New Faculty
Kerry Kelly

Assistant Professor

- Ph.D. – Environmental Engineering, University of Utah, 2015
- MS – Environmental Engineering, University of North Carolina-Chapel Hill, 1992
- BS – Chemical Engineering, Purdue University, 1988

Research interests:
Air quality, carbon management, evaluation of emerging energy technologies
Assistant Professor

- Ph.D. – Biomedical Engineering, University of Wisconsin-Madison, 2007
- MS – Electrical and Computer Engineering, Georgia Institute of Technology, 2003
- BA – Biology, University of Chicago, 1997

Research Interests:
Renewable energy, nanotechnology, biosensors, biofuels
Assistant Professor

- Ph.D. – Electrical Engineering, CEA-LETI/ Grande Ecole Centrale Lyon, 2011
- M.S. – Electrical Engineering and Computer Science, Grand Ecole CPE Lyon, 2008
  Electrical Engineering, Grande Ecole INSA Lyon, 2008

Research Expertise:
Semiconductor processes, digital architectures, reliability in nano electronics.
Assistant Professor

- Ph.D. – Electrical Engineering, Sharif University of Technology, 2013
- MS – Electrical Engineering – Sharif University of Technology, 2009
- BS – Electrical Engineering, Iran University of Science and Technology, 2007

Research Interests:
Mathematical models for power system optimization
Assistant Professor

- Ph.D. – Mechanical Engineering, University of California Berkeley, 2012
- MS – Mechanical Engineering, Yonsei University, Korea, 2007
- BS – Mechanical Engineering, Yonsei University, Korea, 2005

Research Interests:
Wearable electronics, nano fabrication, synthesis of nanostructures
Assistant Professor

- Ph.D. – Mechanical Engineering, UC Berkeley, 2015
- MS – Mechanical Engineering, Stanford University, 2009
- BS – Mechanical Engineering, Stanford University, 2008

Research Interests:
Nanomaterials for energy storage, renewable energy
Tucker Hermans  SoC

Assistant Professor

- Ph.D. — Robotics, Georgia Tech, 2014
- MS – Computer Science, Georgia Tech, 2012
- BS – Computer Science and German, Bowdoin College, 2009

Research interests:
Autonomous learning and perception in robots
Assistant Professor

- Ph.D. – Computer Science, Stanford University, 2013
- MS – Computer Science, Stanford University, 2010
- BS – Computer Science, Purdue University, 2007

Research Interests:
Distributed systems, operating systems, and databases
College Changes
New Dean’s Office Personnel

Amy Arkwright
Science Olympiad Program Coordinator, Academic Affairs

Tigran Mnatsakanyan
Webmaster, Communications

Kim Mellin
Web Content Specialist, Communications
College Awards
Ryan Schow
Nuclear Reactor Supervisor
UNEP

“It would be fitting to honor Ryan for his outstanding work and dedication in improving both UNEP and the College of Engineering and in setting a high standard for us to follow.”
Heather Palmer
Academic Advisor
Bioengineering

“We’re proud of the work she has done and the students she has impacted, and we look forward to new generations of undergraduates who will benefit from her devotion and desire to help.”
“This tireless team had to carefully review and implement designs to ensure the proper installation of complex instrumentation that researchers rely on. The Nanofab is fully functional thanks to this loyal and industrious group.”
College Awards
Teaching
Graduate Course Evaluation FY 15

Assistant Professor

Associate Professor

Professor

Career Line

The chart shows the evaluation scores for graduate courses across different ranks:

- **Assistant Professor**
- **Associate Professor**
- **Professor**
- **Career Line**

The scores range from 2 to 6, with higher scores indicating higher satisfaction.
Top Undergraduate Teachers — Fall 2014

BIOENGINEERING:
Doug Christensen

CHEMICAL ENGINEERING:
Tony Butterfield  Swomitra Mohanty

CIVIL & ENVIRONMENTAL ENGINEERING:
Steve Burian  Elizabeth Dudley-Murphy
Jared Johnson  Denis Petersen

ELECTRICAL & COMPUTER ENGINEERING:
Eric Brunvand  D. Patterson
Ajay Nahata  Arn Stolp

MATERIALS SCIENCE & ENGINEERING:
Jeff Bates  Dmitry Bedrov

MECHANICAL ENGINEERING:
Jim Smith  Ken Monson
Meredith Metzger  Andrew Doxon
Eric Paryjak

