

The world we live in is changing even more rapidly, thanks to the continued evolutions of our computers and the Internet that connects them. The continued innovations, owed in part to enterprising folks like you from all fields, have transformed how we interact, from mere conversation to business, gaming, schooling, medical procedures, military operations, space exploration, and more. However, who is safeguarding our information on these systems that we use? Those responsible work in a field known as cybersecurity, and you can rest assured that ODU is helping to change and supply the field with experts aiming to improve and advance the field as we know it with the award winning experts at the Center for Cyber Security Education and Research. Within this issue we're profiling two of the CCSER researchers, Dr Hongi Wi and Rui Ning. Enjoy and let us know what you think.

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DR. HONGYI WU - PROFESSOR OF ELECTRICAL AND COMPUTER ENGINEERING



Please describe your area of research?

My current research focuses on security and privacy. I explore a variety of cyber and cyber-physical infrastructures ranging from conventional computer networks and systems to the emerging Internet of Things (IoT), aiming to discover new vulnerabilities and develop efficient countermeasure to secure our cyber space. My current work has focused on networked cyber-physical systems for security, safety, and emergency management applications, where the devices are often light-weight, with extremely limited computing power, storage space, communication bandwidth, and battery supply. I am particularly interested in research at the intersection between machine learning and cybersecurity. I have enjoyed working at ODU's Center for Cybersecurity Education and Research, in collaboration with an interdisciplinary group of faculty, staff, and students in the University and various cybersecurity researchers, educators, and practitioners in the Hampton Roads region.

What got you into it?

I became interested in cybersecurity because it is an active and evolving field, full of new secrets, mysteries, and challenges.

What excites you about it?

I enjoy the process of exploring and discovering new vulnerabilities and designing elegant solutions to solve fundamental and nontrivial cybersecurity problems. So I essentially play two roles in doing cybersecurity research. On one hand, it is a lot like serious detective work that examines many factors to unearth new risks and vulnerabilities. On the other hand, I take a scientific engineering approach to develop solutions to mitigate the vulnerabilities. It is fun to switch between those two roles.

What are your hobbies?

I enjoy travel. I grew fond of traveling when I was a child. My parents were both civil engineers who traveled intensively for various projects. Whenever they had to leave home at the same time, one of them took me on the trip. It did not take me long to realize how much fun such trips could be -- meeting different people, eating unique and delicious local food, experiencing interesting cultures, seeing beautiful scenes, and most importantly, taking days and weeks completely free of school work. The trips were not always pleasant. Sometimes we had to ride on crowded trains and stay in dingy hostels. Nevertheless, I enjoyed all of them.

What do you like most about ODU?

"Idea Fusion" -- It offers a truly interdisciplinary environment.

How do you give back to the community?

I believe that we have the obligation to contribute our disciplinary expertise to the community. We have deliberately sought out service opportunities to contribute our technical knowledge and experience to community-academic partnerships at local and state levels in support of the mission of achieving excellence in public service. We have presented our work at industrial meetings, shared the results and lessons learned from our work with broad audiences, actively involved in various technical conferences as chairs or committee members, served on the editorial boards of several prestigious journals, and presented on a number of funding proposal review panels. Our public engagement is integral to our research and teaching. We utilize our expertise to advance community goals and create scholarship out of service by publishing community collaborations and incorporating them into our courses. We expect that such efforts will make the intellectual resources more available and valuable to the community.

What interesting qualities or experiences do you feel you bring to ODU?

Ability to coordinate and work with interdisciplinary researchers, educators, and students.

PROFESSOR - DR. HONGYI WU (CONTINUED)

Why did you choose to become a professor?

Being a professor is the greatest job. I get to explore interesting ideas, interact with brilliant scholars, and mentor young people.

Tell us about your vision of the field: where do you think the field is headed in the next five years?

