State of the College Address, 2017: College of Sciences

Gail Dodge
Old Dominion University, gdodge@odu.edu

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A Year of Transition …

Chris Platsoucas
10 years of service as our Dean!

Thank you!

Reception this fall – stay tuned
External Awards and Honors

Jim Bliss named a fellow to the Human Factors Ergonomics Society in 2016

David Burdige named a Fellow of the Association for the Sciences of Limnology and Oceanography

Rodger Harvey named a Fellow & Fulbright Distinguished Arctic Chair

Cynthia Jones, named a Fellow of the American Fisheries Society

Robin Lewis selected as a Fellow in Division 35 (Psychology of Women) of APA and a Fellow in the Association for Psychological Science.

Dr. Mark Scerbo named Fellow in the Society for Simulation in Healthcare.

Anatoly Radyushkin recipient of the SCHEV Outstanding Faculty Award
University Awards and Honors

Colm Whelan awarded the Provost's Award for Leadership in International Education

Alex Godunov named University Professor

Robert Strozak received the Teaching with Technology Award.

Ian Balitsky, named Eminent Scholar

Michelle Kelley, named Eminent Scholar

Kent Carpenter received the University Distinguished Research Award

Colm Whelan awarded the Provost's Award for Leadership in International Education
Promotion and Tenure

Promotion to Professor
- Ian Bartol
  Department of Biological Sciences
- Jing He
  Department of Computer Science

Promotion to Associate Professor with Tenure
- Alvin Holder
  Department of Chemistry & Biochemistry
- James Paulson
  Department of Psychology
- James Lee
  Department of Chemistry & Biochemistry
- Eric Walters
  Department of Biological Sciences

Award of Tenure
- Ian Bartol
  Department of Biological Sciences
- Jing He
  Department of Computer Science
- James Paulson
  Department of Psychology
- James Lee
  Department of Chemistry & Biochemistry
- Eric Walters
  Department of Biological Sciences
Promotion

Promotion to Senior Lecturer

Ayman Elmeselami
Department of Computer Science

Katherine Smith
Department of Mathematics & Statistics

Amy Landers
Department of Psychology

Promotion to Master Lecturer

Shari Davis
Department of Mathematics & Statistics

Shannon Wells
Department of OEAS

Ayman Elmeselami
Department of Computer Science

Katherine Smith
Department of Mathematics & Statistics

Shari Davis
Department of Mathematics & Statistics

Shannon Wells
Department of OEAS
Department of Mathematics & Statistics

BS – Mathematics: Big Data Analytics Major

Carl A. Schulz Memorial Scholarship

New Faculty

Dr. Yuesheng Xu
Professor
Data Science, Medical Imaging, Image and Signal Processing, Wavelet Analysis, Machine Learning, Boundary Integral Eqs

Dr. He Huang
Lecturer
Condensed Matter Physics
Photoacoustic Image Reconstruction
Department of Ocean, Earth & Atmospheric Sciences

Zuzy Abdala—NSF Graduate Research Fellowship Program
Amanda Laverty—NOAA Knauss Fellowship, Marine Debris Program
Rodger Harvey—Fellow, Fulbright Distinguished Arctic Chair
David Burdige—Fellow, Assoc. for the Sciences of Limnology and Oceanography
Cynthia Jones—Fellow, American Fisheries Society
Three cruises to the Southern Ocean (Dreux Chappell, David Burdige, Pete Sedwick)
Ben Hamlington—Team Lead, NASA Sea Level Change Team

New Faculty

Richard (Rip) Hale
Assistant Professor
Marine Geology
Coastal Processes
Sediment Transport
Delta Dynamics
Department of Physics

Assistant Professor Ted Rogers just received a CAREERS grant from Dep’t of Energy

Dr. Raúl Briceño received the Kenneth Wilson Award (named for a Nobel Laureate) for excellence in Lattice Field Theory, June 2017

