

THE UNIVERSITY OF MICHIGAN

Regents Communication

ACTION REQUEST

Subject: Report of Faculty Retirement

Action Requested: Adoption of Retirement Memoir

Joseph G. Conlon, Ph.D., professor of mathematics in the College of Literature, Science, and the Arts, retired from active faculty status on May 31, 2024.

After receiving a B.S. degree in mathematics from Cambridge University in 1973, Professor Conlon went to Oxford University and received his Ph.D. degree in mathematics in 1976. He was a NATO postdoctoral fellow at the Courant Institute of New York University before joining the mathematical faculty at the University of Missouri at Columbia in 1978. Professor Conlon joined the UM Department of Mathematics in 1989 as a professor. He served several terms as associate chair in the department, with the responsibility of recruitment and hiring for regular faculty, or managing hiring for postdoctoral assistant professors.

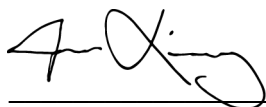
Professor Conlon's main research area is partial differential equations (PDE) of parabolic type. Solutions to these equations have representations as expectation values of functions of a random variable. He studies some non-linear PDE, trying to understand the large time behavior of the solutions. The solutions of the PDE, model the physical phenomenon known as Ostwald ripening, first observed in 1896. It occurs in solid solutions in which small crystals dissolve and redeposit onto larger crystals. There is a hierarchy of models describing Ostwald ripening, and Professor Conlon has been studying the Lifschitz-Slyozov-Wagner (LSW), the Becker-Doering (BD), and Carr-Penrose (CP) models, and proving some rigorous mathematical results about them.

He also studies linear elliptic and parabolic PDE in divergence form with random coefficients. It was shown around 1980 that if the environment for the coefficients is ergodic, then the solution of the PDE behaves on large scales like the solution of a constant coefficient PDE, the so-called homogenized equation. In 1986, the first results appeared showing that for certain strongly mixing environments one can estimate the error on a large scale between the solution to the random PDE and the solution to the homogenized PDE. In recent years, Professor Conlon has been working on extensions of these results and their connections with understanding correlations in the statistical mechanics of the Coulomb dipole gas. The connection between stochastic analysis and PDEs also feature in his work on financial mathematics, an area where he has played a key role at the University of Michigan in terms of teaching and administration.

Professor Conlon mentored eight graduate students, as well as numerous young faculty and postdoctoral researchers. He has more than 60 publications with numerous co-authors.

The Regents now salute this distinguished scholar by naming **Joseph G. Conlon, professor emeritus of mathematics**.

Requested by:



Jon Kinsey
Vice President and Secretary of the University

May 2024