Cybersecurity focuses on protecting computers, networks, programs, and data from attack, destruction or unauthorized access. It is of growing importance due to the increasing reliance on computer systems and networks. While the computer and network technologies, including the Internet, wireless networks, data centers, personal computers, smart phones, and the emerging Internet-of-Things, are embraced as important tools for efficiency and productivity, a wide spectrum of organizations, ranging from government and military agencies to financial and medical corporations, collect, process, store, and transmit across networks unprecedented amounts of sensitive data, which are becoming an increasingly attractive target for cybercriminals. In recent years, cyber-attacks have become more common, sophisticated, and harmful. In fact, no organization or individual with an online presence is immune to attacks and the impact of cyber-attacks can be devastating. As the volume and sophistication of cyber attacks grow, there is a surging demand for a well-trained cybersecurity workforce to safeguard information relating to national security, health and financial records, and various sensitive business and personnel data.

What is your philosophy of teaching and learning?

A quote by Plutarch — “The mind is not a vessel to be filled but a fire to be kindled.” — is perhaps the best expression of my teaching philosophy.

LAB SHOWCASE: CCSER (BY DR. HONGYI WU)

Center for Cybersecurity Education & Research

Cybersecurity has been recognized as a key driver for the New Virginia Economy and was among former Governor McAuliffe's top priorities. The Old Dominion University (ODU) has made a substantial investment in this highly demanding area, as evidenced by the creation of the Center for Cybersecurity Education and Research (CCSER), the development of a state-of-the-art cybersecurity research infrastructure, and a cluster hiring of four faculty positions affiliated with the Center during the past two years. ODU is located in the southeastern Virginia city of Norfolk, in the region named for the largest natural deep-water harbor on earth, Hampton Roads. Hampton Roads is strategically located in the heart of the mid-Atlantic. It is home to the Naval Station Norfolk — the world's largest naval station, the Port of Virginia — the fastest growing port on the east coast with a vibrant and economically robust maritime industry, and the Langley Air Force Base, the NASA Langley Research Center, as well as one hundred and sixty four international business representing 28 countries. This significant infrastructure represents a mosaic of assets and makes Hampton Roads particularly vulnerable to malicious cyber-attacks. ODU is ideally poised to serve the cybersecurity educational and research and development needs of this region.



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LAB SHOWCASE: CCSER (CONTINUED)

Established in March 2015, CCSER is housed in the Office of Academic Affairs and aims to weave together disparate threads of programmatic and facility resources at ODU to create a strong education and research program focusing on cyber security. It represents an interdisciplinary effort bringing together faculty, staff, degree programs, certificates, and research initiatives from four colleges, eight academic departments, ODU's Office of Research, Office of Information Technology Services, and the Virginia Modeling, Analysis and Simulation Center. The participating colleges and departments include the College of Arts & Letters (Sociology & Criminal Justice; Philosophy & Religious Studies), Strome College of Business (Information Technology & Decision Science), Batten College of Engineering & Technology (Electrical & Computer Engineering; Engineering Management & Systems Engineering; Modeling, Simulation & Visualization Engineering), and the College of Sciences (Computer Science, Mathematics & Statistics).

The mission of CCSER is to

- offer cutting-edge educational experiences to students and professionals in the field of cybersecurity,
- develop high-impact, cross-disciplinary research initiatives that center on cybersecurity, and
- be a source of cybersecurity expertise to the University, the Hampton Roads region, and the Commonwealth of Virginia.

STUDENT - RUI NING - PH.D. ELECTRICAL AND COMPUTER ENGINEERING



Please describe your area of research?

On the intersection of Cybersecurity and Privacy concerning Deep Learning

What excites you about it?

I actually enjoy the process of finding a new vulnerability and then designing the defense mechanisms against it.

What encouraged you to pursue a graduate education?

To me, graduate study teaches me how to find a new problem rather than solve an existing one.

Describe your awards and or research.

We received the Mark Weiser Best Paper Award at the IEEE International Conference on Pervasive Computing and Communication (PerCom). PerCom is one of the best conferences in pervasive computing. Its reviewing process is extremely competitive, with an acceptance rate of 16.5% this year. Our paper reports a newfound vulnerability on smartphones due to the malicious use of sensor data. An attacker can sniff mobile APPs, i.e., infer what APPs have been installed on the users' mobile devices and when they are used, by realtime analysis of magnetometer data along with motion sensor data using deep learning techniques. The accuracy can be as high as 98%. It may lead to devastating impact on millions of mobile users. For instance, an attacker can acquire such sensor data through simply four lines of Java codes embedded in benign webpages and detect whenever a banking APP is opened and subsequently capture the username and password of the user in order to access his bank account. We have also proposed a noise injection scheme that can effectively mitigate an attack. This is a joint work with Prof. Cong Wang (Computer Science), Prof. Chunsheng Xin, Prof. Jiang Li, and Prof. Hongyi Wu (Electrical and Computer Engineering).