SCHOOL OF COMPUTING:
Jim de St. Germain  Corinne Lewis
Peter Jensen (x2)  John Regehr
David Johnson
Top Graduate Teachers — Fall 2014

CIVIL & ENVIRONMENTAL ENGINEERING:
  Steve Burian
  Jared Johnson
  Azaree Lintereur
  Milan Zlatkovic

ELECTRICAL & COMPUTER ENGINEERING:
  Doug Christensen
  Neal Patwari
  David Schurig

MATERIALS SCIENCE AND ENGINEERING
  Anil Virkar

MECHANICAL ENGINEERING:
  Mathieu Francoeur

SCHOOL OF COMPUTING:
  Jacobus Van Der Merwe
  Corinne Lewis
BIOENGINEERING:
Robert Hitchcock    Heather Palmer

CHEMICAL ENGINEERING:
Tony Butterfield (x2)    Terry Ring
Eric Eddings

CIVIL & ENVIRONMENTAL ENGINEERING:
Steve Bartlett    Chris Pantelides
Xiaoyue Liu    Denis Petersen

ELECTRICAL & COMPUTER ENGINEERING:
Marc Bodson    Arn Stolp
Ryan Brown    Daiming Qu
Neal Patwari    Jeff Walling
David Schurig

MATERIALS SCIENCE & ENGINEERING:
Jeff Bates    Dmitry Bedrov

MECHANICAL ENGINEERING:
Brian Bailey    Michael Czabaj
Don Bloswick    Mathieu Francoeur
Rebecca Brannon    Tom Grieve
Kuan Chen    Sanford Meek

SCHOOL OF COMPUTING:
Ryan Bown (x2)    Matthew Might
Chuck Hansen    Matthew Stoker
Peter Jensen    Joe Zachary
Top Graduate Teachers — Spring 2015

BIOENGINEERING:
  Orly Alter
  Christopher Butson

CHEMICAL ENGINEERING:
  Milind Deo
  Philip Smith

CIVIL & ENVIRONMENTAL ENGINEERING:
  Azaree Lintereur
  Chris Pantelides
  Richard Porter
  Milan Zlatkovic

ELECTRICAL & COMPUTER ENGINEERING:
  Ken Stevens

MECHANICAL ENGINEERING:
  Eric Paryjak
  Amanda Smith
  Ashley Spear

SCHOOL OF COMPUTING:
  Rajeev Balasubramonian
  Ryan Bown
  David Johnson
  Nathan Lindsay
  Zvonomir Rakamaric
COE Outstanding TA

Kiffer Creveling
Teaching Assistant
Mechanical Engineering

“Thanks to his contagious enthusiasm and outstanding leadership skills, Kiffer has proven to be an invaluable addition to the department. He wants to make the classroom and lab space a better place for students.”
COE Outstanding Teacher

Joe Zachary
Professor, Lecturer
School of Computing

“Joe has tackled and mastered complex topics in computer science and conveyed them in classrooms with passion, dedication and an innate ability to reach out to students in an effective way.”
College Awards
Research
2014 Research Expenditures > $1 Million

CHEMICAL ENGINEERING
  Mark Porter

CIVIL & ENVIRONMENTAL ENG
  Ray Levey
  Joseph Moore
  Brian McPherson
  Shu Jiang

SCHOOL OF COMPUTING
  Martin Berzins
  Chris Johnson
  Valerio Pascucci
  Robert Ricci
  John Regehr
  Matthew Might
  Ross Whitaker
2014 Research Expenditures $500K to $1M

BIOENGINEERING
  Jeff Weiss
  Rob MacLeod
  Frank Sachse
  Jindrich Kopecek
  John White
  Russell Stewart

CHEMICAL ENGINEERING
  Milind Deo
  Phil Smith
  Kevin Whitty
  James Sutherland

CIVIL & ENVIRONMENTAL ENG
  Rasoul Sorkhabi
  Varun Gowda
  Peter Rose
  Michal Nemčok

SCHOOL OF COMPUTING
  Guido Gerig
  Mary Hall
  Jacobus Van Der Merwe
  Ganesh Gopalakrishnan

