About the Contributors

Anna Ursyn, PhD, is a professor and Computer Graphics, Area Head at the School of Art and Design, University of Northern Colorado, USA. She combines programming with software and printmaking media, to unify computer generated and painted images, and mixed-media sculptures. Ursyn had over 30 single juried and invitational art shows, participated in over 100 juried and invitational fine art exhibitions, and published articles and artwork in books and journals. Research and pedagogy interests include integrated instruction in art, science, and computer art graphics. Since 1987, she serves as a Liaison, Organizing and Program Committee member of International IEEE Conferences on Information Visualization (iV) London, UK, and Computer Graphics, Imaging and Visualization Conferences (CGIV). From 1997 she serves as Chair of the Symposium and Digital Art Gallery D-ART iV. This is Anna’s fifth book published with the IGI-Global. Website: Ursyn.com.

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Mohammad Majid al-Rifaie is a researcher at Goldsmiths, University of London. His background is in computing and journalism and his artistic interests focuses on the interconnections between artificial intelligence, swarm intelligence, robotics and digital art. He has several publications in the field of swarm intelligence and biologically inspired algorithms (Stochastic Diffusion Search, Particle Swarm Optimisation, Genetic and Differential Evolution algorithms), analysing their performance and providing possible integration strategies. Many of Mohammad’s projects on the aforementioned fields have been well received and sponsored by external entities (i.e. Luz by VIDA Fundación Telefónica competition of art and artificial intelligence 13th edition, Swarms Go Dutch by the American University of Paris and Mr Confused Robotic Household by Goldsmiths Annual Fund, University of London).

Jean Constant is past professor of Visual Communication, lecturer and researcher in mathematical visualization projects. He just completed a yearlong, 12 mathematical visualization program: 1 program a month, 1 image a day project assignment. He won a best use of mathematics in an artwork award in the 2015 Mathematics and Art conference at the Baltimore University, MD. He is also reviewer for the American Mathematical Society publications. Past and present affiliations include the Bridges Mathematics and Art organization, the Imaginary.org educational program of the MFO (Oberwolfach Research Institute for Mathematics), the D-Art, Information Visualization Society.
Robert C. Ehle. PhD is the Emeritus Professor of Music Theory and Composition, Electronic Music, and Acoustics, University of Northern Colorado, USA. He continues to serve on dissertation committees as an advisor to honors students. In Who’s Who in American Music, Ehle is listed as a composer of electronic music. He received a Bachelor of Music degree from Eastman School of Music in Rochester, New York, and his Ph.D. from the University of North Texas in Denton, Texas in 1970. His interests pertain to occurrences and events associated with the experience of composing, playing, or listening to music. His research involved study on virtual music, experiments on the nature of pitch and psychoacoustics of resultant tones. He developed a bootstrap theory of sensory perception – the prenatal origins of musical emotion as the case for fetal imprinting. Among his compositions are A Sound Piece, A Space Symphony, The City is Beautiful and A Whole Earth Symphony. He received the Dallas Symphony Rockefeller Foundation Award in 1966. Ehle received a 2008-09 ASCAPPLUS Award in the concert music division from the American Society of Composers, Authors and Publishers.

Michael Eisenberg received his doctorate in computer science at the Massachusetts Institute of Technology in 1991. In 1992 he joined the faculty of the University of Colorado, Boulder, where he is now Professor of Computer Science and a member of the Institute of Cognitive Science. His research interests focus on novel uses of technology in mathematics and science education, with a particular focus on designing creative, conceptually rich activities for children.

Donna Farland-Smith is an Associate Professor of Science Education in The School of Teaching & Learning at The Ohio State University. Her research focuses on students’ perceptions and attitudes toward science and scientists as well as the characteristics of scientists that most positively affect the girl’s perception of scientists. She has over a decade’s experience in the classroom and previously taught science all grades K-12. Of particular interest to Dr. Farland-Smith is research that focuses on students’ perceptions and attitudes toward science and scientists in both formal and informal settings. She was the director of the Side-by-Side with Scientists Camp at OSU-M, which served over 350 girls in the local community. Her research at the camp focused on middle school girls’ attitudes and perceptions of scientists who are working ‘side-by-side’ with scientists as well as the characteristics of scientists that most positively affect the girl’s perception of scientists.

Kevin D. Finson is a professor of science education and co-director of the Bradley University Center for STEM Education. He received his degrees from Kansas State University, including a B.S. in Science Education (1975), M.S. in Curriculum and Instruction with a focus on science (1980), and Ph.D. in Science Education (1985). He began his career teaching earth and physical sciences at the high school level, then moved into teaching earth, life, and physical sciences at middle school. His college teaching has included earth science and geology, physical science, energy curriculum, teaching pedagogy and methods, and instructional theory. He is very active in the Association for Science Teacher Education (ASTE). He has authored over seventy journal articles, five books, and several book chapters. Finson has been involved in research dealing with perceptions of scientists, drawings of scientists, conceptual change as revealed in drawings, and in visual data for over 25 years.

