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The Max Harry

Weil Institute

AT THE UNIVERSITY OF MICHIGAN

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Weil Institute Researchers Developing New Methods of Managing Pediatric Sepsis

Sepsis is a core area of focus at the Weil Institute. Each day, members from across departments and disciplines are helping to further our understanding of this deadly critical illness through groundbreaking research. For Sepsis Awareness Month, we are taking a look at one such team working to close existing knowledge gaps.

Dr. Prashant Mahajan, Weil Institute member and U-M Professor of Emergency Medicine and Pediatrics, is leading a study that integrates immune response data, machine learning and rapid pathogen detection to improve sepsis care and outcomes in children. Read on to learn more!

Want to see how Weil is innovating in sepsis?
Click here to visit our Sepsis research page!



Wearable Sensor Developed by Weil Institute Associate Director & Team Uses Body Odor to Detect Diseases

The sensor analyzes vapors emitted from the skin to detect over 20 acute and chronic, inflammatory, metabolic, respiratory, cardiovascular and skin diseases in both adults and children. The device could bring powerful monitoring and detection capabilities from the hospital to the point-of-care, home and workplace.

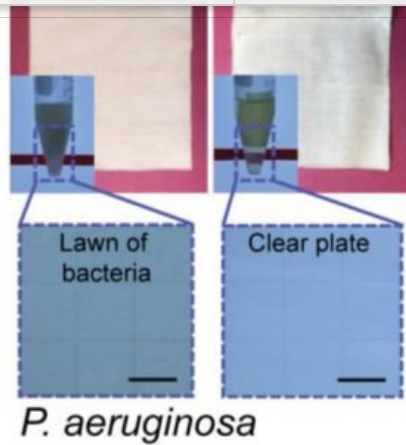
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Early blood tests predict death, severe disability for patients with traumatic brain injury (TBI)

According to a U-M study conducted by Weil Institute Scientific Director for TBI Frederick Korley, MD, PhD, blood tests performed the day after a traumatic brain injury can identify individuals who would likely pass away or live with significant disabilities, enabling medical professionals to decide on potential treatments early.

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Weil Institute Associate Director and Team Develop Coating that Kills the COVID Virus and Other Germs in Minutes

Weil Institute Associate Director Scott VanEpps, MD, PhD, and Weil Institute member Anish Tuteja, PhD are part of a team of immunologists and engineers developing a durable coating that can quickly kill bacteria and viruses. The coating proved deadly to SARS-CoV-2 (the virus that causes COVID-19), *E. coli*, MRSA and a variety of other pathogens in a recent study.

[LEARN MORE](#)



Weil Associate Director Receives NSF Grant for New Center for Data-Driven Drug Development and Treatment Assessment (DATA)

Kayvan Najarian, PhD a professor of computational medicine and bioinformatics, and of emergency medicine in the Medical School, and professor of electrical engineering and computer science in the College of Engineering, was awarded a five-year NSF grant to create the Center for Data-Driven Drug Development and Treatment Assessment (DATA).

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**EVENTS & FUNDING
OPPORTUNITIES**



Grand Challenge

Virtual Info Session

October 25, 2022
10:00 - 11:00 am
Virtual - Zoom

Kickoff Event

December 8, 2022
8:30 am - 12:30 pm
NCRC Dining Hall

www.kahngandchallenge.com

The inaugural Kahn Pediatric Critical Care Grand Challenge kicks off on December 8; Pre-competition info session on October 25

Philanthropist Mark Kahn and the Weil Institute will be releasing an RFP in December 2022 for research into innovative solutions in pediatric critical care. Up to \$400,000 will be available to support diagnostic, device, therapeutic or health IT solutions addressing gaps in the monitoring, diagnosis and treatment of critically ill and/or injured children.

[View Event Page](#)



Interested in pursuing these or other funding opportunities?

Let the Weil **Proposal Development** team support you!

[Click this banner to learn more](#)

[Michigan Translational Research and Commercialization \(MTRAC\) for Life Sciences Innovation Hub](#)

MTRAC has two funding opportunities open for translational research projects in life sciences with high commercial potential:

- **MTRAC Mid-Stage Funding:** (Range: \$100,000 – \$250,000; Deadline: **Oct 7**)
- **Kickstart Early-Stage Funding:** (Range: Up to \$42,500; Deadline: **Nov 1**)

[American Heart Association](#)

- **Merit Award** to fund investigators with stellar track records of accomplishment

(\$1M over 5 years; LOI due Oct 11; Full proposal due Nov 17)
Established Investigator Award to support established investigators who are in

a rapid growth phase of their career (\$400,000 over 5 years; Pre-proposal due **Oct 12**; Invited Full proposal due **Jan 12**)

- **Career Development Award** (\$231,000 over 3 years; Due **Dec 8**)

ANNOUNCEMENTS

New Publications

Weil members, please remember to note your affiliations with the Weil Institute so we can help amplify your research!

[An interpretable neural network for outcome prediction in traumatic brain injury](#)

DOI: 10.1186/s12911-022-01953-z

[Identification of intraoperative management strategies that have a differential effect on patients with reduced left ventricular ejection fraction: a retrospective cohort study](#)

DOI: 10.1186/s12871-022-01817-z

[Minimizing caging effects in murine lung microbiome studies](#)

DOI: 10.1152/ajplung.00144.2022

[Origins of Racial and Ethnic Bias in Pulmonary Technologies](#)

DOI: 10.1146/annurev-med-043021-024004

[Outcomes and Predictors of Severe Hyperoxemia in Patients Receiving Mechanical Ventilation: A Single-Center Cohort Study](#)

DOI: 10.1513/AnnalsATS.202107-804OC

[Prediction of Postoperative Deterioration in Cardiac Surgery Patients using Electronic Health Record and Physiologic Waveform Data](#)

DOI: 10.1097/ALN.0000000000004345

[See all member publications from 2022](#)

About the Weil Institute

The Weil Institute for Critical Care Research & Innovation is named after the late Dr. Max Harry Weil—a physician and professor widely regarded as a key founder of the field of critical care.

As the Weil Institute, we are one of the world's first comprehensive research enterprises devoted to transforming critical care medicine by accelerating science and moving it from bench to bedside. We do so by bringing together integrative teams of world-class U-M scientists, clinicians, and engineers with industry partners and funding sources to develop and deploy cutting-edge solutions that elevate the care, outcomes, and quality of life of critically ill and injured patients and their families.



"When you
save one life..."

...it is as if you
saved the
entire world."

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The Max Harry

Weil Institute

FOR CRITICAL CARE RESEARCH & INNOVATION



MICHIGAN MEDICINE
UNIVERSITY OF MICHIGAN



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