What encouraged you to choose your current field?

The smart devices have become constant companions of our daily life, with more and more personal data stored, processed, and transmitted on those devices. Those devices are an increasingly attractive target for cybercriminals. And I feel excited while doing something against them.

What do you look for in your academic colleagues?

The ability to communicate clearly and boldly would be that. I frequently discuss a variety of topics with my colleagues. Everyone has their own angle while facing the same problem, and it is valuable to converse deeply with individuals when probing a particular problem that may appear cloudy at first. Discussion will extend my sight in these times.

Describe your ideal academic work environment.

It is great now. Nice and professional faculty good equipment, friendly colleagues.

What do you consider to be your particular strength?

Creativity.

Faced with many competing demands on your time, how do you determine your priorities?

Happiness is my first priority.

What efforts have you made in the last year to become a better future faculty member?

I try to listen to seminars of different areas. Sometimes they will give you the hints to solve your current research problems.

What made Old Dominion University stand out?

Old Dominion University has the best faculties I have worked with, especially those of the CCSER lab.

Who is an influential figure in your life?

My advisor Professor Hongyi Wu.

How would your professors and colleagues describe you as?

Smart but sometimes lazy.

What is your philosophy of teaching and learning?

Learning from your daily life and hobbies.

What are your hobbies?

Basketball and video games.

NEW PROFESSOR INTRODUCTION: DR. TERESA KOURI KISSEL OF PHILOSOPHY AND RELIGIOUS STUDIES



Please describe your area of research?

I work in philosophy. I have two main focuses, both involving philosophy of math and logic. The first is what is called “logical pluralism”. It’s the view that there is more than one good way to formalize reasoning, especially about mathematics. The second is on the work of Susan Stebbing, a logician who wrote between the two world wars. She focused on using logic to help facilitate political discussions. She is particularly interesting to study because a lot of her work was basically forgotten, since she was a women writing at a time when that was very rare.

What got you into it?

I actually started college as a math major, but fell into philosophy through the logic courses I took, which were offered in the philosophy department. I loved them, and just kind of kept going!

What excites you about it?

I like thinking about how we ought to think, and I like doing puzzles. These areas of philosophy strike me as a perfect marriage of both of those things!

What do you like most about ODU?

I love the community here, and the diversity of the student body. Everyone is incredibly supportive of my work and goals. And the student body cannot be beat – it is wonderful to have some many different perspectives in the classroom.

What have been your greatest challenges so far?

So far, the greatest challenge at ODU has been adjusting to a new city and a new job! I just moved out here in September, and I feel like the year has flown by – so much to do, and so much to explore!

What are your hobbies?

I really like logic puzzles of all kinds – from regular old crosswords to complex puzzle hunts. Also, I love to cook! And I especially love to try out new gadgets in the kitchen. I just got a smoke gun, which has been incredibly fun.

What efforts have you made in the last year to become a better faculty member?

I’m going to attend the Improving Disciplinary Writing workshop this May. I am very excited to learn about making writing philosophy more helpful for students, no matter what career they pursue.

FEE UPDATE NOTICE: CREDIT CARD CONVENIENCE FEES VIA AMANDA DUNLAP

“Effective May 1, 2018 the convenience fee associated with credit/debit card payments on the billing portal will increase from 2.75% to 2.85%. Consider using the electronic checking option to avoid the convenience fee. All you need to successfully submit an electronic check is the routing number, account number, and billing address associated with your checking account. The easiest way to obtain and verify this information is to refer to a paper check.” ... “DO NOT submit an electronic check with information from a credit card convenience check, money market account, or a savings account as it will be returned. Student accounts will be charged a \$50 returned check fee if a check payment is returned. NO EXCEPTIONS will be made in waiving a returned check fee. Should you have any questions please call the Student Accounts Team at (757) 683-3030. You may also stop by the Cashiers Office located on the first floor of Rollins Hall.”

