four grants from the Illinois Corn Board and four grants from the Council for Agricultural Research. He has written 103 peer reviewed articles and patented nine inventions. He is editor for the Journals "Theoretical and Applied Genetics" BMC Genomics and "Journal of Biotechnology and Biomedicine". He began work on SDS in 1991. The first critical breakthroughs were made from 1991-1996.

In 1996 he filed for patents to cover the genetics of SDS resistance and its selection by greenhouse assay. He invented the first SDS test system ever to replicate field performance of lines. This has been critical to selecting new cultivars and understanding the interactions among pathogens such as SDS. Later he showed that Roundup Ready beans were not more susceptible to SDS than non RR beans. Contact: (618) 453-1797, ga4082@siu.edu.



Dr. Khalid Meksem is Professor of Genome Biotechnology at Southern Illinois University Carbondale. He graduated from the University of Casablanca, Morocco, and joined the Plant Molecular and Cellular biology program at the University of Paris XI (Orsay). Khalid Meksem gained his doctorate in Botany, Biochemistry and Genetics at the University of Cologne in collaboration with the Max-Planck-Institute, Germany. His research interest covers both structural and functional genomics. His long-time area of interest is the molecular dissection of plant disease resistance mechanisms to nematodes and fungi, which has earned him several patents and publications in the field. Khalid Meksem is serving as Associate Editor of the International Journal of Plant Genomics, and as reviewer for a number of international scientific journals as well as for several granting agencies. Contact: (618) 453-3103, meksemk@siu.edu.

Abstract:

The past year has seen several breakthroughs in genetic technologies to two major soybean diseases: Soybean Cyst Nematode (SCN) and Soybean Sudden Death Syndrome. There are three issued patents and three patents pending based on gene marked loci, cloned genes and proprietary assays for selections. Transgenes are becoming available for some of the genes that were tested, a major break-through has been showing one gene provides a large amount of resistance to SDS but only a small part of resistance to SCN. The gene works better in new locations as a transgene than it does by breeding. It can save growers over \$1 billion a year in crop losses. This year, an additional patent describing the discovery of new loci for resistance to SDS has been disclosed, and three new patents have identified and protected the new loci necessary to give full resistance to SCN.

Intellectual Property Status:

Three U.S. patents issued, three U.S. patents pending; technology available for license.

Y. Paul Chugh, PhD

An Innovative Spray System for Control of Dust Around a Continuous Miner



Biography

Dr. Chugh has BS, MS, and PhD degrees in Mining Engineering, the latter two from Pennsylvania State University. He is currently a Professor in the Department of Mining and Mineral Resources Engineering at Southern Illinois University Carbondale. He is active in Dust Control and Roof Control research, with several patents to his credit. Team members include Dr. Chugh, Harrold Gurley, Vijay Kollipara, John Pulliam, Mining and Mineral Resources Engineering, SIU Carbondale. Contact: (618) 536-6637, ypchugh1@yahoo.com.

Abstract:

During late 2010, the authors developed an innovative water spray system for continuous miner (CM) that is scientifically founded (Patent Pending) and has shown promise to reduce respirable dust exposure of mine workers by about 30%. It includes scientifically designed sprays around the cutting drum, outer bit-ring sprays, chassis sprays and side sprays. About 10–15 feet behind these sprays are additional sprays that cover the area between the CM chassis and the mine roof and sides. Based on a successful demonstration of the spray system concepts to industry on a scaled CM model, Knight Hawk Coal, LLC decided to implement the concepts on a CM in rebuild stage in cooperation with Joy. The Office of Coal Development, through Illinois Clean Coal Institute, provided funds to support this field demonstration. The rebuilt miner returned to a Knight Hawk Coal mine in June 2011.

The project team has recently completed field evaluation of the dust control performance of the rebuilt CM using gravimetric sampling and real-time monitoring using Personal Dust Monitor (PDM). The results show that the spray system is very effective in controlling respirable dust all around the mining face area. The Coal Company has already committed to install the developed spray system on all their continuous miners.

