Jumpstarting a Startup

On a spring weekend, when undergraduates and graduate students might have been catching up on sleep or homework, or binge-watching the latest Netflix series, 75 intrepid entrepreneurs dove into SCU's Startup Weekend, working nearly nonstop for 55 hours to help a handful of hopefuls get their ideas off the ground.

Patterned after a similar program at CalPoly, the cross-disciplinary event was created by the student organization BroncoDesign, in collaboration with other campus groups. "We had about 50/50 representation from engineering and business," said engineering junior Will McMullen, University Innovation Fellow and BroncoDesign President. Professional mentoring from deep tech VC firm Propel(x) was available. Sponsors included Dolby, OneWorkplace (an SCU-founded company), Autodesk, KEEN (a network of faculty transforming engineering education together), and uBridge, an SCU-launched social networking app for entrepreneurial business and engineering students. Silicon Valley VC associates, product designers, and startup founders were recruited to serve as judges.

Beginning with 30-second idea pitches from budding entrepreneurs, the top 10 ideas were selected, and individuals rallied around the various projects. McMullen explained that to help guide the process, the organizers held "half-hour workshops interstitially throughout the weekend pertaining to the various aspects of starting a company—team formation, customer validation, rapid prototyping, and user experience—to get teams involved in learning while also doing." On Day Two, teams ventured out to local restaurants, malls, and across campus to conduct interviews, gaining invaluable customer insight to improve their ideas.

Sunday morning began with a Pitch Workshop in preparation for later presentations before the judges. Awards were presented for most innovative,

SCU event helps entrepreneurial hopefuls get their ideas off the ground.

best business model, and best overall. Taking the best overall prize was Firetrack, a vital signs sensor designed to alert firefighters to dangerous stress levels that can affect coherent decision making. "Their challenge was figuring out the tech and packaging the sensors and communication devices at a competitive price point. They came up with a compact and elegant package—a Bluetooth earbud to fit with standard helmets," said McMullen.

"There are so many great outcomes from the Startup Weekend," he continued. "Two of the teams that pitched are still together, grinding it out to make their ideas reality. We plan to make this a regular thing at SCU, and BroncoDesign will hold a designathon in the fall, as well. It's really cool to see what can happen when you pair the go-getter attitude of engineering students with the go-getters from the business school. It's amazing how far that collaboration can go!"

Learn more about SCU Engineering's Innovation and Entrepreneurship programs: **scu.edu/engineering/about/innovation-and-entrepreneurship/**

Highlights from 2017-2018

2018 Kuehler Awards

Each summer, a handful of faculty members invite promising undergraduate students to join them as paid researchers, funded by the Kuehler Undergraduate Research Grant. Here are this summer's projects. For more information: www.scu.edu/research

Dynamic Virtual Machine Allocation Policy to Secure Multi-Tenant Cloud with Resource Optimization
Advisor: Yuhong Liu
Student: Ruiwen Li, Computer Science & Engineering

Continuous and Integrated Imaging of the Microfluidic Sensors for the Measurement of Physiological Parameters in the Body
Advisor: Emre Araci
Student: Tehmi den Braven, Bioengineering

Theoretical Modeling of Micro-Swimmers in Complex Media
Advisor: On Shun Pak
Student: Shreyes Nallan, Electrical Engineering

Microplastics Eating Bacteria
Advisor: Jonathan Zhang
Student: Brie Goo, Bioengineering

Myoelectric Muscle Sensing and Prosthetic Control
Advisor: Christopher Kitts
Student: Jamie Ferris, Mechanical Engineering

Wearable Energy Harvester for Self-Powered Prosthesis
Advisor: Hohyun Lee
Student: Joshua Vincent, Bioengineering

3D Nano-Scale Analysis of Ultrasonic Bonding Interface
Advisor: Panthea Sepehrband
Student: Brandon Vangogh, Mechanical Engineering

