Introduction to the Simon Levin 70th birthday special issue of theoretical ecology

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This is the first special issue published by Theoretical Ecology, and it is one that is truly special. This issue honors Simon Levin on the occasion of his 70th birthday. Professor Levin is a world leader in the area of theoretical ecology, both as a leader in opening up new areas of research, and, as this volume shows, as a mentor to a truly impressive number of leading scholars in the area of theoretical ecology. I am also pleased that Simon Levin has served on the editorial board of this journal since its inception.

Simon Levin's own contributions have been instrumental in advancing theoretical ecology through his contributions to a wide array of topics. Beginning with his early contributions in the 1970's and continuing through his massively influential paper on "The problem of pattern and scale in ecology" in the 1990's based on his MacArthur lecture to other contributions until the present day he has shown how spatial ecology is central to all of ecology. He has also made fundamental contributions in a number of other areas, ranging from spatial ecology to stochastic models to evolution of dispersal to disease dynamics to collective motion. He has been a leader in a variety of interdisciplinary subjects that cross ecology with other areas from mathematics to economics to management.

Professor Levin also has played a leading organizational role in ecology. His contributions here are too numerous to list in detail. Notably, he has served as President of the

Ecological Society of America and as founding editor of the journal, *Ecological Applications* and as leader of important institutes both at Cornell and Princeton Universities.

Simon has received numerous honors befitting his accomplishments and a full accounting would take many pages. Among the most notable are membership in the National Academy of Sciences, the Kyoto Prize, the AH Heineken Prize, and, from the Ecological Society of America, the MacArthur Award, the Distinguished Service Citation, and the Distinguished Ecologist Award.

While Simon Levin has been a leading figure in theoretical ecology through his research contributions he has had arguably as much influence as a mentor to an impressive number of students and postdoctoral scholars who have gone on to be leaders in theoretical ecology in their own right. Thus this issue features contributions from a small subset of these individuals. Each paper was subject to the normal rigorous review process. The subjects of the papers reflect the breadth of Simon's interests and contributions (past, present, and future). Dispersal and spatial ecology are a very prominent theme.

As one of Simon's first students, I am very pleased to have been able to organize this special issue in his honor, and even more pleased that so many of his former students and postdoctoral scholars have contributed such a wide ranging and intriguing set of manuscripts. I hope that readers will be stimulated not only by the individual contributions but by a set of papers that are thematically intertwined. We all also look forward to many more contributions from Simon himself.

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