ELECTRICAL & COMPUTER ENG
  Rajesh Menon
  Gianluca Lazzi

MATERIALS SCIENCE & ENG
  Ashutosh Tiwari
  Ling Zang
  Dmitry Bedrov
2014 FAR Data: Refereed Journal Articles, Referred Conference Articles, Book Chapters
Department Award Activity

Department Award Activity

<table>
<thead>
<tr>
<th>Department</th>
<th>FY 2014</th>
<th>FY 2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIO</td>
<td>$2,000,000</td>
<td></td>
</tr>
<tr>
<td>*ChE</td>
<td>$4,000,000</td>
<td></td>
</tr>
<tr>
<td>*CVEE</td>
<td></td>
<td>$6,000,000</td>
</tr>
<tr>
<td>ECE</td>
<td></td>
<td>$8,000,000</td>
</tr>
<tr>
<td>MSE</td>
<td>$10,000,000</td>
<td>$12,000,000</td>
</tr>
<tr>
<td>ME</td>
<td>$14,000,000</td>
<td></td>
</tr>
<tr>
<td>*SoC</td>
<td></td>
<td>$16,000,000</td>
</tr>
</tbody>
</table>

* indicate includes:
- Institute for Clean & Secure Energy
- Energy & Geoscience Inst.
- Center for Nuclear Eng.
- EAE

BIO
*ChE
*CVEE
ECE
MSE
ME
*SoC

FY 2014
FY 2015
College Highlights
Gretchen McClain Distinguished Alumna

- BS ME ’84
- Hercules
- Atlantic Research
- Grumman

- NASA
  - Chief Dir. of Space Station
  - Deputy Dir. for Space Flight

- Founding CEO of Xylem
Colette Mullenhoff Wins Academy Award

- MS CS ’98
  Thesis: “Physically-Based B-Spline Surface Sculpting”

- Industrial Light & Magic

- Scientific and Technical Awards
  - Shape Sculpting System

- Only Woman Awardee

- Biggest Applause
Mark Fuller Honorary Doctorate

- BS CvEE ’76
- MS Stanford ‘78
- Disney
- Founder and CEO of WET
  - Dubai Fountain
  - Bellagio Fountain, Las Vegas
  - City Center, Las Vegas
  - Olympic Water Park, Sochi
  - Gateway Fountains, SLC
  - Olympic Caldron, SLC
  - City Creek Fountains, SLC
- Big Brain Theory
Mathieu Francoeur Early Teaching Award

- Mechanical Engineering
- University of Kentucky, Lexington
- Thermal-Fluid Sciences

Other Awards
- CAREER
- College Outstanding Teacher
- ASUU Student Choice Award
Doug Christensen – Hatch Teaching Prize

- Faculty at the U since 1971
- ECE and Bioengineering
- Bioinstrumentation
- Other Awards
  - College Outstanding Teacher
  - ASUU Student Choice Award
  - Distinguished Teaching Award
Matthew Might – Presidential Scholar

- GaTech Ph.D. ’07
- Blogs at blog.might.net
- Research
  - Automated Security Analysis
  - Performance Optimization
  - Next Gen. Programming Languages
- Funding
  - CAREER Award
  - DARPA
  - NSF
  - National Nuclear Security Agency
David Jorgenson – Service Award

- BS EE ’61
- CEO of Dataquest
- Co-Founder of Katun Corp.
- David and Annette Jorgensen Scholars
Ashley Spear – AFOSR Young Investigator

• BS Architectural Eng., Univ. of Wyoming
• Ph.D. Civil Eng., Cornell
• Mechanical Engineering
• “3-D Multi-Scale Modeling Combined with Machine Learning for a Novel Structural-Prognosis Framework”
Miriah Meyer – NSF CAREER Award

- U of U Ph.D. ’08
- Post-doc at Harvard
- Visiting Scientist MIT
- USTAR Faculty in SoC
- Microsoft Research Faculty Fellow
- NSF Computing Innovation Fellow
- TED Fellow
- PopTech Science Fellow
- MIT Technology Review TR35
- Fast Company’s 100 Most Creative People
Entertainment Arts and Engineering

Princeton Review Computer Games Ranking
#1 Graduate                       #2 Undergraduate
Triangle Fraternity Chapter

- Engineering, Architecture and Science
- Founded at Univ. of Illinois in 1907
- 15 Members, Ave. GPA = 3.36
- Service: Tutoring and Habitat for Humanity
- Federal Way
High Tech Business in Utah