Intellectual Property Status:

U.S. patent pending; technology available for license.

Andrei Kolmakov, PhD

Development of Techniques for Encapsulation and Electron Microscopy/Spectroscopy of Fully-Hydrated Micro-Samples



Biography

Andrei Kolmakov is currently an Associate Professor at the Department of Physics, Southern Illinois University Carbondale. He graduated from Moscow Institute of Physics & Technology (MIPT). Combining his postgraduate studies at MIPT and work as a staff member at Kurchatov Institute (Moscow) he received his PhD in solid state physics in 1996. During his postdoctoral work at European synchrotron radiation centers he was studying the surface, interfacial and kinetics processes on supported nano-(meso) particles and free clusters using photoelectron spectroscopy, XANES and imaging PEEM / SPEM techniques. In 1999 he joined the group of Prof. Wayne Goodman at Texas A&M University to conduct in situ STM studies on supported metal clusters under reaction conditions. In 2001 he was invited to UCSB to launch scanning tunneling microscopy part of AFOSR funded program on catalysis by nanostructures. He joined the faculty of the Department of Physics at Southern Illinois University Carbondale in 2005. Prof. Andrei Kolmakov is mainly known for his work on gas sensing and catalysis by metal oxide nanowires. In addition to active materials research and studies of nanoscopic sensors and analytical devices, Kolmakov's group is actively working on development of the methodology and hardware for in situ / in vivo spectromicroscopy of the nanostructures under real world conditions, fully hydrated objects and nanodevices under operating conditions. These activities were supported via NSF, DOE, PRF, Caterpillar Inc. and internal grants. Andrei Kolmakov published over 80 papers, five reviewed articles and two book chapters with total citation index over 2000. Andrei is actively servicing the scientific community as editorial /advisory board member for *Journal of Nanotechnology*, *Science of Advanced Materials*, the *Open Nanomedicine Journal*, via organizing symposia, as a reviewer and participating in conference committees. Contact: (618) 453-5212, akolmakov@physics.siu.edu.

Abstract:

Many of the samples (i. e., forensic) are wet or toxic and require their collection and preservation for extended periods for later studies. Electron microscopy and spectroscopy are the key imaging and analytical tools which, however, are capable of working with dried samples under vacuum conditions. Based on recent progress in fabrication of new electron transparent membranes, development of new techniques for encapsulation and electron microscopy / photoelectron spectroscopy of fully-hydrated microscopic samples relevant to sensing, catalysis, energy, and forensic applications are reported.

Intellectual Property Status:

U.S. patent pending; technology available for license.

Colleen Scott, PhD

Spiro-Silaanthracene (Carbondale Reds) as Red and Near Infrared Sensors and Probes



Biography

Colleen Scott received her BS in Chemistry from Auburn University in 1998, and her PhD in Organic Chemistry from the University of Pittsburgh in 2005. She joined the Department of Chemistry and Biochemistry at Southern Illinois University as an instructor for General and Organic Chemistry, as well as a research scientist in the laboratory of Lori Vermeulen. She received a Post-doctoral assistantship (2007 – 2010) from the Provost and College of Science to pursue her research interest under the guidance of Dr. Daniel Dyer. Her research focused on designing and synthesizing artificial scaffolds for nerve growth and differentiation. In 2010, Dr. Scott joined the faculty of Southern Illinois University in the Department of Chemistry and Biochemistry where she currently holds a position as an Assistant Professor. Her research focuses on biomaterial design and synthesis, as well as synthesis of silicon containing compounds for biological applications. Contact: (618) 453-6409, cscott@chem.siu.edu.

