



FLORIDA ATLANTIC UNIVERSITY
Division of Research



FAU CHAPTER OF THE NATIONAL ACADEMY OF INVENTORS

4TH ANNUAL

MEMBER RECOGNITION LUNCHEON

Celebrating the accomplishments of faculty
members in the areas of research, innovation
and commercialization.

Thursday, April 4
Noon
The Atrium

Sponsored by Meunier, Carlin & Curfman LLC



INTRODUCTION

The National Academy of Inventors (NAI) is a 501(c)(3) non-profit member organization comprising U.S. and international universities and governmental and non-profit research institutes, with more than 3,000 individual inventor members and fellows spanning more than 200 institutions and growing rapidly. It was founded at the University of South Florida in 2010 to recognize and encourage inventors with patents issued from the U.S. Patent and Trademark Office, enhance the disclosure of intellectual property, educate and mentor innovative students, and translate the inventions of its members to benefit society.

The NAI chapter at FAU is one of over 50 university chapters across the country. It was established in 2019 to honor the innovative accomplishments of FAU researchers and to support the mission of the academy to increase greater public understanding of the vital role research, innovation and technology plays in our society. Collectively, this group of 26 researchers are named inventors on over 158 issued U.S. patents and includes one NAI Senior Member and five NAI Fellows. Election to NAI Fellow status is the highest professional distinction accorded solely to academic inventors.

AGENDA

The past year was especially memorable for the FAU chapter. Over the summer, FAU was honored with the inaugural Chapter of Excellence Award during the NAI Annual Meeting in Washington D.C to recognize the chapter's extraordinary efforts to promote the mission of the organization at its institution. FAU's chapter also introduced a new mentor program that matches student innovators participating in the FAU Wave competition with NAI faculty members to provide education and guidance in specific research areas. Finally, NAI partnered with the College of Engineering and Computer Science to offer an intellectual property certificate for all undergraduate and graduate engineering students at FAU.

This event would not be possible without the generous support of university leadership, our colleagues in innovation and entrepreneurship, and our sponsors. The FAU chapter would like to thank:

Gregg Fields, Ph.D.
DIVISION OF RESEARCH

Cheryl Krause-Parello, Ph.D.
DIVISION OF RESEARCH

Regina Thompson
FAU WAVE

Jessica Beaver
FAU TECH RUNWAY

Bethany Alex
GOVERNMENT RELATIONS

Eric Schwartz
FLORIDA POWER & LIGHT

Diana Jerome
NATIONAL ACADEMY OF INVENTORS

Norma Alcantar, Ph.D.
NATIONAL ACADEMY OF INVENTORS

Donald Prather, Ph.D.
MEUNIER, CARLIN & CURFMAN LLC

Gibson Lanier, Ph.D.
MEUNIER, CARLIN & CURFMAN LLC



WELCOME

Dana Vouglitois, J.D., CLP
Senior Associate Director
Office of Technology Development



OPENING REMARKS

Gregg Fields, Ph.D.
Interim Vice President for Research
Division of Research



NAI UPDATE

Norma Alcantar, Ph.D.
Professor
Department of Chemical Engineering
and Biomedical Engineering
University of South Florida



GUEST SPEAKER

Eric Schwartz
Senior Manager
Smart Grid & Innovation
Florida Power & Light

AWARDS PRESENTATION

NETWORKING

GUEST SPEAKER

Norma Alcantar, Ph.D.

Professor

Department of Chemical Engineering and Biomedical Engineering
University of South Florida

Norma Alcantar is a Professor of Chemical, Biomedical & Materials Engineering at the University of South Florida. Internationally known for her breakthroughs using plant-based technology to decontaminate water, Alcantar's applications are imperative to future global sustainability and advances in biomedical applications for Alzheimer's Disease and cancer.

Over the course of the last 20 years, Alcantar has harnessed her research to invent new technologies using biomaterials derived from cactus plants that can expand the molecular removal of heavy metals, bacteria, sediments, radioactive isotopes, volatile organic compounds, and hazardous concentrations of fluoride and ammonia from water and soil. She has successfully demonstrated its use in many applications around the world, including Mexico, Bangladesh and notably in Port-au-Prince, Haiti after the 2010 earthquake. She has further applied this technology for sustainable soil systems that renew ground nutrients and enhance crop production.

Alcantar's recent patents are biomedical applications of her technology for novel therapies to fight disease processes. She designed new methods to treat diseases such as Alzheimer's by disrupting the formation of the plaques that can cause damage to brain tissue and function, and she developed a transformative drug delivery system to enhance treatment of brain and ovarian cancers.