SAVE THE DATE: 3MT BOOTCAMP MAY 17TH - 10:00 AM TO 2:00 PM

AN RSVP WAS SENT OUT TO GRADUATE ADMINISTRATORS.

CONTACT DR. PORTER AT [BPORTER@ODU.EDU](mailto:bporter@odu.edu) IF YOU HAVE NOT RECEIVED IT AND WOULD LIKE MORE INFORMATION.



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GRADUATE RESEARCH ACHIEVEMENT DAY 2018 PICTURES AND HIGHLIGHTS

The Graduate School extends its thanks to all who applied, attended, presented and contributed. With 89 poster presentations, this was the largest poster presentation within our eight years of running the event. Below and on the next page are pictures from the event. Please send any and all recommendations for improvement to Xavier-Lewis Palmer at xpalmer@odu.edu. We have extra printed brochures in the Graduate School at Koch Hall. Additionally, the abstract book can be found on our website at <https://www.odu.edu/graduateschool>.



[odu.edu/graduateschool](https://www.odu.edu/graduateschool)

GRAD 2018 PICTURES AND HIGHLIGHTS (CONTINUED)



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SUMMER FINANCIAL AID ANNOUNCEMENT VIA AGATHA TRUMPS

"Summer Financial Aid Request Form is available online. Summer aid is generally limited to loans, and in some cases, Pell Grant eligibility. It is contingent on funding availability and not guaranteed. Student's 2017-2018 FAFSA must be on file with Financial Aid Office no later than June 30, 2018. "

Summer Aid Application Information:

<http://www.odu.edu/tuition-aid/financial-aid/summer>.

Summer Aid Request Form: <http://www.odu.edu/content/dam/odu/offices/student-financial-aid/docs/sum2018.pdf>"

INSTITUTE FOR LEARNING IN RETIREMENT SCHOLARSHIP ANNOUNCEMENT VIA THEODORA ROZDILSKY

This is open to award is open to any discipline. The award lasts two years with the recipient receiving \$2,000 per semester. The award will be announced in July 2018 and will begin in Fall 2018. Application Period: January 1, 2018 to May 31, 2018. For more information visit: www.oduirl.org or call: 757-368-4160

EDITOR'S SPOT



Over the course of the semester, we have taken in feedback from many of you and are making changes to the newsletter to reflect that. The print format will be reduced and much of our news will be moved to our website. Continue watching our twitter profile,

facebook page, and check our emails as before. Our goal is to keep you informed and open your eyes to happenings around Old Dominion University, by the Graduate School and in graduate student life. As always, keep the feedback coming. Keep the good work going in all that you do! We thank you all!

-Xavier-Lewis Palmer

PAID 2019 SUMMER RESEARCH IN CHINA LED BY DR. XIXI WANG

Funded by the National Science Foundation (NSF) International Research Experiences for Students (IRES) program and led by Dr. Xixi Wang, Ph.D., P.E., Associate Professor in the Department of Civil and Environmental Engineering (CEE), this project is open to students at any U.S. institution in fields of water resources, hydrology, ecohydrology, environmental, soil and water, and climate change. Citizenship or permanent resident status is required. The project will cover the costs of the participants' travel, lodging and meals as well as provide each of them a \$500 weekly stipend. For details, contact Dr. Wang at x4wang@odu.edu or (757) 683-4882.

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UPCOMING SCIENCE PUB

Science PUBS

**3D PRINTING : MERGING ANTIQUITY
& NEW TECHNOLOGY IN ART MAKING**

APRIL 26, 2018

BEARDED BIRD BREWING

727 GRANBY ST., NORFOLK, VA

NETWORKING BEGINS AT 6:00 P.M. - PROGRAM BEGINS AT 6:30 P.M.

HOSTED BY

ALISON STINELY

Assistant Professor of Painting, ODU



Alison Stinely was born and raised in Erie, Pennsylvania. She received her BFA in Painting from Edinboro University of Pennsylvania and her MFA in Painting from Indiana University located in Bloomington, Indiana. She is an Assistant Professor of Painting at Old Dominion University in Norfolk, Virginia.