Prof. Ian Balitski named Eminent Scholar, bringing the number in Physics to ten

Delicia Malin named the May 2017 ODU Employee of the Month

Prof. Alex Godunov named University Professor

Prof. Anatoly Radyushkin 2017 SCHEV Outstanding Faculty award (the 4th for Physics)

Shout out to Planetarium Director Justin Mason for Eclipse2017!
Department of Biological Sciences

New Faculty

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Daniel Barshis</td>
<td>Program for Undergraduate Research and Scholarship Award</td>
</tr>
<tr>
<td>Jessica Beard</td>
<td>College of Sciences Distinguished Teaching Award – Adjunct Faculty</td>
</tr>
<tr>
<td>Kent Carpenter</td>
<td>ODU Faculty Research Achievement Award</td>
</tr>
<tr>
<td>Holly Gaff</td>
<td>2017 University Women’s Caucus Recognition Award</td>
</tr>
<tr>
<td>Lisa Horth</td>
<td>College of Sciences Distinguished Teaching Award</td>
</tr>
<tr>
<td>Lisa Horth</td>
<td>John R. Broderick Diversity Champion Award</td>
</tr>
<tr>
<td>Piotr Kraj</td>
<td>ODU Faculty Preparation Proposal Program (FP3) Award</td>
</tr>
<tr>
<td>Tatyana Lobova</td>
<td>ODU Faculty Development Award</td>
</tr>
<tr>
<td>Sara Maxwell</td>
<td>2016 Sloan Research Fellow Award</td>
</tr>
<tr>
<td>Douglas Mills</td>
<td>Shining Star Faculty Award</td>
</tr>
<tr>
<td>Douglas Mills</td>
<td>College of Sciences Outstanding Undergraduate Advising Award</td>
</tr>
<tr>
<td>Girish Neelakanta</td>
<td>Early Career Distinguished Research Award - Pre-tenured Faculty</td>
</tr>
<tr>
<td>Hameeda Sultana</td>
<td>Early Career Distinguished Research Award - Pre-tenured Faculty</td>
</tr>
<tr>
<td>Eric Walters</td>
<td>Alumni Association New Faculty Award</td>
</tr>
</tbody>
</table>

Dr. Lisa Wallace
Associate Professor

J. Robert Stiffler
Distinguished Professorship in Botany

Plant systematics
Biogeography
Ethnobotany

Dr. Lisa Byrum
Lecturer

Biological Sciences and
School of Nursing

Genetics,
Pathophysiology,
Advanced Physiology
Department of Computer Science

New Faculty

Dr. Shubham Jain
Assistant Professor
Networks, Systems and Security
Machine Intelligence and Data Analytics

Dr. Cong Wang
Assistant Professor
Networks, Systems and Security

Dr. Soad Ibrahim
Lecturer
Department of Chemistry & Biochemistry

Design phase of the new Chemistry & Biochemistry building – 110,000 sq ft – move-in Summer/Fall 2020

External grant funding and IDC reached its highest level in the department’s history

Alumni Donations reached highest level in department’s history

41 Chemistry PhD students and 3 Biomedical PhD students

Over 17,000 credit hours of instruction

First online courses developed and taught

New Faculty

Dr. Kalpana Mahadevan
Lecturer

Large Organic Chemistry Lectures
Supervision of Organic Chemistry Labs
Developing New Online Organic Chemistry Program
Summer UG Research Project Supervision

Dr. David Courson
Lecturer/SSRP

Microscopist and molecular biologist
Large General Chemistry Lectures
Supervision of College Chemistry Labs
PURS Award winner
Summer UG Research Project Supervision
Department of Psychology

New Faculty

Dr. Jing Chen
Assistant Professor
Human Factors
Semi-Autonomous Driving Systems
Phishing Detection in Cyber Space

Dr. Alan Meca
Assistant Professor
Developmental Identity Development and Acculturation
Health Risk Behaviors

Dr. Violet Xu
Assistant Professor
Industrial/Organizational Organizational Climate
Measurement and Psychometrics
College of Sciences
Major Instrumentation Cluster (COSMIC)

Mass Spectrometer
High resolution FTICR-MS
(Bruker Apex-Qe)

NMR
NMR spectrometer (Bruker
Avance III / 400 MHz)

NMR spectrometer (Bruker
Avance II / 400MHz)

Capable of high resolution
analysis of solids, liquids and
semi-solids.

