

History & Future: Fabrication and Sculpting Event

Ergun Akleman and Karina Rodriguez Echavarria
FASE Conference Chairs



There are at least two aspects to shape modeling: theoretical and practical. The mathematical and theoretical aspects of shape modeling have traditionally been supported by the SMI conference. With the Fabrication and Sculpting Event our goal is to include more hands-on, application-oriented ways by designers and sculptors who construct sophisticated real physical shapes. The Fabrication and Sculpting Event has its own program committee, and the accepted papers are published in Hyperseeing. With FASE, we hope to attract practitioners who might usually be less inclined to write papers containing formal algorithms or mathematical proofs, but who nevertheless have important things to say that are of interest to the shape modeling community and who also might provide visually stimulating material.

The Fabrication and Sculpting Event (FASE) started as an experiment in expanding the scope of shape modeling international (SMI) conference in 2012. We also had another FASE event in SMI'2013. There were very positive responses to the Fabrication and Sculpting Event papers and presentations both 2012 and 2013. Although we skipped FASE in SMI'2014, based on the success of earlier events, we continued the FASE event in both 2015 and 2016.

In 2013, Nat Friedman, the chair of the International Society of the Arts, Mathematics, and Architecture (ISAMA), asked us if we could organize the event as an annual ISAMA conference. The SMI steering committee unanimously agreed with the suggestion. As a result, the event can now be considered also as the Eighteenth Interdisciplinary Conference of ISAMA.



The ISAMA conference has a rich history. The first Art and Mathematics Conference (AM 92) was organized by Nat Friedman at SUNY-Albany in June, 1992. This conference was followed by annual conferences AM93-AM97 at Albany and AM 98 at the University of California, Berkeley, co-organized with Carlo Sequin. ISAMA was founded by Nat Friedman in 1998 along with the ISAMA publication Hyperseeing co-founded with Ergun Akleman in 2006. In addition, the Art/Math movement has taken

off with the formation of many additional conferences and organizations. In particular, we mention the very successful conference Bridges organized by Reza Sarhangi in 1998 and the excellent Bridges Proceedings. The significance of the art/math movement is now recognized internationally and in particular by the extensive art/math exhibit at the annual Joint Mathematics Meeting of the American Mathematical Society and the Mathematical Association of America organized by Robert Fathauer.

The main difference with other math/art conferences is that FASE focuses solely on 3D shapes. We invite submissions mainly from practitioners such as sculptors and architects to describe their methods. We expect that such papers and the following discussions can provide new problems, issues and questions for theoretical shape modeling research.

In the last few years, there has been an increased interest in these topics by the communities working at the intersection between engineering, fabrication and computing. This is partially driven by the ability to easily acquire and represent 3D shapes from the real world as well as the availability of digital fabrication technologies, such as additive manufacturing. These technologies comprise a combination of programmable digital tools, processes, materials and equipment which allow the creation of physical objects of complexities not achievable by traditional manufacturing processes.



Thus, we foresee that FASE will play an important role in the future in order to: i) provide a forum for these communities to gather user requirements, exchange ideas, knowledge, and expertise; as well as ii) provide a publication outlet to showcase the work of researchers and practitioners across the world.