Abstract:

The authors have developed highly fluorescent compounds with long emission wavelength for use in molecular sensing/probing of biological systems, and as fluorescent tags. Fluorescent probes that absorb and emit red or near infrared (NIR) radiation have certain advantages over their UV or visible counterparts. Specifically, red or NIR probes have better performance in biological media because there is little excitation of biological molecules in this region. Furthermore, there is less light scattering and deeper penetration in tissue with long wavelength radiation. The invention has three main advantages over the current technology. (1), a key synthetic intermediate that allows effective synthesis of a number of different biological sensors/ probes, making the invention very versatile; (2), the presence of the silicon atom will render the compounds non-toxic, thus biologically compatible; and (3) the long emission wavelength of the compounds allow probing of cellular activities without the problems of cellular auto-fluorescence and light scattering, which usually result in low imaging resolution.

Intellectual Property Status:

U.S. patent pending; technology available for license.

Bill Rowe, Incubation Factory, Moderator

www.theincubationfactory.com

The Incubation Factory (TIF) is unique to the technology transfer industry, in that we serve as a “Commercialization Agent” for leading Technology Transfer organizations. The Incubation Factory is actively acting in this capacity for National Laboratories, Universities and Research Institutions, worldwide. Our Technology Transfer clients leverage us to remove the “art of the start” by utilizing structured, proven processes that result in faster time to market, lower commercialization risk and high returns to technology partners. We are a go to market accelerator composed of experienced professionals who have “hands-on” technology and product development experience and a track record of creating successful technology-based companies.

Dr. Ken Anderson, Thermaquatica

Thermaquatica is working to commercialize green technology for the production of chemical feedstocks from coal and other organics. The company recently obtained the rights from the University to develop the technology. The current research is funded by a grant from the Illinois Clean Coal Institute.

Dr. Hurley Myers, DxR Development Group

www.dxrgroup.com

DxR Development Group, established in 1990, became a client in the SIU Small Business Incubator several years later. The three individuals who formed this company developed Diagnostic Reasoning, a software package designed to provide students with the ability to practice the patient encounter and to give faculty a record of how each student reasoned through the patient problem. Interest in this software from other medical schools increased and their software was commercialized. At present, there are three core areas within DxR Group’s business model: 1) patient simulation; 2) contract tutorial (also known as courseware; and 3) on-line performance based testing. In 2008 they entered into a partnership with the National League for Nursing which now has a presence in Southern Illinois Research Park.

Dr. Bakul Dave, Enki, Nanoaqueonics

www.nanoaqueonics.com

Nanoaqueonics is developing an innovative patent-pending technology for surface coatings. These formulations can be used on different surfaces such as plastics, metals, ceramics, glass, textiles, and composites to precisely tailor their interactions with environmental factors such as heat, water, UV, light, and mechanical forces.

www.enkitech.com

Enki Technology, Inc. is a Research and Development firm surrounding solar panel technology. The company recently received a \$4.6 million venture capital investment.

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At SNR Denton, we know that successful patent portfolios are based not just on size but on the quality for enforceability and licensing. SNR Denton manages patent portfolios for a wide range of businesses, from enterprising startups to some of the world's biggest companies. We have the resources in every technical field to manage large patent portfolios on a global basis. Many of our lawyers and advisors hold advanced degrees, and many have industry experience that complements our legal expertise, ensuring pragmatic client counsel.

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SNR Denton's patent group has exceptional expertise across the full range of patent related matters. Our team of international patent lawyers and scientific advisers consists of many lawyers with degrees in electrical engineering, engineering, physics and computer science, and several lawyers with degrees in biological sciences and chemistry. We also have a degree of industry experience that is rare for a law firm. Our lawyers have run some of the most high profile and important patent litigation in the last 25 years. With our deep and broad understanding of technical matters and this exceptional track record, we are able to provide our clients with a first class service in the following areas: patent litigation, opinions, IP licensing and technology transfers, and corporate due diligence projects. In the US, we are also able to offer clients a patent preparation and prosecution service.

SIU College of Business

Rehn Hall, 1025 Lincoln Drive
Carbondale, IL 62901

www.business.siu.edu

The SIU College of Business is on a mission to inspire lives and transform business in all we do. We have a passion for innovative learning and technology, which has placed us among the top 100 public business colleges nationwide, according to US News and World Report. Our faculty hail from all corners of the globe, and bring with them international perspectives as experts in their respective fields.

