1. Find ways to grow technology companies locally

[Link: engineering.vanderbilt.edu/news/tag/entrepreneurship]
1. Find ways to grow technology companies locally

2. Support Vanderbilt students, faculty, & staff with entrepreneurial and/or innovation aspirations
   • e.g., help them start businesses in the Nashville region or become part of the region’s community of entrepreneurs & innovators
1. Find ways to grow technology companies locally

2. Support Vanderbilt students, faculty, & staff with entrepreneurial and/or innovation aspirations

3. Better integrate Vanderbilt into the local innovation & entrepreneurship community

[Link to Entrepreneurship page] engineering.vanderbilt.edu/news/tag/entrepreneurship
The Dean chartered the Task Force in September 2012
1. Help connect engineering undergrads with local opportunities

Students must stay to better workforce

Nashville is becoming known as much an entrepreneurial and innovation epicenter for its music. Catch the creative vibe on a quick tour of the downtown space that houses the Nashville Entrepreneur Center.

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Nashville is becoming known as much an entrepreneurial and innovation epicenter for its music. Catch the creative vibe on a quick tour of the downtown space that houses the Nashville Entrepreneur Center.
2. Enhance the VUSE entrepreneurial ecosystem
3. Align with key Vanderbilt & external stakeholders
4. Integrate entrepreneurship into VUSE curriculum
5. Strengthen student-run VUSE organizations
6. Leverage innovation acceleration centers
7. Tap VUSE alumni connections

Task force aims to better integrate engineering school into local entrepreneurial community

A newly formed Technology Entrepreneurship Task Force in the Vanderbilt School of Engineering aims to connect tech-savvy undergraduates who have entrepreneurial ambitions to local companies and business leaders to better integrate the school into the Nashville community and to help stimulate private-sector innovation and growth in the Middle Tennessee region.

Created by Dean Philippe Fauchet in mid-October, the five-member task force will take a fresh look at activities the school could perform collaboratively with colleagues within the university, as well as with other universities and industries in the region.

“The task force objectives will be to find ways to grow technology companies locally, to enable Vanderbilt students, faculty and staff with entrepreneurial aspirations to start their businesses in middle Tennessee or to become part of the region’s entrepreneurial community,” Fauchet said.

Vanderbilt, in general, and the School of Engineering, in particular, are uniquely positioned to help foster deeper collaborations among local universities and companies, Fauchet said. “There is already broad consensus on this point from various groups at Vanderbilt and the Nashville technology community, but what is needed are concrete plans—and a systematic planning process—to achieve these ends.”

Doug Schmidt, professor of computer science and associate chair for computer science and engineering, is the task force chair.

“Doug is uniquely qualified to lead our task force,” Fauchet said. “He has helped spinoff multiple successful companies from his open-source ACE and TAO middleware research efforts at the Institute for Software Integrated Systems. He has the skill and perspective needed to accelerate technology entrepreneurship in the school.”

Schmidt has mentored dozens of graduate and undergraduate students who have started companies, joined startup companies, or worked for Nashville technology companies after they graduated. His experience includes serving as a program manager at the Defense Advanced Research Projects Agency (DARPA), which has been an incubator of advanced technologies for more than 50 years. He was also the chief technology officer at the Software Engineering Institute, a federally funded research and development center located at Carnegie Mellon University in Pittsburgh, Penn.

[Link to article](engineering.vanderbilt.edu/news/2012/task-force-aims-to-better-integrate-engineering-school-into-local-entrepreneurial-community)
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6. Leverage innovation acceleration centers
7. Tap VUSE alumni connections
• Facilitated structured engagements with local industry, entrepreneurs, innovators, venture capital, government, etc.

Engineering shares Vanderbilt space at Nashville Entrepreneur Center
engineering.vanderbilt.edu/news/2013/engineering-shares-vanderbilt-space-at-entrepreneur-center
anchorlink.vanderbilt.edu/organization/VINES

nashvillepost.com/blogs/postpolitics/2013/4/26/deanCreatesOfficeOfInnovation

hacknashville.com
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Mayor!

nashvillepost.com/blogs/postpolitics/2013/4/26/dean Creates Office of Innovation

hacknashville.com
ENHANCE THE VUSE ENTREPRENEURIAL ECOSYSTEM

- VUSE Innovation Roundtables w/local industry & government
  - First one held on July 15th at the Nashville Entrepreneur Center
- Focus was on ISIS research & researchers

Douglas C. Schmidt

Jules White

engineering.vanderbilt.edu/innovations-2013
ENHANCE THE VUSE ENTREPRENEURIAL ECOSYSTEM

