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Abstract for an Invited Paper for the MAR15 Meeting of the American Physical Society

Brownian motion, old and new, and Irwin's role in my academic life KATJA LINDENBERG, Univ of California - San Diego

Irwin Oppenheim's early work on Langevin equations, master equations, and Brownian motion was one of the earliest and strongest reasons for my change of direction from my PhD work in condensed matter theory to my later and lifelong interest in Brownian motion and, more broadly, statistical mechanics. I will talk about some of my most recent work on subdiffusion, a form of anomalous diffusion that describes random motions in crowded or disordered media where motions are hindered by the medium. On a personal note, I knew Irwin for decades, from the time before he had a family (he was a sworn bachelor...until he met his wife) until shortly before his death. For many years, first alone and then with family, Irwin would spend some portion of the cold Boston winter in warm La Jolla, and we would always get together during these visits. For a period of a number of years we decided to take advantage of these visits to write the definitive text in traditional Thermodynamics. We did not make it past about 2/3 of the project, but it was a great learning experience for me while it lasted. Irwin's knowledge and understanding of the subject were breathtaking.