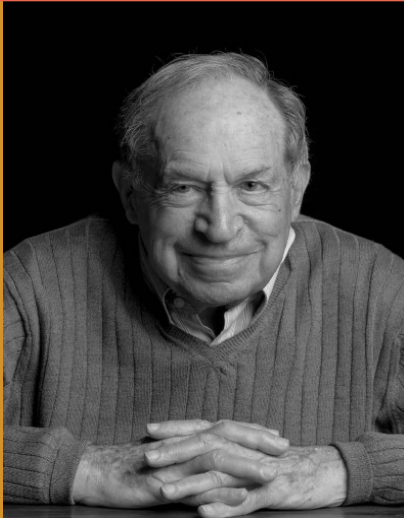


November 14, 2016
4:15 p.m. in #1 Le Conte Hall



Dr. David Pines
Founding Director, ICAM & I2CAM
Professor of Physics,
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“Emergent Behavior in Quantum Matter”

We live in an **emergent universe** in which interactions between the basic building blocks of matter and their environment give rise to unpredicted and unexpected **emergent** behavior at every scale. As physicists we seek to identify the organizing principles responsible for that behavior, construct soluble models that incorporate these, and explain experiment. Following some remarks about my many important Berkeley connections, I illustrate this approach to understanding emergent behavior in quantum matter through three examples: collective modes in electron, helium, and nuclear liquids; the emergence of superconductivity in conventional and unconventional superconductors, nuclei, and neutron stars; and the emergence of heavy electrons in Kondo lattice materials.