#1 Best States for Business, Forbes, 2014
#1 Economic Outlook, American Legislative Exchange Council & Laffer State Economic Competitiveness Index
#1 Economic Dynamism, Information Technology and Innovation 2014 State New Economy Index
#1 Small Business Friendliness, Ewing Marion Kauffman Foundation

#2 Short-term Job Growth, U.S. Chamber of Commerce
#2 Fastest Wage Growth, Bureau of Economic Analysis
Growth in Technology Companies
Power Practical

Paul Slusser
David Toledo
on Shark Tank

- Crowd Funding
- $250,000 from Mark Cuban
- $1M in Venture Funding

Photo Credit ABC
Lassonde Entrepreneur Dormitory

400 Beds
20,000 sq.ft. of Maker Space
Interdisciplinary
Endowed Professorships
Percentage of Endowed Professorships

PAC-12

- #53 Utah: 2%
- #31 WSU: 13%
- #78 OSU: 11%
- #55 Arizona: 2%
- #43 ASU: 11%
- #34 Boulder: 19%
- #26 UW: 23%
- #16 UCLA: 17%
- #11 USC: 34%
- #3 Berkeley: 32%
- #2 Stanford: 27%
Endowed Professorships

Milind Deo
Peter D. and Catherine R. Meldrum
Professor in Chemical Engineering

Anil Virkar
H. Kent Bowen
Professor in Material Science and Engineering
Engineering Initiative
2015 Engineering Initiative

- Dennis Miller’s Letter about Workforce Needs at Hill
- Stan Lockhart’s Encouragement
- Rich Nelson’s Prioritization for Utah Technology Council
- Marilyn Davies’ Organization
- John Sutherland’s Leadership, Spokesmanship, Reputation
Jeff Rogers – Honorary Alumnus

- Largest Increase in Engineering Initiative
  - $3.5M On-going
  - $1M One-time
- Engineering Initiative Lobbyist
- Paul Rogers Associates
TIAB Criteria

- Reward growth
- Favor using on-going funds for faculty
- Use one-time funds to build labs
- Weigh the potential of the proposal
- Efficiency - graduates per faculty member
- Clarity and relevance of the request
- Favor core engineering and computer science
- Impact on the Utah economy
- Quality of the graduates
# TIAB Allocation

<table>
<thead>
<tr>
<th>Institution</th>
<th>Grads x Years*</th>
<th>2012 to 2015 Grad Growth</th>
<th>2015</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>On-going</td>
<td>One-time</td>
<td></td>
</tr>
<tr>
<td>Utah CoE</td>
<td>2758</td>
<td>116</td>
<td>$1,800,000</td>
<td>$500,000</td>
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<tr>
<td>Utah CoM</td>
<td>1346</td>
<td>-22</td>
<td>515,000</td>
<td>140,000</td>
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<tr>
<td>USU</td>
<td>972</td>
<td>-2</td>
<td>375,000</td>
<td>75,000</td>
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<tr>
<td>WSU</td>
<td>950</td>
<td>28</td>
<td>440,000</td>
<td>130,000</td>
<td></td>
</tr>
<tr>
<td>SLCC</td>
<td>354</td>
<td>19</td>
<td>57,000</td>
<td>20,000</td>
<td></td>
</tr>
<tr>
<td>SUU</td>
<td>166</td>
<td>-4</td>
<td>25,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Snow</td>
<td>66</td>
<td>4</td>
<td>113,000</td>
<td>50,000</td>
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</tr>
<tr>
<td>DSU</td>
<td>142</td>
<td>7</td>
<td>175,000</td>
<td>45,000</td>
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<tr>
<td></td>
<td>6754</td>
<td>168</td>
<td>$3,500,000</td>
<td>$1,000,000</td>
<td></td>
</tr>
</tbody>
</table>

