Overview for Purdue University Trustees
October 14, 2016
School of Engineering and Technology Departments

- **Engineering Departments**
  - Biomedical Engineering
  - Electrical and Computer Engineering
  - Mechanical Engineering

- **Technology Departments**
  - Computer Information and Graphics Technology
  - Engineering Technology
  - Music and Arts Technology
  - Technology Leadership and Communication
Faculty (full-time)
- Professor (Tenure/Tenure-Track) 22
- Associate Professor (Tenure/Tenure-Track) 34
- Assistant Professor (Tenure/Tenure-Track) 16
- Clinical (all ranks) 9
- Lecturer (all ranks) 32
- Research (all ranks) 6
- Visiting (all ranks) 12

Staff (full-time)
- Professional (including Technicians) 39
- Non-exempt (Clerical) 16

Students (headcount)
- Undergraduate 2912
- Graduate 442

E&T Student Headcount
- ~80% increase

3,354 headcount is an ALL-TIME record
B.S. Degree Programs

- Biomedical Engineering
- Computer Engineering
- Electrical Engineering
- Energy Engineering
- Engineering—Interdisciplinary
- Mechanical Engineering
- Motorsports Engineering

- Computer Engineering Technology
- Computer Graphics Technology
- Computer and Information Technology
- Construction Engineering Management Technology
- Electrical Engineering Technology
- Healthcare Engineering Technology Management
- Interior Design Technology
- Mechanical Engineering Technology
- Music Technology (IU degree)
- Organizational Leadership and Supervision
- Technical Communication
M.S. Degree Programs

- Master of Science Degree Programs (Engineering)
  - Biomedical Engineering
  - Electrical and Computer Engineering
  - Mechanical Engineering
  - Engineering

- Master of Science Degree Programs (Music and Arts Technology)
  - Music Technology
  - Music Therapy

- Master of Science Degree Program (with Technology focus areas)
  - Applied Data Management and Analytics
  - Information Security and Assurance
  - Facilities Management
  - Motorsports
  - Organizational Leadership
  - Technical Communication
Ph.D. Programs

• Students can earn a Ph.D. through Purdue, WL administered programs, while in residence at IUPUI (Ph.D. is granted by Purdue, WL)
  - Biomedical Engineering (founded as a joint program—WL/IUPUI)
  - Electrical Engineering (MOU—WL/IUPUI)
  - Mechanical Engineering (MOU—WL/IUPUI)

• New Ph.D. program in Music Technology started Fall 2016 (IU degree, ICHE site-approved for IUPUI)

• Pre-proposal for an IUPUI site-approved Purdue Ph.D. program in Electrical and Computer Engineering in review at WL
# School of Engineering and Technology Graduate Ranking (2017)

- #100 Best Engineering Graduate Schools
- Tied at #100 with some state land-grant flagships: K-State (1863) and LSU (1860)
- Only 3 schools with smaller engineering graduate enrollment than IUPUI were ranked higher than IUPUI (Yale, Dartmouth, and UNC-Chapel Hill)

**Point of Reference: other Flagships with Ph.D. programs at affiliated campuses**

- UC Berkeley
  - UC Riverside (#71); UC Santa Cruz (#87); **UC Merced (RNP)**

- UT Austin
  - UT Dallas (#73); UT Arlington (#82); **UT San Antonio (#139); UT El Paso (RNP)**

- UW Madison
  - UW Milwaukee (#118)
Align School Research Foci with Indiana Priorities/Initiatives

Local Industry
- Automotive
- Aerospace
- Energy
- Pharma
- Medical

National Labs
- Argonne
- Crane
- Wright-Pat
- ARL

Biomechanics & Biomaterials
Cardiovascular Modeling & Tissue Engineering
Transportation Safety
Renewable Energy & Alternative Energy
Nanotechnology & Materials
Sensors & Imaging
Spectrum & Data-centric Cyber-security
STEM Education

Indiana Priorities Initiatives
- Bio-Crossroads
- Conexus
- Techpoint
- Energy Systems Network
- I-STEM / PLTW

engr.iupui.edu
Transportation Active Safety Institute (TASI)

- > $5M over 5 years from Toyota Collaborative Safety Research Center
- Other sponsors include Delphi, BMW, Ford, and others
- TASI Featured on Discovery Channel Daily Planet
- Anchored in the ECE department. Need to grow ECE PhD program to enhance support of TASI and other niche areas, while providing unique opportunities for students

THE WORLD’S FIRST AND BEST ARTICULATED CRASH MANNEQUIN

- 360 Degree Human Body Shape Modeling
- 360 Degree Human Body Radar RCS Modeling
- Patented Mannequin Skin
- Realistic Pedestrian Gait Control
- Adult and child mannequins sized to match anthropometric measures for current US pedestrian crash victims
Recruit and Retain World-Class Faculty

Andres Tovar, Assistant Professor
Mechanical Engineering
Enable Extraordinary Student Success

Kirk Barber
- B.S. Motorsports Engineering, 2013
- **ASEE Intern of the Year, 2013**
- Allison Transmission (internship)
- Motorsports Club and Formula SAE
- Co-Author of article in Int'l Journal of Modern Engineering
- Production Engineer, Toyota North America

“Kirk’s academic record of accomplishment at IUPUI equals his success at Allison. His high level of self-motivation and strong desire for learning made him one of our star students.”
B. Klenk, Director, Allison Transmission

Steven Zusack
- B.S. Mechanical Engineering, 2014
- **ASEE Intern of the Year, 2014**
- German Aerospace Center in Germany (internship)
- NASA Langley Research Center (internship)
- Graduate student, Aerospace Engineering, Purdue, WL

“I have mentored over a dozen undergraduate and graduate students over my last 10 years here, and he has excelled above all other students in pursuing independent research work associated with adhesion of metal films.”
D. Laurence Thomsen, Materials Engineer, NASA Langley
Challenge+: Space

- Science and Engineering Laboratory Building (opened in 2013)
  - $0 from State of IN (funded in-part by the Schools from research overhead and proceeds from Angel Learning acquisition by Blackboard)

- Leases address some pressing needs
  - Off-campus: Stutz (Mechanical Engineering, Motorsports, and TASI)
  - On-campus: i) IU Health-University Hospital and ii) School of Medicine
Challenge*: Pace of Resource Reallocation Relative to Growth

- Rapid growth of the **engineering** portfolio as compared to the balance of the School’s **technology** portfolio
- RCM budget model is a definite advantage!
THANK YOU!

IUPUI

SCHOOL OF ENGINEERING AND TECHNOLOGY

A PURDUE UNIVERSITY SCHOOL

Indianapolis

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