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VITALITY

Progetto VITALITY | Programma di Consulenza Specialistica | **Seminario**

Electronics on anything - how thin film electronics can instrument the world

Abstract

Silicon electronics have transformed information processing, but their high-temperature fabrication limits flexible applications. The advent of inorganic and organic thin film electronics enables low-temperature processing, allowing devices to match the scale of their environments and integrate with diverse substrates like CMOS back-ends and flexible materials. Our group explores hybrid integration of organic semiconductors, piezoelectrics, and metal oxides to develop novel systems. Examples include single-chip PCR, miniature spectrometers, blood flow sensors, micro-LED displays, and more—opening new frontiers in healthcare, sensing, displays, and communications.

mercoledì 28 maggio 2025 - Ore 11.00

Aula A

Dipartimento di Fisica e Geologia

Ioannis Kymissis

Columbia University

Ioannis (John) Kymissis is the Kenneth Brayer Professor of Electrical Engineering at Columbia University and Vice Dean for Infrastructure and Innovation of the Fu Foundation School of Engineering. He graduated with his SB, M.Eng., and Ph.D. degrees from MIT. His M.Eng. thesis was performed as a co-op at the IBM T.J. Watson Research Lab on organic thin-film transistors, and his Ph.D. was obtained in the Microsystems Technology Lab at MIT, working on field-emission displays. After graduation, he spent three years as a postdoc in MIT's Laboratory for Organic Optics and Electronics, working on a variety of organic electronic devices, and also as a senior engineer for QD Vision (later acquired by Samsung Electronics) working on the integration of quantum dots in displays. He joined the faculty at Columbia University in electrical engineering as an assistant professor in 2006, and served as chair of the department from 2020-2024. He is a fellow of the IEEE, Optica, the Society for Information Display (SID), SPIE, and the National Academy of Inventors and is currently the president of SID. His current research interests include the application of thin film electronics to a range of problems including robotics, displays, biological systems, radiation and gas sensing, energy harvesting, and IoT applications. He is also the co-founder of several companies including Tangible Robotics, Lumiode, Chromation, Kelvin, Lelantos, and Illumination Diagnostics.