Maura C. Flannery is a Professor of Biology and Director of the Center for Teaching and Learning at St. John’s University, New York. She holds bachelor’s and master’s degrees in biology and a Ph.D. in science education. For 30 years she wrote an award-winning monthly column for The American Biology
**About the Contributors**

*Teacher* resulting in two published collections: *Bitten by the Biology Bug* (selected for “Resources for Science Literacy” by the AAAS Project 2061) (1991) and *D’Arcy Thompson’s Ice Cream and Other Essays from Biology Today* (2001). She has also published articles in such journals as *Leonardo, Perspectives in Biology and Medicine, Science Education, Plant Science Bulletin, Archives of Natural History,* and *Spontaneous Generations.* She is a Fellow the History and Philosophy Section of the AAAS, serves on the advisory board for the BioQUEST Curriculum Consortium, and was selected as a 2000-2001 Carnegie Scholar.

**Gregory P. Garvey,** MFA, MSVS, BS is the Chair of the Department of Visual and Performing Arts and also serves as Director of the Game Design and Development Program. In the digital games industry he has worked at Parker Brothers and Spinnaker Software. Previously at Quinnipiac University he was the Visiting Fellow in the Arts and also was an Associate Artist of the Digital Media Center for the Arts at Yale University. Prior to joining Quinnipiac University, he was Chair of the Department of Design Art at Concordia University in Montreal and was a member of the Board of Directors of the Montreal Design Institute. From 1983-85 he was a Fellow at the Center for Advanced Visual Studies at MIT.

**Md. Fahimul Islam,** was a Lecturer, Dept. of Computer Science & Technology, Faculty of Science & Technology, Atish Dipankar University of Science & Technology. He was the Coach for the ACM International Collegiate Programming Contest-Asia Dhaka Regional site for three consecutive years from 2010-2012. He is passionate about programming and system development. He completed his Bachelor in Computer Science & Engineering from Darul Ihsan University and Masters in Telecommunications Engineering from East West University. He has several publications in the Computerized Embedded System development, Robotics and Telecommunication field. He is currently working towards his Masters degree in Computer Science as a CUNY student in USA.

**Hervé Lehning** During the time of his studies (école normale supérieure, agrégation de mathématiques (France: PHD level) and a master in history), Hervé Lehning worked in the computing industry as an operator and then a computer analyst. It explains that his first works concerned the use of computers in mathematics, and cryptography. Then he taught mathematics and computer science in engineering schools (école d’ingénieurs de Tunis and école centrale de Paris), and in the CPGE system in Janson de Sailly (Paris). After having published several academic books with Masson, he joined *Tangente,* a French maths magazine and became its editor in chief. He has also been a contributor of *Pour La Science* (the French version of the *Scientific American*) and *La Recherche.* Hervé Lehning illustrates himself his books and articles with drawings and photographs, which leads him to exhibit his work. Website Hervé Lehning www.lehning.eu herve@lehning.eu

**Dennis Summers** In addition to degrees in the visual arts Summers also received a BA in chemistry, and has had a life-long interest in the sciences. Most of his artwork has been inspired by scientific concepts, and been about linking these ideas to ideas from other intellectual domains, and crafting a visual environment where this may be understood more or less intuitively depending on the background of the participant. The extensive preparatory research has been manifested as large scale multi-media installation art, book arts, conceptual art, interactive digital projects, and digitally created videos. He has also worked as a commercial digital media artist specializing in 3D animation since the mid-nineties, and was an associate professor for almost a decade. Some of his commercial work has included scientific
About the Contributors

and engineering visualization. For thirty years almost all of his artwork has been some form of collage. His artwork has been exhibited globally, and is in the collections of several major museums. He has had articles published in Leonardo, and regularly delivers presentations at the conferences of The Society for Literature, Science and the Arts (SLSA). His involvement with SLSA led to spending the last several years researching collage historically, aesthetically, and philosophically. This chapter contains excerpts from a much longer manuscript about collage.

Yiqing Wang is a faculty member teaching at Shanghai Normal University, P.R.China. She graduated with B.A. in English Education and received her M.A. in English language and literature in 2007, majoring in linguistics. She specializes in English education for non-English majors. She has published articles in Shanghai Research on Education, Journal of Language and Literature Studies, Journal of Shanghai Normal University. She has co-authored numerous books including Special Training to Obtain High Scores for Reading Section, TEM8, A Set of Knack for College English Reading, and Guided Reading in English Literature. She is also a First Prize winner for Excellent Teaching Award at Shanghai Normal University. She was a one-year visiting scholar at University of Missouri-Columbia.

Theodor Wyeld is currently a Lecturer in Digital Media at Flinders University, Australia. He is on a number of review committees and has published widely. Attracting more than 2 million in grants and venture capital, he is the inventor of ‘thereitis.com’. The patented ‘thereitis’ technology is the culmination of 10 years of research in usability studies on how to better support the sorting of large collections of images. Between 2004 and 2009 he was a research associate with the Australasian Cooperative Research Centre for Interaction Design. He has an extensive background in architecture, planning and digital media production. He is completing a PhD in Cognitive Psychology at the Swinburne University of Technology, Australia.

Robert Zheng is a faculty member in the Department of Educational Psychology, University of Utah, USA. His research includes multimedia, cognition, visual learning, web-based design and implementation. He is the author of six edited books and has published more than fifty research papers, chapters and conference proceedings in the above areas. Some of his publications appear in high impact outlets including British Journal of Educational Technology, Journal of Computer Assisted Learning, Educational Technology Research and Development, and Journal of Educational Computing Research. He is also the founding editor of International Journal of Cyber Behavior, Psychology and Learning.