

# Wisconsin Medicine: Livestream - The future of medicine

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**MADISON, WI** (September 30, 2020) — From bone marrow transplants to discoveries about skin cancer to human stem cells, UW-Madison has fostered many of the developments that shaped modern medicine. And Robert Golden, dean of the School of Medicine and Public Health, is certain that the UW will be home to the developments that shape the future of medicine, too.

“The UW is perfectly positioned to build further on our traditions of excellence,” he says, “because our collaborative environment creates synergies across the domains of basic science, clinical, and translational research, bringing new discoveries from the bench to the bedside and ultimately into communities.”

Golden hosted a conversation on the future of medicine as part of the Wisconsin Medicine livestream series on September 29. His guests included Dhanansayan Shanmuganayagam, director of the UW’s Biomedical and Genomic Research Group; David Gamm, director of the McPherson Eye Research Institute; and Petros Anagnostopoulos, chief of the pediatric cardiothoracic surgery section at American Family Children’s Hospital. Each of the doctors described new developments in their area.

“Organ transplantation is one of the greatest advances in modern medicine, but the need for organs for transplantation is far greater than the available donor organs,” said Shanmuganayagam. He noted that more than 109,000 Americans are currently waiting for an organ transplant, and every 20 minutes one of them dies for lack of a donor. “How do we plan to solve this crisis? We believe the answer is something called xenotransplantation: the transplant of organs from one species to another.”

Shanmuganayagam then described how his group has learned to genetically

engineer pigs — even engineering a new breed, the Wisconsin Miniature Swine — to grow organs that may eventually be transplanted to patients.

Gamm has been involved in using human stem cells to address vision loss and blindness. He believes that stem cells may help address or even reverse diseases of the retina, such as macular degeneration and retinitis pigmentosa.

“We are looking for ways we can use the cells that we grow in the laboratory dish not just as model systems,” he says, “but actually to replace those cells that have died in the course of a disease, to act sort of as spare parts for the retina and so potentially restore vision.”

Anagnostopoulos discussed the expertise of UW surgeons in treating cardiac conditions, particularly among children. “For the patient complexity that we see, and the breadth of surgery that we see, our outcomes are statistically superior than they should be expected to be,” he said

After the three doctors presented, Golden brought forward questions from some of the hundreds of viewers who watched the event live on YouTube. To hear more from Golden and the members of the panel, [view a recording of Wisconsin Medicine](#). This was the fourth installment in the series, which ran through September.