Our focus is on providing a superior student experience to each and every one of our students across all of our programs. We are one of only three business colleges in the state that offer bachelor's, masters and doctoral degree programs. We recently began two online programs to serve those who are not able to be on campus to earn their degree.

A large, vertical, white text graphic that reads "Sponsors" is positioned on the right side of the page. The background behind the text is a dark red and black graphic with glowing pink and white lines, suggesting a network or digital theme.

SIU College of Business

Inspiring Lives | Transforming Business

The SIU College of Business is on a mission to inspire lives and transform business in all we do. We have a passion for innovative learning and technology, which has placed us among the top 100 public business colleges nationwide, according to US News and World Report. Our faculty hail from all corners of the globe, and bring with them international perspectives as experts in their respective fields.

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Degree Programs

Bachelors Degrees: Accounting, Finance, Management, Marketing, and Business Administration (Offered online only)

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- 41 credit hours
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- New cohorts begin every August
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- For more information go to <http://onlinegrad.business.siu.edu>

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- One or Two week intensive course in business core subject areas (accounting, finance, Excel/IS/Statistics, and MBA foundations).
- Completion of workshops may satisfy up to 31 credit hours of undergrad pre-requisite coursework.
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- To learn more, visit mba.business.siu.edu/foundations or contact Jenni Janssen at Janssen@business.siu.edu.

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SIU Carbondale

Anthony Hall 125, Mail Code 4305
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Carbondale, IL, 62901
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www.siu.edu

Southern Illinois University Carbondale offers students a choice of over 200 majors, minors, and specializations, nationally recognized graduate programs, and the opportunity to pursue original research under the guidance of world-class faculty. Students from every state and 119 countries realize SIU Carbondale has all the brains of a nationally ranked university with the heart of a small college.

SIU Office of the Vice Chancellor for Research and Graduate Dean

Anthony Hall 220, Mail Code 4344
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1265 Lincoln Dr.
Carbondale, IL 62901
(618) 453-4526, ordaweb@siu.edu

www.vcresearch.siu.edu

The Office of the Vice Chancellor for Research and Graduate Dean (OVCR/GD) is the administrative home for research and graduate education at SIU Carbondale. The Office works closely with SIU's research centers and colleges to strengthen research and graduate education. It administers the University's Technology Transfer Program through the Office of Research and Development Administration and works closely with the Southern Illinois Research Park. The OVCR/GD offers a matching funds program for grants, a new faculty startup program, a graduate technology awards program, and undergraduate research programs. It also coordinates the annual University's Outstanding Scholar Award and the annual Research Town Meeting

Scientific discovery, scholarly inquiry, and creative achievement are central to the mission of Southern Illinois University Carbondale. We are one of a handful of major research universities in Illinois and the only one in the southern half of the state. SIU Carbondale ranks among the top 4 percent of US higher education institutions.

SIU faculty are at work every day—in the lab and in the library, in the field and online, in the classroom and in the studio—to expand knowledge and contribute to society. By working alongside faculty and staff researchers, our students learn the latest methods and information in their field and experience the excitement of discovery. Those students include undergraduates, who participate in research as undergraduate assistants, as student workers, and through various undergraduate research programs.



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Carbondale, IL 62903
(618) 453-3427, kharfst@biz.siu.edu

www.researchpark.siu.edu

The Office of Economic and Regional Development at Southern Illinois University Carbondale established the Small Business Incubator Program with assistance from the State of Illinois. This program has successfully graduated more than 50 start-up and emerging businesses since the program's inception in 1990. Another 40 pre-venture and public-supported activities have been assisted during the same time period. Housed in the Dunn-Richmond Economic Development Center, the Small Business Incubator is adjacent to the main campus at Southern Illinois University Carbondale.

