

Table of Contents

Presentation of the Colloquium. The ARPAM Project	1
<i>Claude-Paul Bruter</i>	
Solid-Segment Sculptures	17
<i>George W. Hart</i>	
Visualizing Mathematics – Online	29
<i>Konrad Polthier</i>	
The Design of 2-Colour Wallpaper Patterns Using Methods Based on Chaotic Dynamics and Symmetry	43
<i>Michael Field</i>	
Machines for Building Symmetry	61
<i>Maria Dedò</i>	
The Mathematics of Tuning Musical Instruments – a Simple Toolkit for Experiments	79
<i>Erich Neuwirth</i>	
The Garden of Eden	89
<i>Charles O. Perry</i>	
Visualization and Dynamical Systems	91
<i>John Hubbard</i>	
Solving Polynomials by Iteration	95
<i>Scott Crass</i>	
Mathematical Aspects in the Second Viennese School of Music	105
<i>Carlota Simões</i>	
Mathematics and Art: The Film Series	119
<i>Michele Emmer</i>	
Guided Tours of Buried Galleries (Inside a Computer)	135
<i>Jean-François Colonna</i>	
A Mathematical Interpretation of Expressive Intonation	141
<i>Yves Hellegouarch</i>	
Symbolic Sculptures	149
<i>John Robinson</i>	

FORUM: How Art Can Help the Teaching of Mathematics?	153
<i>Claude-Paul Bruter</i>	
Forum Discussion	155
<i>Ronnie Brown</i>	
Forum Discussion: Presentation of the <i>Atractor</i>	160
<i>Manuel Arala Chaves</i>	
Forum Discussion	166
<i>Michele Emmer</i>	
Forum Discussion	168
<i>Michael Field</i>	
Getting Out of the Box and Into the Sphere	173
<i>Dick Termes</i>	
Constructing Wire Models	179
<i>François Apéry</i>	
Sphere Eversions: from Smale through “The Optiverse”	201
<i>John M. Sullivan</i>	
Tactile Mathematics	213
<i>Stewart Dickson</i>	
Hyperseeing, Knots, and Minimal Surfaces	223
<i>Nathaniel A. Friedman</i>	
Ruled Sculptures	233
<i>Philippe Charbonneau</i>	
A Gallery of Algebraic Surfaces	237
<i>Bruce Hunt</i>	
The Mathematical Exploratorium	267
<i>Richard S. Palais</i>	
Copper Engravings	273
<i>Patrice Jeener</i>	
Appendix: Color Plates	275
Index	335

Mathematics and Art

Mathematical Visualization in Art and Education

Bruter, C. (Ed.)

2002, X, 337 p. 223 illus., 92 illus. in color., Hardcover

ISBN: 978-3-540-43422-1