GUEST SPEAKER

Eric Schwartz

Senior Manager

Smart Grid & Innovation
Florida Power & Light

Eric Schwartz is the senior manager of Smart Grid & Innovation for Florida Power & Light Company's (FPL) Power Delivery organization. He has worked at the company for 13 years. He is responsible for forecasting, piloting and implementing cutting-edge technology in the uncrewed and artificial intelligence spaces to be used by the company. He has served in other roles at the company, including quality deployment lead, Smart Grid & Innovation manager, reliability program manager and delivery assurance lead.

Prior to joining FPL, Schwartz was an engineer for Emergency One, a leading fire apparatus manufacturer, where he designed aircraft rescue fire-fighting trucks; and K-Rain, where he designed irrigation sprinklers. Schwartz holds 15 work patents and nine personal patents.

Schwartz earned a bachelor's degree from the University of Central Florida, an MBA from Florida Atlantic University and is a certified Six Sigma Master Black Belt. He is a member of the Association for Uncrewed Vehicle Systems International (AUVSI) and serves as the vice president of the Florida AUVSI chapter. He sits on the Board of Directors for the Commercial Drone Alliance.



2024 CHAPTER INDUCTEES



Maureen Hahn, Ph.D., is a prominent professional in the field of neurobehavioral research, currently serving as the Neurobehavior Core Scientific Director and Research Associate Professor in the College of Medicine. In her pursuit of knowledge, Hahn's research focuses on unraveling the intricate signaling pathways of neurotransmitters that underlie various emotional and cognitive processes. Her research spans a broad spectrum, delving into mood, attention, reward, learning, memory, and stress response. Central to her investigations are the neurotransmitter transporters that play a crucial role in regulating catecholamines, specifically norepinephrine (NE) and dopamine (DA).



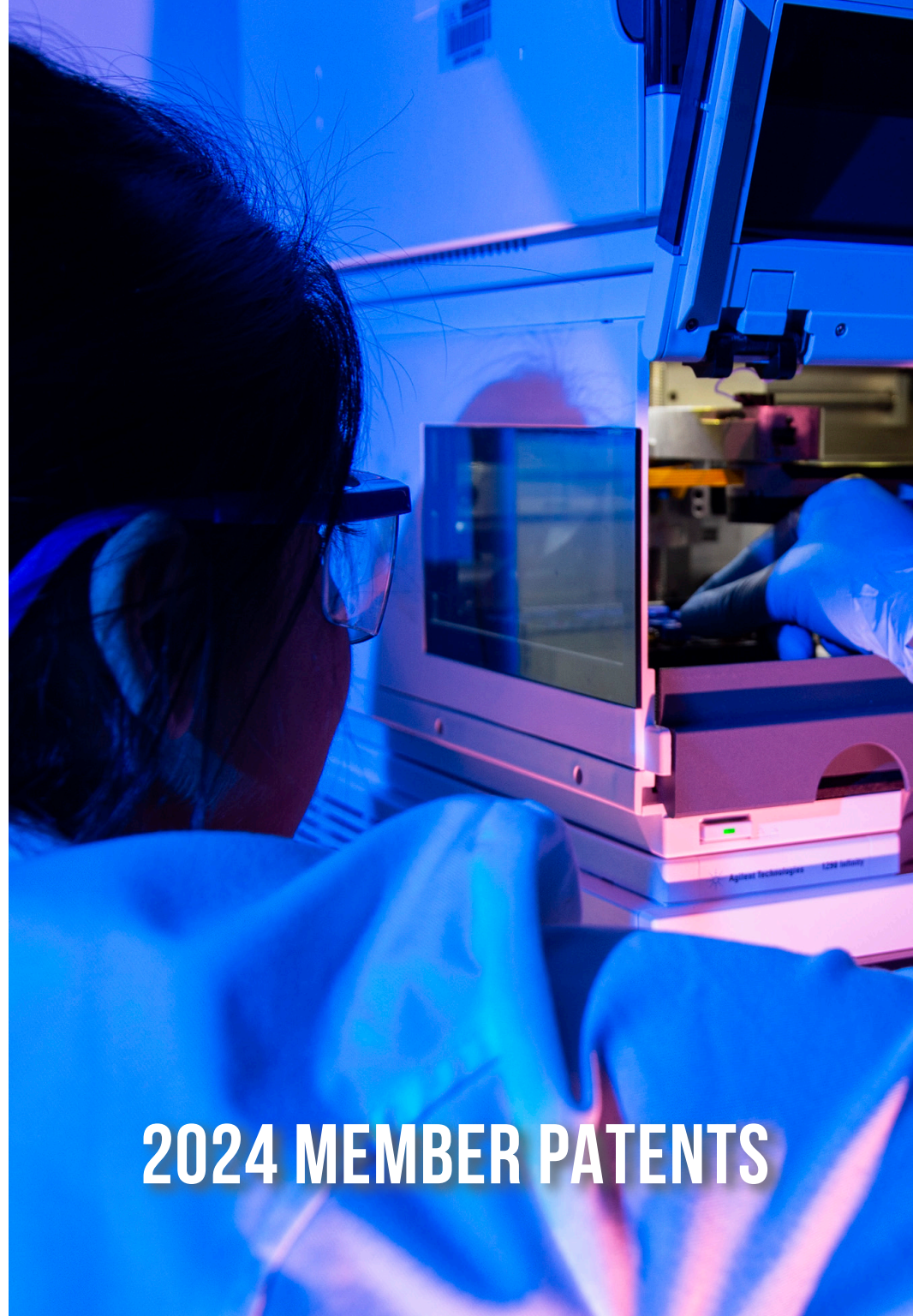
Sarah Du, Ph.D., is an accomplished Associate Professor in the College of Engineering and Computer Science, known for her groundbreaking work in medical technology. Driven by a passion for advancing healthcare solutions, Du's journey began in 2011, focusing on studying red blood cells and their role in diseases. This early research laid the foundation for her innovative work in creating microfluidic portable devices. Du envisions a future where her devices provide patients and healthcare providers with more accessible and efficient solutions for diagnosing various medical conditions.