• VUSE Innovation Roundtables w/local industry & government
  – Second one held on September 11th at Owen Business School
• Anita Mahadevan-Jansen, Professor of Biomedical Engineering
• Presenting her work on optical technology that can “see” cancer cells

www.vanderbilt.edu/magazines/vanderbilt-engineering/2012/05/leading-light

Leading Light
Mahadevan-Jansen pioneers ways to use light in medicine and biology

More than 100 years ago, the discovery of X-ray revolutionized medical care by opening a window into the human body. Today biomedical photonics—the application of light in medicine and biology—promises to be equally groundbreaking. At the forefront of the revolution is Anita Mahadevan-Jansen, the School of Engineering’s Orrin H. Ingram Professor of Engineering.

“Medical photonics is the use of light to diagnose, monitor and treat disease,” she says. “I work on diagnosing and treatment.”

As director of optical diagnostics research in the Biomedical Photonics Laboratories at Vanderbilt, Mahadevan-Jansen develops technologies that can be used in clinical care. The professor, who joined the School of Engineering in 1997, has received numerous awards and patents on her devices and has pioneered techniques in laser spectroscopy, the interaction of matter with light.

One of her main interests is optical guidance in surgery. Surgeons use her laser spectroscopy techniques during delicate brain surgery—when mistakes can be catastrophic—to better distinguish between healthy and diseased tissue.

Her optical techniques are also used in breast cancer surgery. Following lumpectomies—in which surgeons remove only the cancerous tumor instead of the entire breast—it can take several days for laboratory tests to discover if all the cancerous tissue has been removed. Often, the patient must return for further surgery. Mahadevan-Jansen’s techniques are currently being used to discriminate between the lump’s healthy and cancerous tissue so that all of the diseased tissue can be removed in a single operation.
• VUSE Innovation Roundtables w/local industry & government
  – Third one held on October 2nd at Owen Business School

• **Bharat Bhuva**, Professor of Electrical Engineering & Professor of Computer Engineering

• Presenting DefCone, which is a series of five inflatable, illuminated cylinders that blink at intervals to help stranded drivers

[Engineering news link](https://engineering.vanderbilt.edu/news/2013/professor-designs-life-saving-device-for-stranded-drivers)
• **VUSE Innovation Roundtables w/local industry & government**
  
  - November 6th, 2013, Benoit Dawant, Cornelius Vanderbilt Professor of Electrical Engineering
  
  • Talk about new ways of using technology to better the lives of patients with brain disorders based on work at the Vanderbilt initiative for Surgery & Engineering (ViSE)

[www4.vanderbilt.edu/vise](http://www4.vanderbilt.edu/vise)
ENHANCE THE VUSE ENTREPRENEURIAL ECOSYSTEM

- Helped bring Google to Nashville Entrepreneur Center
  - We are exploring the implications of Google making Nashville a “hub city”

Google to have tech hub at Nashville's Entrepreneur Center

www.tennessean.com/article/20130925/BUSINESS04/309250136
Vanderbilt

- Owen Graduate School of Management: Prof. Germain Boer, Prof. David Owens
- CTTC: Alan Bentley, Assoc. VC
- Center for Student Professional Development: Cindy Funk, Tim Grubbs
- Development & Alumni Relations: Teresa Rogers
- Corporate Relations: Barbara Blackford, Ed Thayer
- Associate Provost for Ugrad Studies: Cynthia Cyrus
- Students: Board members of VINES & VandyMobile Officers
• External
  – *Incubators/Accelerators*: Michael Burcham, CEO, Nashville Entrepreneur Center; Vic Gatto, CEO Jumpstart Foundry; Ray Capp, CEO, ConduIT Corp.
  – *Metro Nashville*: Yiaway Yeh, co-Chief Innovation Officer & former Mayor of Palo Alto
  – *State of TN* - Launch TN: Dr. Jim Stefansic, Director of Commercialization
  – *Private sector*: Neal Reizer, VP Development for Healthcare Management Systems; Mike Rustici, SCORM & the Tin Can
• Integrated projects in VUSE Senior Capstone Design Courses
  – Bundle a package of projects from our Engineering Management courses
    plus senior design, Computer Science, & other disciplines as needed
    • There’s also a possibility of summer internships
  – engineering.vanderbilt.edu/ge/engineering-management/ProspectiveSponsors
The Computer Science & Engineering Management programs are revising their undergraduate curriculum to integrate courses that enable innovation & entrepreneurship.

