About This Journal

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EXPERIMENT has always been, and increasingly is, an important method of mathematical discovery. (Gauss declared that his way of arriving at mathematical truths was "through systematic experimentation".) Yet this tends to be concealed by the tradition of presenting only elegant, well-rounded and rigorous results.

While we value the theorem-proof method of exposition, and while we do not depart from the established view that a result can only become part of mathematical knowledge once it is supported by a logical proof, we consider it anomalous that an important component of the process of mathematical creation is hidden from public discussion. It is to our loss that most of us in the mathematical community are almost always unaware of how new results have been discovered. It is especially deplorable that this knowledge is not made part of the training of graduate students, who are left to find their own way through the wilderness.

Experimental Mathematics was founded in the belief that theory and experiment feed on each other, and that the mathematical community stands to benefit from a more complete exposure to the experimental process. The early sharing of insights increases the possibility that they will lead to theorems: an interesting conjecture is often formulated by a researcher who lacks the techniques to formalize a proof, while those who have the techniques at their fingertips have been looking elsewhere. Even when the person who had the initial insight goes on to find a proof, a discussion of the heuristic process can be of help, or at least of interest, to other researchers. There is value not only in the discovery itself, but also in the road that leads to it.

The essential ingredients of a paper published in *Experimental Mathematics* are two: some experimental aspect, and relevance to mathematics proper. The word "experimental" is conceived broadly: many mathematical experiments these days are carried out on computers, but others are still the result of pencil-and-paper work, and there are other experimental techniques, like building physical models. As for the second ingredient, we emphasize the distinction between experimental mathematics and applied mathematics. We like to hear about interesting applications to the "real world," but our focus is on work that will have a theoretical impact and contribute to the development of mathematical ideas.