Predrag Cudic, Ph.D., is a notable academic figure, currently holding the position of Professor and Associate Dean for Research in the College of Science. His expertise lies in the expansive domains of chemical biology and medicinal chemistry, where his contributions have left an indelible mark on scientific research. One of the critical areas of impact for Cudic's work lies in addressing the challenges posed by multi-drug-resistant bacterial infections. By employing innovative methodologies, his research offers promising avenues for treating these infections, contributing significantly to the global efforts in combating antibiotic resistance.



Martin Riche, Ph.D., is a distinguished Research Professor at the Harbor Branch Oceanographic Institute, serving as the principal investigator for fish nutrition. With a remarkable career spanning three decades, Riche has cultivated extensive expertise in aquaculture across the private, public, and academic sectors. Riche's reputation as a leading authority in freshwater and marine fish culture, larval culture, feed formulation, fish nutrition, and the design and operation of recirculating aquaculture systems is well-earned. His innovative contributions have significantly advanced the understanding and practices within aquaculture, demonstrating a commitment to sustainable and efficient fish farming methodologies.



2024 MEMBER PATENTS

Methods for Identifying Treatments that Reduce the Actions of Substances of Abuse and Addiction

Randy Blakely, Ph.D. and Maureen Hahn, Ph.D.

Blakely and Hahn received a patent from the U.S. Patent and Trademark Office for a method to identify therapeutic agents to treat addiction. The invention targets the protein MBLAC1, which the Blakely lab identified as the mammalian form of a gene the group first identified in worms as a modifier of signaling by the neurotransmitter dopamine.



Underwater Imaging System

Bing Ouyang, Ph.D.

Ouyang received a patent from the U.S. Patent and Trademark Office for an innovation that overcomes current technical issues related to underwater imaging such as contrast loss and blurring. The compact device performs active imaging of underwater objects and mounts easily on different types of undersea vehicles.



Cyclic Peptides, Cyclic Peptide Conjugates and Methods of Use Thereof

Predrag Cudic, Ph.D.

Cudic received a patent from the U.S. Patent and Trademark Office for a novel intranasal drug delivery platform to treat brain and central nervous system diseases. The invention is part of an innovative strategy based on grafting a bioactive sequence into the scaffold of a cyclic peptide exhibiting bioadhesive properties.



Portable Electrical Impedance-Based Blood Testing Device for Diagnosis and Monitoring Sickle Cell Disease

Sarah Du, Ph.D.

Du received a patent from the U.S. Patent and Trademark Office for a novel invention that offers patients a better way to manage sickle cell disease. The device rapidly and reliably monitors the disease using a microfluidics-based electrical impedance sensor, which can characterize the rate of cell sickling and the percentage of sickled cells.





2024 MENTOR TEAM

Epilyse

Danny Alice and Mehrdad Nojournian, Ph.D.

Epilepsy, a neurological condition characterized by recurrent seizures, affects approximately 65 million individuals worldwide. The unpredictability of seizures poses significant challenges for those affected, necessitating innovative solutions for better management. Introducing Epilyse, an advanced A.I. application designed for wearable devices. This groundbreaking app harnesses cutting-edge machine learning algorithms for real-time seizure detection, providing timely alerts to users, caregivers, and healthcare professionals. Epilyse not only empowers individuals with epilepsy but also enhances the understanding of their unique patterns through continuous learning algorithms. With user-friendly features such as personalized insights, proactive alerts, and adaptive learning, Epilyse empowers users with control, customization, and peace of mind that comes with reliable seizure detection.





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