James P. Sethna Biography

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James Patarasp Sethna (August 23, 1955—) was born in Ann Arbor, Michigan, son of Patarasp Rustomji Sethna, a mechanical engineer in the aviation industry and later faculty at the University of Minnesota, and Shirley Sue Sethna (née Smith), a biochemist. The family moved to Minnesota in 1956, where Sethna notably attended Alexander Ramsey Senior High School (now Roseville Area High School).

Sethna received a BSc in Physics (1973-1977) from Harvard University, and then pursued graduate studies at Princeton University, where he obtained a PhD in Physics (1981) for a thesis entitled "Phonon coupling in tunneling systems at zero temperature: An instanton approach," under the supervision of Phil W. Anderson. He was then a post-doctoral scholar with Eric Siggia (1981-1983) at the Institute of Theoretical Physics (ITP) at Santa Barbara and at Cornell University, and then again at the ITP in (1983-1984). He subsequently joined the Cornell Physics faculty, where he climbed through the ranks (assistant professor, 1984-1989; associate professor, 1989-1995; professor 1995—) and where since 2019 he is the James Gilbert White Professor of Physical Sciences.

Sethna first heard about spin glasses as a graduate student, but only started working in the field in the mid-1980s, notably collaborating with Lincoln and Jennifer Chayes as well as David Thouless on solving a Bethe lattice version of the short-range Ising spin glass. In parallel, he worked on the structural glass problem, and has since worked on a variety of disordered systems, including the zero temperature random field Ising model. He is the author of an introductory graduate-level textbook, *Statistical Mechanics: Entropy, Order Parameters, and Complexity* (2006; second edition 2021).

Sethna received a Sloan Research Fellow (1985) and a Presidential Young Investigator Award (1985). In 2019, he was also named fellow of the American Physical Society (2019) "for seminal and wide-ranging contributions to information geometry, 'sloppy models,' crackling noise, fracture, and emergent self-similarity."