New Faculty

Isaiah Ruhl
Interim Manager

Dr. Ravi Garimella
NMR expert
- Expenditures close to $16 million – will go higher!
- ODU signed an MOU with other VA universities: All “core facilities” that function as cost centers will be available to all signatory institutions at internal user rates
Strategic planning! Every faculty position is precious.
  • Support new faculty: mentoring; timely start-up, clear expectations
Expand in cybersecurity, data science, health and well-being, condensed matter physics, ecology, biomedical sciences, computational oceanography
Establish a Research Council, with elected faculty from each department
  • Address research infrastructure needs
  • Promote faculty and student research
  • Recruit excellent graduate students
New Building (Sciences Phase I)

- Located in parking lot across from OCNPS on Elkhorn
- On track for completion in 2020
- Schematic design underway
- All Chemistry faculty will relocate to the new building, including those in PSB and OCNPS
- Digital theater (Planetarium)

Sciences Phase II needed very soon for Biology and Psychology
Teaching

- **New degrees/majors**
  - Big Data Analytics Major (as part of B.S. in Math)
  - B.S. in Interdisciplinary Studies with Cybersecurity started in Fall 2016

- **Innovation in all departments**
  - Reduced DFWI rate in Chem 121
  - Course capture
  - New courses offered

### Chem 121

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of students</th>
<th>DFWI rate</th>
<th>Average course grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall 2013</td>
<td>843</td>
<td>51%</td>
<td>1.9</td>
</tr>
<tr>
<td>Fall 2014</td>
<td>841</td>
<td>46%</td>
<td>2.2</td>
</tr>
<tr>
<td>Fall 2015</td>
<td>590</td>
<td>35%</td>
<td>2.3</td>
</tr>
<tr>
<td>Fall 2016</td>
<td>654</td>
<td>36%</td>
<td>2.3</td>
</tr>
</tbody>
</table>

### Chem 121 Fall 2016

<table>
<thead>
<tr>
<th>Category</th>
<th>Number of students</th>
<th>Avg. Grade</th>
<th>Math SAT</th>
<th>DFWI rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Students</td>
<td>654</td>
<td>2.3</td>
<td>536</td>
<td>36%</td>
</tr>
<tr>
<td>Watched course capture video</td>
<td>302</td>
<td>2.6</td>
<td>528</td>
<td>26%</td>
</tr>
<tr>
<td>Did not watch course capture video</td>
<td>352</td>
<td>2.1</td>
<td>543</td>
<td>45%</td>
</tr>
</tbody>
</table>
Training high school STEM teachers

- Biology, Chemistry, Math, Physics, OEAS, Technology Education

- 140 students now in the program

- First three graduated in May 2017
First Year Experience - Greece

Shannon Wells in the Department of OEAS led 16 new First Year students to Greece for 10 days this summer as part of the University’s FYE Greece program.
## Math 103 Fall 2016

<table>
<thead>
<tr>
<th></th>
<th>DFWI rate</th>
<th>Avg Math Grade</th>
<th>Avg Math SAT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Never attended SI sessions N=71</td>
<td>94%</td>
<td>0.43</td>
<td>439</td>
</tr>
<tr>
<td>Attended 1-3 sessions N=94</td>
<td>86%</td>
<td>0.65</td>
<td>439</td>
</tr>
<tr>
<td>Attended 4-6 sessions N=137</td>
<td>73%</td>
<td>0.99</td>
<td>431</td>
</tr>
<tr>
<td>Attended 7-9 sessions N=180</td>
<td>63%</td>
<td>1.4</td>
<td>432</td>
</tr>
<tr>
<td>Attended 10 or more sessions N=636</td>
<td>31%</td>
<td>2.1</td>
<td>433</td>
</tr>
</tbody>
</table>

