BRUCE MICHAEL SOLOMON

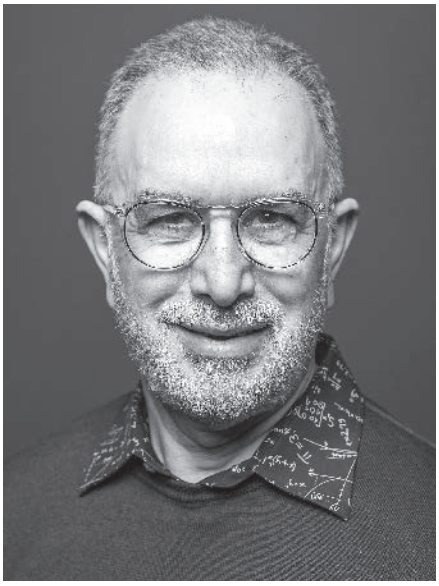
Bruce grew up in Southern California and began his mathematics studies at UCLA. He received his doctorate from Princeton in 1982. His thesis, "Lipschitz Spaces of Multiple Valued Functions and the Closure Theorem," was written under the supervision of Fred Almgren. He joined our faculty the following year, and retired on December 31, 2019. His contributions to our research, teaching, and service missions will be sorely missed.

Bruce is an expert in geometric measure theory, a relatively young branch of mathematics that sits between geometry and analysis. For example: nature likes to minimize energy—a wire loop dipped in soapy water and removed will form a soap film whose surface attempts to minimize area. Geometric measure theory provides the mathematical foundation for making such notions precise. A central challenge is to show that mathematical notions of solutions to equations correspond to actual nice geometric objects.

Several of Bruce's works deal with surfaces that are either minimal, have constant mean curvature, are harmonic, or satisfy some other extremal condition. In some of his most influential work, Bruce and collaborators sought to classify minimal surfaces based upon the asymptotic behavior of the surface far from the origin. He is also the co-author, with Brian White, of a well-known maximum principle that precludes the possibility that two minimal surfaces, one smooth, one perhaps not, could touch each other just at a point.

As a mathematician, Bruce has an amazing ability to expose the elegant kernel of truth underlying arguments. Along with this ability has come the desire to identify and study problems that, while challenging, are mathematically natural rather than obscure, and whose statements are readily understandable to others. For example, in later years, Bruce became interested in studying skew loops—loops in space for which no two tangents are parallel.

As a colleague, Bruce is known as a deep thinker. His presence in seminars always enhances the experience for all involved through thought-provoking, on-target questions and observations.



As an attendee in faculty meetings, Bruce is known for his integrity and for bringing common-sense perspectives to even the most difficult discussions.

Bruce is also well regarded for his substantial contributions to our teaching mission. He mentored two students through their Ph.D. He was also an early proponent of innovations in instruction and was awarded several IU grants for instructional technology and undergraduate research. An early proponent of Mathematica, he developed a project to incorporate this into our linear algebra course. He was a dedicated director of graduate studies in the 1990s and carried out a major overhaul of our examination system for Ph.D. students. During this period he also wrote a successful grant proposal that allowed the department to significantly enhance our graduate program. After teaching our linear algebra course many times, he developed his own text, *Linear Algebra, Geometry, and Transformation*. He similarly developed materials for our undergraduate and graduate courses in differential geometry. More recently, he gave a guiding hand to our faculty working group that built our new Math of Decision and Beauty course, to which he contributed a chapter on perspective drawing. Quite fittingly, he was recognized four times in his career with teaching awards.

Supporting undergraduate research has long been an area in which Bruce showed special interest. He served for two years on the IU College of Arts and Science's REU (Research for Undergraduates) grant board and was co-PI on one of our recent National Science Foundation REU grants. The impact of his energies is felt around our state: his most recent REU student, Nick Edelen, just started a tenure-track position at Notre Dame.

Bruce has consistently served our department, the College, the campus, and the profession in significant ways. His colleagues elected him to both our personnel and salaries committees; he recently served as our associate chair for two years; and he applied the same eye for elegance to our annual alumni newsletter as he did to his research papers. He recently served on the Bloomington Faculty Council and co-chaired its Benefits Committee. He also obtained NSF funding for, and co-organized, our Bloomington Geometry Workshop for four years.

Bruce is admired in our department as an academician who has always strived for balance in his life. He is a devoted father to three daughters and a devoted grandfather to their children. He is also a pillar of the Bloomington Jewish community.

Active for decades on many fronts at Beth Shalom, he is especially loved for his musical involvement. He is known by hundreds of Jews in town as a hazan (prayer leader) for the High Holidays. He and his wife, Sue, are avid travelers and we look forward to hearing from him in the coming years about tales of exciting globetrotting.

Kevin Pilgrim
Peter Sternberg