- Computer Science courses that focus on principles, patterns, & techniques needed to educate tomorrow’s entrepreneurs & innovators:
  - CS 251: Software Patterns & Frameworks
  - CS 278: Agile Software Engineering, with emphasis on connecting mobile devices with computing clouds
  - CS 279: Software Engineering Team Projects
  - CS 282: Mobile App Software with Android
  - CS 285: Network & Information Security
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  - CS 279: Software Engineering Team Projects
  - CS 282: Mobile App Software with Android
  - CS 285: Network & Information Security
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- ENGM client project courses that focus on the Nashville tech entrepreneurship community:
  - ENGM 242: Technology Marketing
  - ENGM 253: Technology-based Entrepreneurship
  - ENGM 272: Enterprise Systems Design
  - ENGM 292: Entrepreneur Studio
  - ENGM 296: Capstone Engineering Management Project

**Entrepreneur Studio will immerse students in startup culture**

Select engineering management juniors and seniors will see firsthand in a new spring semester course how local entrepreneurs try to unleash their startups’ potential.

Entrepreneur Studio will be run as a three credit hour studio and lab. Students will be matched with a startup company being incubated in the Nashville Entrepreneur Center, where they also will attend seminars and classes. Entrepreneur Studio (ENGM 292.02) is the adaptation of managerial studies 290.

“Students will be expected to work with their startup partner roughly eight hours a week,” said Christopher Rowe, associate professor of the practice of engineering management, director of General Engineering, and one of three faculty members leading the course.
The VandyApps student organization continues to thrive & grow, both within VUSE & beyond

- Founded & approved as a student organization in Spring 2009
- ~35 students from VUSE, other schools
- Faculty advisor is Douglas C. Schmidt

anchorlink.vanderbilt.edu/organization/VandyApps
• The **Vanderbilt Innovation & Entrepreneur Society (VI NES)**
  – Founded & approved as a student organization in Spring 2013
  – ~50 students from VUSE, other schools
  – Faculty advisor is John Bers
  – [anchorlink.vanderbilt.edu/organization/VI NES](http://anchorlink.vanderbilt.edu/organization/VI NES)
This program was developed in conjunction with
- Vanderbilt University School of Engineering (VUSE)
- The Center for Technology Transfer & Commercialization (CTTC) &
- The Nashville Entrepreneur Center (NEC)

A VUSE-wide student competition is planned to secure space at the NEC.
NEXT STEPS FOR THE TETF

• Plan a VUSE Technology Entrepreneurship event for mid/late Spring 2014
• Professional MS program in Computing & Software
• Joint masters degree in “technological entrepreneurship” with Owen Graduate School of Management
• Help guide development of Innovation Center on campus
• Teaming with the Vanderbilt Center for Student Professional Development, VINES, & Development & Alumni Relations to hold “Innovation, Imagination, Introductions – a conversation with Community Entrepreneurs”
– October 24th, 2013
Plan a VUSE Technology Entrepreneurship event for mid/late Spring 2014, with goals of

- Increasing awareness in the region of technologies being developed by VUSE faculty/staff/students &
- Learning what ideas/opportunities there are for closer collaboration with local entrepreneurs & companies
• Leverage expertise in digital learning technologies to create a professional masters program in computing & software

• Goal is to grow software tech base in Nashville

www.dre.vanderbilt.edu/~schmidt/Coursera/

news.vanderbilt.edu/2013/05/vanderbilt-institute-for-digital-learning
• Explore joint masters degree in “technological entrepreneurship” with Owen Graduate School of Management
HELP GUIDE DEVELOPMENT OF INNOVATION CENTER ON CAMPUS

- Focused on early-stage technological innovation & development that’s post-research lab, but pre-Entrepreneur Center
  - A place where on- & off-campus constituents can learn about early stage testing for IP strategy & for early stage market info
While we’re waiting for the Innovation Center to go live we’re also creating multimedia entrepreneurship spotlights on the VUSE website.

**Engineering students launch new apps for iPhone, Android**

Free iPhone and Android apps created to help students navigate campus, find events and dine

Finding out where to eat, what’s happening and how to get around are common questions on every college campus. Now at Vanderbilt University, the answers to these questions can be quickly and easily found using new applications developed by Vanderbilt engineering students for iPhone and Android mobile devices.


**Student Developer Draws Sales with iPhone Apps**

One of the hottest new electronic mediums for visual artists comes from a Vanderbilt University School of Engineering student who says he has no artistic skills himself.

Ben Gotow, a senior computer engineering major, develops applications (apps) for the iPhone. Two of his artistic drawing apps, Layers and Netsketch, have become so admired by users that online galleries have been dedicated to each app as a thematic medium. The applications are also a source of income for the student—he has earned more than $70,000 in sales of three apps through Apple’s online store.

Questions, concerns, suggestions?