What We Do &

Curricula/
Co-Curricula

Discovery/
Research

Innovation and
Entrepreneurship

Humanitarian
Engineering/
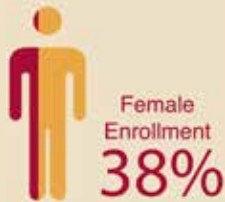Service

Undergraduate Programs

967 enrollment

Female Enrollment 29%

Underrepresented Minorities
29 PERCENT

B.S. Conferred **273**

Retention Rate **96%**

Graduate Programs

951 enrollment

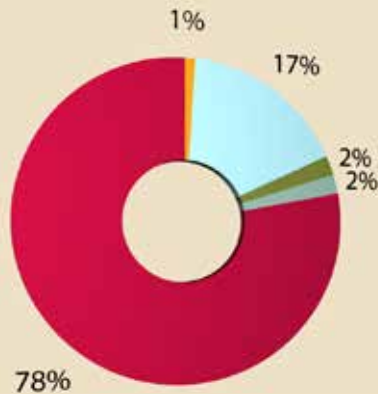Female Enrollment 38%

Underrepresented Minorities
7 PERCENT

M.S. Conferred **331**

ENGR. Conferred **1**

Ph.D. Conferred **5**

Revenue and Expenses

FY18 Revenue $20,202,479

- Other
- Gifts
- Endowments
- Fees
- University Allocation

1% 17% 2% 2% 78%

FY18 Expenses $18,210,786

- Benefits
- General Supplies/Operating
- Other
- Transfers to Internal Grants, etc.
- Grad Financial Aid
- Faculty/Staff Salaries

15% 11% 6% 3% 5% 60%
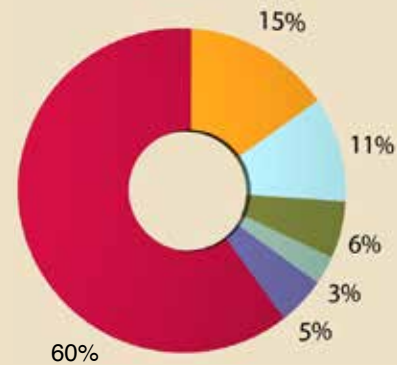
& Who We Serve

BS Engineers — Professional engineering path, future engineering management/law medicine

BS Entrepreneurs — Future entrepreneurs, Engineering/Business/Innovation & Entrepreneurship

BS Researchers — Graduate school bound, interested in working in R&D

MS Professional — Mostly part-time working students, goal is to work in Silicon Valley

Doctoral Researchers — Mostly part-time working students, desire to achieve doctoral status

The Jesuit University in Silicon Valley

Photo: Heidi Williams

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Ph.D. Degrees Conferred in 2017-18

Computer Engineering:

Yogesh Jhamb
Thesis: *Machine Learning Models for Context-Aware Recommender Systems*
Prior Degree: M.S. Computer Engineering, Santa Clara University, 2007
Advisor: Dr. Yi Fang

Olayinka Sylvia N'guessan
Thesis: *Human Attention Regions of Interest in Video Compression*
Prior Degree: M.S. Computer Science, Texas A&M University, 2006
Advisor: Dr. Nam Ling

Poongovan Ponnavaikko
Thesis: *Delay-Constrained Energy Optimization in High-Latency Sensor Networks*
Prior Degree: M.S. Telecommunications, University of Colorado, 2002
Advisors: Dr. Sarah Kate Wilson and Dr. Ahmed Amer

Computer Science and Engineering:

Madhusudan Kalluri
Thesis: *Rate-Distortion Optimization for Sparse Coding in Image Compression*
Prior Degree: M.S. Electrical Engineering, Villanova University, 1994
Advisor: Dr. Nam Ling

Mechanical Engineering:

Michael Alan Neumann
Thesis: *Hybrid Force/Position Control Architecture for Object Transportation by Mobile Robot Formations*
Prior Degree: M.S. Mechanical Engineering, Santa Clara University, 2008
Advisor: Dr. Christopher Kitts

Photo: Nicole Morales

From left: Poongovan Ponnavaikko, Michael Alan Neumann, Madhusudan Kalluri, Olayinda Sylvia N'guessan, Yogesh Jhamby