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Title: Intelligent Soft Bioelectronics for Advancing Human Healthcare

Bio: Dr. Yeo is a Woodruff Endowed Associate Professor in the Mechanical Engineering and Biomedical Engineering, and the Director of the Center for Human-Centric Interfaces and Engineering at Georgia Institute of Technology. His research focuses on the areas of nano-microengineering, soft materials, molecular interactions, and biosystems, with an emphasis on nanomembrane bioelectronics. Dr. Yeo received his Ph.D. in mechanical engineering at the University of Washington, Seattle. Afterward, he was a postdoctoral research fellow at the University of Illinois at Urbana-Champaign. Dr. Yeo has published over 120 peer-reviewed articles, including many in top-quality journals, including Nature Materials, Nature Machine Intelligence, Nature Communications, and Science Advances. In addition, Dr. Yeo is an IEEE Senior Member and a recipient of a number of awards, including the NIH R01 Awards, NIH Trailblazer Young Investigator Award, IEEE Outstanding Engineer Award, Imlay Innovation Award, Lucy G. Moses Lectureship Award, Sensors Young Investigator Award, American Heart Association Innovative Project Award, and Outstanding Yonsei Scholar Award.

Abstract: In this talk, Dr. Yeo will discuss the fundamental study in materials engineering, flexible mechanics, nanomanufacturing, machine learning, and system packaging to develop nanomembrane-based intelligent soft biosensors and bioelectronics. He will also talk about how fundamental science and knowledge can be applied to create various types of soft sensors, circuits, and integrated bioelectronics. Afterward, he will share application examples of the soft system as a portable health monitoring device, disease diagnostic device, therapeutic system, and human-machine interface system. Details of a device design, printing-based nanomanufacturing, optimization, signal processing, system packaging technologies, and classification will be shared at high levels.

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