Alison's work has been shown in many juried and invitational exhibits nationally. She has also been the recipient of many awards and honors and is a two time winner of the prestigious Elizabeth Greenshields Foundation Grant. Her solo exhibition "Nocturnal Emissions" was featured on Hi-Fructose.com and her work "Rib Meat" has been featured in issue 198 of Juxtapoz Magazine. Alison's work has recently been showcased in a solo exhibition at Ghost Gallery in Brooklyn, New York as well as a current solo exhibition entitled "Gilded Splinters" at Linda Matney Gallery in Williamsburg, Virginia. Her work is in many private collections both domestically and abroad.

Please RSVP by April 25th at
<http://bit.ly/SciPubsODU>

Science Pubs ODU is an opportunity for the community to engage with ODU researchers in an informal setting. Join us for a lively and engaging discussion; a curious mind is all that is needed!

The first 20 guests to arrive will receive a beverage ticket.



NEW GRADUATE CERTIFICATE IN MODELING AND SIMULATION IN OCEANOGRAPHY

Ocean models are numerical models that mathematically represent the dynamics of the oceans. Models are used to better understand the properties of the oceans and their circulation. (Figure 1 – below). Ocean models play a very important role in our understanding and forecasting the ocean's influence on weather and climate. Ocean general circulation models are used to describe physical and thermodynamical processes in the oceans. But ocean models can also be used to predict environmental factors that determine the health of an ecosystem.

The Modeling & Simulation certificate in Oceanography was developed to meet critical needs in ocean, coastal, and estuarine environmental analyses through modeling and simulation. The program has been developed so that students gain competency in modeling and simulation related to oceans, bays and estuaries—thus providing greater opportunities for jobs in oceanography.

The field of modeling and simulation has rapidly become an integral part of nearly all aspects of ocean sciences, from numerical modeling of ocean circulation and simulations of ecosystems to statistical analysis of oceanic data.

Students who complete the Graduate Certificate in Modeling and Simulation in Oceanography will:

- Understand and be able to apply practical, quantitative methods and tools commonly used in the ocean sciences to simulate and forecast properties of the ocean and ocean circulation which directly impact the health of ecosystems at all scales (ocean, coastal ocean, bays, and estuaries).
- Understand practical aspects of oceanographic data collection, analysis, and interpretation, and numerical models that advance our knowledge of such challenges as climate change and the impact of climate change on the ocean and the coastal ocean environments such as the Chesapeake Bay.
- Apply this knowledge to effectively communicate scientific results orally as well as through data visualizations and written communications such as seminars, conference presentations and peer-reviewed journal articles, to both scientists and non-scientists.

These skills and competencies will allow graduates to pursue positions in national federal labs, including the National Oceanic and Atmospheric Administration (NOAA), National Aeronautics and Space Administration (NASA), U.S. Geological Survey (USGS), and others. Graduates may also seek research jobs in academia that require knowledge of modeling and simulation techniques of oceanographic environments including coastal oceans and estuaries like the Chesapeake Bay.

For more information about the graduate certificate in Modeling & Simulation for Oceanography, please contact Dr. Tal Ezer.

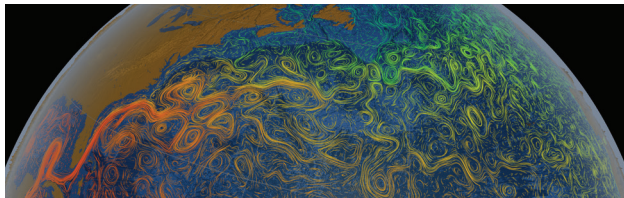


Figure 1 – This visualization shows the Gulf Stream stretching from the Gulf of Mexico north along the east coast of the US and east toward Europe. The visualization was produced using model output that synthesizes satellite and in-situ data of the ocean at resolutions that begin to resolve eddies and other narrow current systems. Reds indicate warmer ocean temperatures and greens and blues, colder temperatures.

ABOUT



Find Graduate School News online at:

www.odu.edu/graduateschool.

ODU graduate student Xavier-Lewis Palmer compiled and edited this newsletter with help from Dr. Robert Wojtowicz, Dr. Bryan Porter, and Ms. Missy Barber in the Graduate School.

You can contact Xavier-Lewis at: xpalmer@odu.edu.

odu.edu/graduateschool