Supplemental Instruction (SI) works if you can get the students to attend.
2000 people watched the eclipse at Kaufman Mall

Pictures by Justin Mason, Rick Voight, Chuck Thomas
Outreach

20 computer science and engineering students from India spent 8 weeks at ODU this summer (led by Ajay Gupta)

Psychology Ph.D. students participate in relay for life

Peter Bernhardt at the ODU Child Study Center
Research Experience for Undergraduates

Nuclear and Accelerator Physics

Next year: Chemistry will also have an REU program!

OEAS: focusing on climate change and sea level rise in a coastal urban environment
BLAST

80 rising high school freshman and sophomores spend 3 nights at ODU experiencing the excitement of science and engineering (funded by the Virginia Space Grant Consortium and SCHEV)

Led by Cindy Tomovic and Vukica Jovanovic

Changing Oceans: Exploring Acidification

Building Resilience to Climate Change and Sea Level Rise: Michelle Covi and David Burdige

Our Home Planet and its Place in the Cosmos: Balsa Terzic, and Justin Mason
University News

- ODU has announced a $200 million fundraising initiative. Goals are student scholarships, faculty enhancements, athletics
  - Bridge the gap: On average ODU students are $1700 short in any given year – this affects their likelihood of success
- ODU was ranked in the top 15 in the nation for success of African American students by the Education Trust
- Online Virginia Network (OVN) – provide online courses so Virginians can finish their degrees; in collaboration with George Mason University (http://onlinevirginia.net)
- The new freshman class is the largest in our history.
COS Fund Raising

- We have almost 20,000 alumni, 600 (3%) of whom gave money to ODU last year. **Goal: 4%**
- Our endowment is $34.3 million
- Each department will produce a newsletter twice per year. We must do a better job of maintaining contact with our alumni
- Major gift priorities:
  1. Support undergraduate research
  2. Graduate student stipend enhancements; recruiting
  3. Endowed chairs; faculty support

Denise Milisitz is our major gift officer
Administration

- Appoint permanent chairs in Biology, Chemistry, and Computer Science
- Hire office manager for the Dean’s office. This position exists but is vacant
- Review staff needs in the departments
- Increase transparency
  - Monthly meetings of fiscal techs, GPDs, and others with similar jobs (graduate program assistants, office managers, etc.)
Telling Our Story

- Web Pages must be updated and inviting!
  - Support is available: Tilghman Williams, ITS team
- Keep track of news worthy items; inform ODU and community
- Short videos of faculty and students in action – research
- Brochures and promotional materials
- Social media

Student contest to design a better banner - TBA
Thank you!

Refreshments are available. The College of Sciences always has the best food!

Terri Mathews
Ravi Mukkamala
Rick Waters
Gabriel Franke
Andrea Stephen
Tilghman Williams
Suzanne Brodeur
College of Sciences Overview

**Faculty**
- Tenured/Tenure-track: 149
- Lecturers: 55
- Total Full-time: 204
- Research faculty: 19
- Adjunct faculty: 72 (AY 2016-17)

**Students**

<table>
<thead>
<tr>
<th>Fall 2016 Total Student Majors/Headcounts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Undergraduate</td>
</tr>
<tr>
<td>Graduate</td>
</tr>
<tr>
<td>Total</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Fall 2016 Total Degrees Conferred</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bachelor’s</td>
</tr>
<tr>
<td>Master’s</td>
</tr>
<tr>
<td>Doctorate</td>
</tr>
<tr>
<td>Total</td>
</tr>
</tbody>
</table>

Source: ODU Factbook