The George Mercer Award is given for an outstanding paper by an author under the age of 40. This year’s recipient is Shahid Naeem, first author of the paper “Declining biodiversity can alter the performance of ecosystems,” which appeared in Nature 368:734-737. Shahid was responsible for the design and execution of the Ecotron project. The Ecotron provided the first good test of the influence of changes in biodiversity on ecosystem performance. The results of the experiment provided support for the idea that reductions in biodiversity may result in a loss of ecosystem function. This idea has been debated for years, but a conclusive experiment demonstrating that the process really occurs, at least in laboratory situations, provides even more reason for us to be concerned about losses of biodiversity in the real world. Shahid is one of those few ecologists who is equally adept at both theoretical and experimental studies. His recent research will be recognized as important to our understanding of complexity in nature and his future research will continue to make major contributions to the field.

Shahid Naeem


The William S. Cooper Award is given by the Society for recent contributions in geobotany, physiographic ecology, plant succession, or the distribution of organisms along environmental gradients. The 1993 recipient is Dr. Joseph R. McAuliffe for his 1994 paper “Landscape evolution, soil formation, and ecological patterns and processes in Sonoran desert bajadas,” which appeared in Ecological Monographs 64:111-148.

Ecologists have long sought to unravel the role of geologic factors in controlling landscape distribution of vegetation. Among the vanguards of modern geobotany, W. S. Cooper showed how geological processes control plant succession at Glacier Bay in Alaska. Joe McAuliffe exemplifies Cooper’s approach in his study of the importance of Pleistocene and present-day geomorphic and soil-forming processes to the distribution of vegetation in the arid Southwest. His paper shows that the distribution of creosotebush (Larrea tridentata)—arguably the symbol of North American hot deserts—is related to soil development. When erosion removes clay-rich soils of Pleistocene age, creosotebush invades the desert piedmonts of Sonora. In the spirit of Cooper, McAuliffe links past studies of the physiological ecology of the rooting habits of creosotebush to its success in coarse, carbonate-rich soils. His observations help explain abrupt spatial discontinuities long observed in southwestern vegetation and the response of these communities to the loss of soil from human disturbances, including overgrazing.

Dr. McAuliffe is a scientist at the Desert Botanical Garden in Phoenix. The work we honor was performed while he was a member of the staff of the Desert Laboratory on Tumamoc Hill outside Tucson—the former home of eminent early desert ecologists, including Shreve, Whittaker, and others. Were these early ecologists alive today, they would be fascinated by Dr. McAuliffe’s story, which enriches our knowledge of southwestern natural history and ecology.

Joseph R. McAuliffe