

COMPUTATIONAL EXPRESSIONISM: a study of drawing with computation
Joanna Maria Berzowska

BIOGRAPHY

Joanna was born in Poland, daughter of a pathologist and a naval architect, and has lived in Algeria, Gabon, Canada, Norway, Australia and the USA. In 1988, she was provincial mathematics champion and won the first prize in the junior division of the provincial Visual Arts competition. This duality continues in her life: she obtained undergraduate degrees in Pure Mathematics and in Fine Arts, and a Masters degree from the Massachusetts Institute of Technology Media Laboratory working on what she calls "Computational Expressionism". Computational art has recently become an important phenomenon where artists learn to program their own computers, and use computation (low-level programming languages) as their primary art medium.

Joanna programs her own drawing applications and uses them to produce compositions. She is interested in computational drawing because of the gestural input, which is a very powerful expressive device. Drawing is different from painting insofar as it is based on continuous line paths as opposed to continuous surfaces. Textures and tones are achieved through a layering of lines. The sharp contrasts of linear forms and the expressive potential of gesture are very appealing to her.

Her work is characterized by the apposition of regular, mathematical and clearly algorithmic patterns with more gestural shapes and areas of tone and texture. Her favorite compositions are those that use algorithms but impose qualities of variation and irregularity to their representation. The combination of mathematical order and gestural disorder is fundamental to the work. What is most exciting is that both aesthetic qualities can be produced with a single computational line, they are merely a function of the manner in which the line is drawn.