*Associate Degrees x 2; BS x 4; MS x 2; Ph.D. x 4

51% of On-going, 50% of One-time, 69% of Growth, 41% of Grads x Years
<table>
<thead>
<tr>
<th>FY</th>
<th>On-Going</th>
<th>One-Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>2002</td>
<td>$466,667</td>
<td>$933,333</td>
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<tr>
<td>2003</td>
<td>800,000</td>
<td>300,000</td>
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<tr>
<td>2004</td>
<td>180,000</td>
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</tr>
<tr>
<td>2005</td>
<td>207,000</td>
<td>175,000</td>
</tr>
<tr>
<td>2006</td>
<td>680,000</td>
<td>277,000</td>
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<tr>
<td>2007</td>
<td>250,000</td>
<td>350,000</td>
</tr>
<tr>
<td>2008</td>
<td>1,400,000</td>
<td>800,000</td>
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<tr>
<td>2009</td>
<td></td>
<td>46,000</td>
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<tr>
<td>2010</td>
<td></td>
<td>920,000</td>
</tr>
<tr>
<td>2011</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2012</td>
<td>1,186,000</td>
<td></td>
</tr>
<tr>
<td>2013</td>
<td></td>
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<tr>
<td>2014</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2015</td>
<td>1,800,000</td>
<td>500,000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$6,969,667</strong></td>
<td><strong>$4,301,333</strong></td>
</tr>
</tbody>
</table>
# 2012 U of U Initiative

<table>
<thead>
<tr>
<th>Department</th>
<th>Funding</th>
<th>Program</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bio</td>
<td>$400,000</td>
<td>20 BS, 10 MS (add lab, Bio In.)</td>
</tr>
<tr>
<td>ChE</td>
<td>240,000</td>
<td>8 BS, 8 MS (Meldrum, Pet. Eng.)</td>
</tr>
<tr>
<td>CvEE</td>
<td>250,000</td>
<td>10 Minor, 2 PhD (bottleneck)</td>
</tr>
<tr>
<td>ECE</td>
<td>260,000</td>
<td>20 BS</td>
</tr>
<tr>
<td>ME</td>
<td>600,000</td>
<td>30 BS (bottleneck)</td>
</tr>
<tr>
<td>MSE</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>SoC</td>
<td>250,000</td>
<td>20 MS (Big Data distance ed)</td>
</tr>
<tr>
<td></td>
<td>2,000,000</td>
<td>138</td>
</tr>
<tr>
<td>Department</td>
<td>On-Going</td>
<td>One-Time</td>
</tr>
<tr>
<td>------------</td>
<td>----------</td>
<td>----------</td>
</tr>
<tr>
<td>Bio</td>
<td>$375,000</td>
<td>$160,000</td>
</tr>
<tr>
<td>ChE</td>
<td>400,000</td>
<td>50,000</td>
</tr>
<tr>
<td>CvEE</td>
<td>480,000</td>
<td>10,000</td>
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<td>730,000</td>
<td>250,000</td>
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<tr>
<td>MSE</td>
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<tr>
<td>SoC</td>
<td>770,000</td>
<td>30,000</td>
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<tr>
<td>CoE</td>
<td>385,000</td>
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</tr>
<tr>
<td>Total</td>
<td>$3,600,000</td>
<td>$500,000</td>
</tr>
</tbody>
</table>
CoE Research Expenditures

ASEE Data
Engineering Degrees Granted

PhD, MS, BS

Year:
- 1999: 366
- 2000: 877

Comparison:
- PhD
- MS
- BS
2014 ASEE, 2016 US NEWS & WORLD REPORT

Average 2.3
2015 Graduates

BS Grad
MS Grad
PhD Grad

BIO
ChE
CvEE
ECE
MSE
ME
SoC
Graduates/Faculty (BS+MS)/(TT+2L)

- BIO: 3.00
- ChE: 4.00
- CvEE: 4.50
- ECE: 4.00
- MSE: 0.50
- ME: 5.50
- SoC: 4.00
Ph.D. Graduates per TT Faculty

BIO
ChE
CvEE
ECE
MSE
ME
SoC
Ph.D. Grads advised by Depts’ Faculty

- Bio
- ChE
- CvEE
- ECE
- ME
- MSE
- SoC
- Other
Students/Faculty (Sum of Ratios)
SCH taught by TT Faculty Members
SCH taught by Lecturing Faculty

- BIO
- ChE
- CvEE
- ECE
- MSE
- ME
- SoC
SCH per TT Faculty Member

- BIO
- ChE
- CvEE
- ECE
- MSE
- ME
- SoC
SCH per Lecturing Faculty

- BIO
- ChE
- CvEE
- ECE
- MSE
- ME
- SoC
Strategic Priorities

- Increase Research Volume
  - Multi-investigator Projects
- Improve Student Quality
- Nominate Faculty for Awards
- Improve Teaching Methods