



James Carlson

Dear Friends of Mathematics

This past year marked the sixth anniversary of the Clay Mathematics Institute's program of summer schools. The first, held at Pine Manor College, was dedicated to mirror symmetry. The last, held at MSRI in Berkeley, was on Ricci flow, 3-manifolds, and geometry. It was of special interest because of Perelman's proposed solution to the Poincaré conjecture and to Thurston's geometrization conjecture. It was also the culmination of Hamilton's Ricci flow program and the deep work of many mathematicians who have dedicated their life's work to geometry and analysis. The aim of the summer schools is to provide participants – graduate students and recent PhD's within five years of their degree – with the background needed to work successfully in an active and important area of mathematics. The next two schools, one on arithmetic geometry, the other on homogenous flows, dynamics, and number theory, will be held in Göttingen and Pisa, respectively.

In addition to major, ongoing activities such as the summer schools, the Institute undertakes a number of smaller special projects each year. Four examples demonstrate the breadth of the Institute's work. First is the digitization of the oldest surviving manuscript of Euclid's *Elements*, dated to 888 AD, when it was copied from a predecessor in Constantinople. For the first time, a facsimile of the founding document of mathematics is widely available. Second is the James Arthur Archive on the CMI website. This is an online library of the collected works of Toronto mathematician James Arthur, noted for his achievements in automorphic forms and representation theory. James Arthur will be adding further material to the archive, including his own comments. The Clay Mathematics Institute hopes that there will be further efforts of this kind, both at CMI and elsewhere. The third example is the Institute's support of George Csicsery's documentary film on the life and work of Julia Robinson, noted for her key role in the solution of Hilbert's tenth problem. Robinson's inspiring story will be of interest to both mathematicians and the general public. Finally, the Institute is supporting two small ventures in Vietnam and India. The first, part of Bao-Châu Ngô's research award in 2004, is a donation of books to the Mathematical Institute in Hanoi. The second, part of Manjul Bhargava's research award in 2005, is two years of support for the Ramanujan Mathematical Society (RMS) in Mumbai. The RMS will offer one or two Clay–Bhargava fellowships of 50,000 Rupees to promising graduate students.

The programs and projects mentioned above illustrate a guiding principle of the Clay Mathematics Institute: support a broad spectrum of initiatives in mathematics, large and small, in order to foster the creation of new knowledge.

Sincerely,

James A. Carlson