The Southern Illinois Research Park (SIRP) is a non-profit corporation affiliated with SIU promoting technology and knowledge-based enterprise development within the Park and the southern Illinois region. The central activity is enterprise development to locate and expand knowledge-based, technology, and research-oriented enterprises at the SIRP's site through recruitment and expert technical assistance to eligible existing and start-up enterprises. Several projects nearing completion include expansion of the interior roadway and infrastructure improvements for future development.

SIU Technology Transfer Program

Woody Hall C-206, Mail Code 4709
Southern Illinois University Carbondale
900 S. Normal St.
Carbondale, Illinois 62901
(618) 453-4556, techtran@siu.edu

www.techtransfer.siu.edu

SIU's Technology Transfer Program helps inventors to assess the commercial feasibility of University inventions and intellectual property (IP), file patent applications as appropriate, and develop strategies to market and license the technologies to industry. Inventors can find answers to their questions about patents and IP, forms to submit inventions, relevant news and more on the Tech Transfer website.

SIU's Technology Transfer Program grants licenses to industry and qualifying startups that are capable of successfully developing and commercializing the University inventions and intellectual property. A complete list of currently available technologies is available on the Tech Transfer website.

SIU is increasingly active in the field of technology transfer and commercialization. Since 2000, SIU Carbondale and School of Medicine have disclosed 260 inventions, issued 64 licenses/options, filed 136 patent applications with a resulting 49 issued patents, and received \$4.6 million in royalties.

Attitude Designs

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Carbondale IL 62901
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SIU Southern Illinois University

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Scientific discovery, scholarly inquiry, and creative achievement are central to the mission of Southern Illinois University Carbondale. We are one of a handful of major research universities in Illinois and the only one in the southern half of the state. SIU Carbondale is placed among the top 4 percent of U.S. higher education.

SIU Carbondale faculty are at work every day—in the lab and in the library, in the field and online, in the classroom and in the studio—to expand knowledge and contribute to society. By working alongside faculty and staff researchers, our students learn the latest methods and information in their field and experience the excitement of discovery. That includes undergraduates, who participate in research as undergraduate assistants, as student workers, and through various undergraduate research programs.

Research and Graduate Education at SIU Carbondale
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Polsinelli Shughart has more than 540 attorneys in 16 cities stretching from Washington, D.C. to Los Angeles, including offices in Phoenix, New York, Chicago, Denver, Dallas, St. Louis and our headquarters in Kansas City. With more than 50 practice groups including a Science and Technology Practice Group that includes over 40 attorneys that focus on various technologies related to patents, trademarks, trade secrets and copyright protection. We have attorneys with the requisite background and experience to help our clients with the challenges that require legal perspective and counsel at every stage of their organization's life cycle.

Our legal services have been integral to the successful foundation and growth of businesses ranging from entrepreneurial start-ups to multinational conglomerates. Other clients include research hospitals, governmental and non-profit research institutes, and universities.

SIU Coal Research Center

405 West Grand Ave.
Carbondale, IL 62901-4623
(618) 536-5521

www.crc.siu.edu

The Coal Research Center serves as a center of excellence for coal, energy, and environmental research. For more than three decades, Southern Illinois University Carbondale has maintained a substantial coal research, education, and service program. The Coal Research Center was established in 1974 to stimulate and coordinate efforts to improve the efficiency of coal mining and coal use. One of the Center's primary missions is to identify and initiate new research areas, opportunities, and programs that facilitate the development of improved coal extraction and utilization methods. These innovative technologies, which maximize energy yield while minimizing cost and environmental impact, are essential to the growth and development of clean, sustainable, domestic energy. This mission is carried out through the initiation of new programs and approaches to research, community education, faculty development and support, scholarship, and service.

Southern Illinois Healthcare

1239 East Main St.
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(618) 457-5200, gene.honn@sih.net

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Herrin Hospital, Memorial Hospital of Carbondale and St. Joseph Memorial Hospital are members of the integrated system of care, Southern Illinois Healthcare, SIH, serving the southernmost 16 counties of southern Illinois.

