UW System: Recognizes three professors for distinction in research, innovation, entrepreneurship

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MADISON, Wis.—The University of Wisconsin System today announced three recipients of the 2022 Regent Scholar Awards. They will be honored at the next Board of Regents meeting on April 7. The awards recognize UW System faculty for their extraordinary efforts in support of undergraduate research, innovation, and entrepreneurship.

“These Regent Scholars illustrate the exemplary research, teaching, and mentoring taking place on our campuses,” said UW System Interim President Michael J. Falbo. “Today’s undergraduate researchers are tomorrow’s entrepreneurs, scientists, and scholars.”

The program, which was introduced in 2014, is designed to stimulate faculty-student collaborative research.

“The UW System Regent Scholar winners receive prestigious, one-time grants recognizing the highest honor for faculty achievement in the areas of undergraduate research, entrepreneurship, and business engagement,” said Regent Robert Atwell, chair of the Board’s Research, Economic Development, and Innovation (REDI) Committee, which administers the Regent Scholar grants. “These innovative projects and research collaborations hold tremendous potential for helping people and communities.”

The 2022 UW System Regent Scholar grant recipients are:

- **Dr. Todd Hillhouse, Assistant Professor, Department of Psychology, UW-Green Bay**
  Targeting Nociceptin and Kappa Opioid Receptors for Treatment of Cocaine Addiction and Depression

More than 8 percent of the population meets the criteria for substance use disorder (addiction), and those with substance use disorder have a significantly higher prevalence of depression (up to 48 percent) as compared to the normal population (less than 15 percent). Agonist replacement therapies are the first line of treatment for addiction; however, they are not overly effective and do not eliminate addiction.

This research focuses on discovering and developing novel drugs for the treatment of addiction and depression as many overlaps exist between the disorders, and they likely share biological underpinnings. The proposed research is innovative in its approach to treat addiction through a neurotransmitter system that is separate from the drug of abuse. This recognition will also assist in the establishment of a new research lab on the UW-Green Bay campus, which will focus on developing talented local students for the biomedical industry.

Regent Scholar Video – Dr. Hillhouse: https://youtu.be/exFXsROU8s4

- **Dr. John Chan, Assistant Professor, Department of Chemistry, UW Oshkosh**
  A Novel Chemotherapy to Treat Parasitic Flatworms Causing Human and Animal Disease

Currently, broad spectrum control of parasitic flatworm infections in both human and animal health markets is dependent on one drug, praziquantel. No new drugs have been developed since the 1970s and reliance on one drug presents a serious threat of emerging drug resistance.

The objective of this proposal is to optimize a novel chemical compound that Dr. Chan and collaborators have discovered, which cures parasitic flatworm

infections. Development of new, antiparasitic drugs from this project will support the Wisconsin workforce both in the licensing and manufacturing of pharmaceuticals, as well as benefiting the end users in the Wisconsin agricultural community.

Regent Scholar Video – Dr. Chan: https://youtu.be/foWNxHY78pQ

- **Dr. Mark Levenstein, Assistant Professor, Department of Biology, UW-Platteville**

Aryl Fluorinated Ethers to Develop the Next Generation of Agrochemicals

This project focuses on the development of new agrochemicals for crop protection, an increasingly vital area of research. Pesticide resistance is particularly important in the state of Wisconsin where agriculture contributes significantly to the economy and accounts for nearly 12 percent of the state's workforce. The Project Investigator and collaborators have developed a novel, photocatalytic, chemical technique for synthesizing fluorinated compounds with the potential to improve the functionality of existing agrochemicals and to fuel the development of a new generation of biological agents with improved potency, increased longevity, and reduced environmental signatures.

Regent Scholar Video – Dr. Levenstein: https://youtu.be/u_IY4lVd5qA

Eligibility for the Regent Scholar award is open to all UW System university faculty in an effort to support the following goals:

- Providing summer funding for faculty to engage in research and other scholarly activities;
- Promoting stellar research and internship experiences for students, thus preparing a high-quality workforce;
- Stimulating innovation across all UW System campuses, ultimately driving regional economic development; and
- Recognizing undergraduate research in the STEM disciplines and creative arts

fields.

These grants are awarded competitively based on recommendations by a selection committee that included the following individuals:

- Dr. Tracy Davidson, Director, STEM and Applied Research Initiatives, UW System
- Darin Driessen, Director of Engineering Operations, Plexus Corp.
- Preeta Guptan, Manager, External Innovation, Promega Corporation
- Danielle Jones, Director of Rural Initiatives, Wisconsin Economic Development Corporation
- Jeff Prochnow, Senior Director, Finance, SCJ New Ventures at SC Johnson

The Regent Scholar program is coordinated by Arjun Sanga, President of WiSys, along with Dr. Adhira Sunkhara, Assistant Director for WiSys. WiSys is an independent, nonprofit-supporting organization for the UW System that advances scientific research throughout the state by patenting technologies developed out of the universities and licensing these inventions to companies capable of developing them to benefit Wisconsin and beyond.