

**FOURTEENTH ANNUAL
NORTHEASTERN SECTION
OF THE
MATHEMATICAL ASSOCIATION
OF AMERICA (NES/MAA)
PRESKENIS LECTURE**

***THE ISOPERIMETRIC
PROBLEM WITH DENSITY***

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Abstract: The circle provides the least-perimeter way to enclose given area in the plane (“solves the isoperimetric problem”). How does the optimal shape change if you give the plane a weighting or density on both area and perimeter? One interesting example is a weighting proportional to r^2 . There has been a huge surge of interest in weightings since their appearance in Perelman's proof of the Poincaré Conjecture. The talk will include open problems and work by undergraduates.

Dr. Frank Morgan is the Webster Atwell '21 Professor of Mathematics and Chair of the Mathematics Department at Williams College, a 1993 winner of The Mathematical Association of America's Deborah and Franklin Tepper Haimo Award for Distinguished College or University Teaching of Mathematics, and the 1992 winner of the Northeastern Section of the Mathematical Association of America (NES/MAA) Award for Distinguished College or University Teaching. He is the author of six books and numerous research articles.

A dedicated teacher committed to excellence, a serious scholar, a popular son of South Boston, and a gentleman, Ken Preskenis had a passion for mathematics and for sharing that love with others, especially, youngsters. He joined the faculty at Framingham State University in 1977 after teaching at Newton College and then at Boston College for a total of 14 years. Ken was the author of a number of articles in analysis and mathematics education, a regular attendee and contributor at NES/MAA meetings, a South Boston Athletic Hall of Famer, and a recipient of the Michael E. Glynn South Boston Community Service Award. The Kenneth J. Preskenis Scholarship Fund has been established in his memory at Framingham State University.

We thank

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- Pearson Education,
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and

- Office of Campus Events for making the reservations, arrangements, and set-up for the reception and Dr. Morgan's presentation.

Please join us again next year for the *Fifteenth* Annual NES/MAA Preskenis Lecture.