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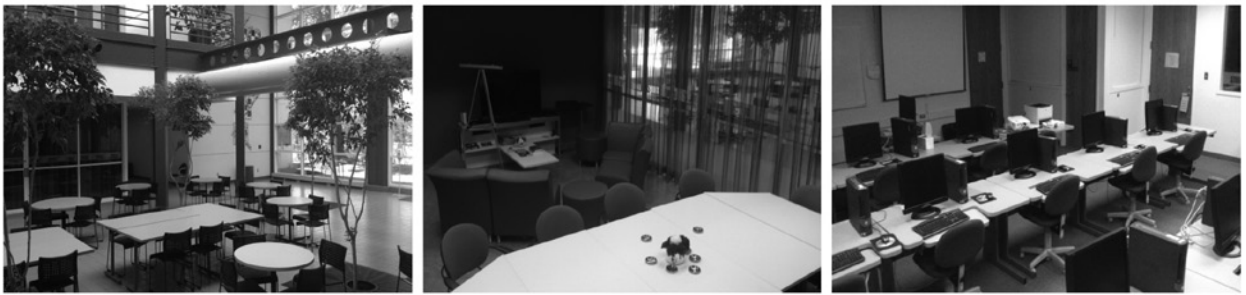
Small Business Incubator Program Southern Illinois University Carbondale

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- * Incubator Affiliate Program
- * Operation Mousetrap Technology Entrepreneurship Training
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Connect SI Foundation, Inc.

3000 West DeYoung Street, Suite 800B
Marion, Illinois 62959
(618) 998-0970

www.connectsi.us

The Connect SI Foundation, Inc. is a 501(c)(3) non-profit corporation serving the twenty southernmost counties of Illinois. The Foundation encourages and supports economic and community development initiatives that implement the mutual foundations of regional collaboration and access to high-speed, affordable broadband. In particular, the Foundation works with local network providers to expand affordable broadband services, develops collaborative youth leadership through the Lead SI program, helps to meet the human resource needs of our health care industry through the Southern Illinois Online Nursing Initiative, promotes the development of entrepreneurship and small business growth, raises awareness of indigenous energy and agricultural assets, and other important related initiatives.

SIU's Technology and Innovation Expo is an exciting celebration of the intellectual talent that can fuel significant growth in southern Illinois. The Connect SI Foundation, inc. is proud to be a sponsor of this event.

Illinois Procurement Technical Assistance Center at John A. Logan College

700 Logan College Road
Carterville, IL 62918
(618) 985-2828 x 8571, ptac@jalc.edu

www.jalc.edu/cbi/procurement_technical_assistance_center/index.php

The Illinois PTAC provides cost free assistance to small businesses interested in local, state and federal contracting. We provide confidential customized counseling services to clients regarding registrations, certifications, solicitation review, proposal preparation, bid history research, market research and other services as requested. In addition, the center offers a customized bid matching service delivering opportunities at the state and federal level directly to your e-mail inbox for your review.

TECHNOLOGY TRANSFER

<http://techtransfer.siu.edu>



Services for SIUC Faculty and Staff:

- ⇒ Invention Review
- ⇒ Patent Applications
- ⇒ Marketing and Licensing
- ⇒ Strategy Development
- ⇒ Knowledge Resources and Links

Opportunities for Industry:

- ⇒ Technologies Available for License
- ⇒ Early Access to Translational Research
- ⇒ Events and Meetings Throughout the Year



SIU
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Putting
Southern Illinois University
Patents and Inventions
to Work
In Our Communities
and Industry

Illinois Small Business Development Center/International Trade Center

Dunn-Richmond Economic Development Center, Suite 110

150 East Pleasant Hill Road

Carbondale, IL 62903

(618) 536-2424, sbdc@siu.edu

www.siusbdc.com

The Illinois Small Business Development Center/ International Trade Center at Southern Illinois University Carbondale can help you take your business idea from concept to reality, expand your current business, and lead the way for you to take your company into the global marketplace.

Our team of professional consultants provide free confidential business advisement in the areas of: business planning, financial analysis, export contracting, export compliance, loan packaging, marketing, social media, and much more. Additionally, the Center offers many different training programs on a variety of entrepreneurial topics.

IMEC – Illinois Manufacturing Extension Center

150 E Pleasant Hill Road #136

Carbondale IL 62903

(888) 806-4632, info@imec.org

www.imec.org

IMEC is one of 59 non-profit centers that receive funding from the U.S. Department of Commerce's National Institute of Standards and Technology – Manufacturing Extension Partnership program to assist small and mid-sized manufacturers. Since 1996, IMEC has helped more than 2,000 Illinois manufacturing companies achieve more than \$1 billion in improvements in productivity, sales and cost savings. IMEC's singular goal is to ensure the on-going health of the state's manufacturers. IMEC delivers customized training and hands-on technical assistance through a full-time staff of experienced specialists who are located at twelve field office locations, from Chicago to Carbondale. IMEC engages companies, diagnoses needs, and delivers customized solutions that enable Illinois manufacturers to be more productive and globally competitive. IMEC's services include process improvement, product development, safety, quality management, information technology, sustainability, and strategies to grow sales and diversify markets. IMEC annually generates more than \$100 million in verified improvements in manufacturing performance.

Jackson Growth Alliance

Post Office Box 23

Carbondale, IL 62903

(618) 713-9210, info@jacksonbiz.org

www.jacksonbiz.org

The Mission of the Jackson Growth Alliance is to encourage economic and community development for all of Jackson County and the greater southern Illinois region. The Jackson Growth Alliance unites the efforts of the Jackson County government, City of Murphysboro, City of Carbondale, Southern Illinois University, Southern Illinois Airport Authority and the Jackson county business community for the achievement of economic development goals.

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SIU Center for Rural Health and Social Service Development

Southern Illinois University Carbondale
150 East Pleasant Hill Road Suite 118
Carbondale, IL 62903
(618) 453-1262, ksanders@rural.siu.edu

www.crhssd.siu.edu

Southern Illinois University Carbondale's Center for Rural Health and Social Service Development (CRHSSD) aims to strengthen rural health infrastructure and to promote opportunities for enhancing health primarily in rural communities. The CRHSSD conducts research, needs assessments, demonstration projects, program evaluations, and trainings; tests new models of health care delivery; and develops policy recommendations to improve the health of our rural communities. The purpose of the CRHSSD is to bring together the resources of the University...the faculty, staff, and students...to work as partners with area agencies to address the most pressing health and social service problems of the region.

SIU College of Agricultural Sciences

1205 Lincoln Drive, Mail Code 4416
Southern Illinois University Carbondale
Carbondale, Illinois 62901
(618) 453-2469, collagri@siu.edu

www.coas.siu.edu

Located in the Midwest's agricultural heart and situated near one million acres of national forest, the College of Agricultural Sciences emphasizes the development of food, agriculture and natural resources.

Our science-based undergraduate and graduate degree programs focus on the agricultural sciences, production technology, business and management, public policy and economic development, education and information, environmental quality and enhancement, recreation, and food and fiber utilization. Faculty researchers teach our classes and conduct hands-on laboratories, integrating theory and practice with a problem-solving approach. Our 2,000 acre, on-campus farm allows us to offer the best in traditional agricultural education, while our dynamic faculty expand our academic and research focus into such fields as nutrition and health, the production of specialty crops, tourism, and the protection and enhancement of the environment.

We are proud of our more than 10,000 alumni who serve in leadership positions throughout the nation. We maintain close contact with agribusiness and commodity groups, turfgrass producers, hotel and restaurant owners and operators, foresters and environmental agency heads, and those who hire the graduates we've trained and use the new knowledge we uncover.

Coal Research Center



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www.crc.siu.edu

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SIU College of Engineering

1230 Lincoln Drive
College of Engineering
Mail Code 6603
Carbondale, IL 62901
(618) 453-4321, engineering@engr.siu.edu

www.engr.siu.edu

Southern Illinois University Carbondale's College of Engineering offers students a rich environment for the pursuit of degrees in a wide range of engineering fields. The college has a heavy emphasis on industry collaboration, providing students with valuable opportunities to interact with and learn from experts in the professions for which they are training. The undergraduate program provides classroom and hands-on laboratory instruction as well as a residential living learning community. The college offers rigorous research graduate programs, helping SIU earn the prestigious distinction as a Carnegie Doctoral Research University, a ranking shared by only 10 percent of U.S. universities. The college has five academic departments, Civil and Environmental Engineering, Computer and Electrical Engineering, Mechanical Engineering and Energy Processes, Mining and Mineral Resources Engineering, and Engineering Technology. Degrees are offered includes BS, MS, and Ph.D. In addition, SIU's College of Engineering offers a unique graduate degree program combining electrical and computer engineering and law degrees.

SIU College of Science

Mail Code 4403
Southern Illinois University Carbondale
Carbondale, IL 62901-4304
(618) 536-6666

www.science.siu.edu

The College of Science is a dynamic learning community of 140 Faculty Members, 1384 Undergraduate Students and 470 Graduate Students. This community is dedicated to the study of the physical, biological and information world, the development of new knowledge bases in these areas of inquiry and the education of our students, as well as the public, about the tools of science which drive the discoveries being made here at SIU every day.

Our College has been experiencing tremendous change since 2000. Over 40 new faculty members have been added to our ranks to replace retirements and each of these fine young scientists has brought with them new energy, new ideas and high level of commitment to excellence.

SIU Credit Union

395 N. Giant City Road, Carbondale, IL 62901; 1217 W. Main, Carbondale, IL 62901; 2809 Outer Drive, Marion, IL 62959; 300 S. Pershing, Energy, IL; 704 E. Fifth Street, Metropolis, IL 62960
(618) 457-3595

www.siucu.org

SIU Credit Union is a not-for-profit financial institution that offers commercial loan and deposit accounts as well as consumer loan and deposit accounts. Membership is open to anyone living or working in 11 Southern Illinois counties.

USDA Rural Development

USDA Service Center
502 Comfort Drive
Marion, IL 62959
(618) 993-5396

www.rurdev.usda.gov/ILHome.html

USDA Rural Development is committed to helping improve the economy and quality of life in rural America.

Our financial programs support such essential public facilities and services as water and sewer systems, housing, health clinics, emergency service facilities and electric and telephone service. We promote economic development by supporting loans to businesses through banks, credit unions and community-managed lending pools. We offer technical assistance and information to help agricultural producers and cooperatives get started and improve the effectiveness of their operations. We provide technical assistance to help communities undertake community empowerment programs.

Nationally, USDA Rural Development has a \$155 billion portfolio of loans. Rural Development in Illinois has a portfolio of over \$3.5 billion. We achieve our mission by helping rural individuals, communities and businesses obtain the financial and technical assistance needed to address their diverse and unique needs.

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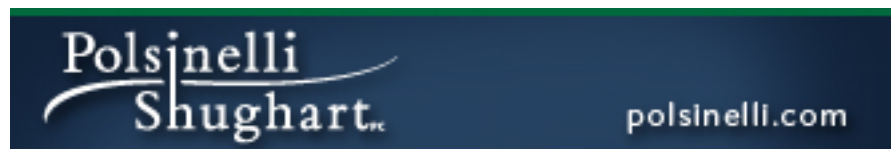


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SIU Technology and Innovation Expo

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- Coal Research Center
- College of Agricultural Sciences
- College of Business
- College of Engineering
- College of Science
- Office of the Vice Chancellor for Research and Graduate Dean
- Small Business Incubator
- Technology Transfer Program