

## Robert J. Krawczyk

November 7, 2018

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[bitartworks@gmail.com](mailto:bitartworks@gmail.com)

### Teaching and Administrative Positions Held:

Illinois Institute of Technology	1983-Present
College of Architecture	
Professor	Fall 2012
Associate Professor, Assistant Professor, Studio Professor, Senior Lecturer	
Awarded Tenure	Fall 2006
Associate Dean Academic/University Affairs	2013-2017
Associate Dean Undergraduate Academic Affairs	2011-2013
Director of the Undergraduate Program	2006-2011
art @ IIT Gallery Director	2004-2007
Director of Architectural CAD Lab	1988-1996
William Rainey Harper College	1974-1977
Architectural Technology, Instructor	

### Teaching Experience:

Outlines for current courses can be found at: [www.iit.edu/~krawczyk](http://www.iit.edu/~krawczyk)

Most these courses were proposed, developed and first taught by me in the College.

Development of a CAD Minor in the College

ARCH 207 – Design Communications III 2018 Undergraduate  
Focus on the advancement of digital design as an iterative process. Various modeling types covered are: Explicit Modeling, Nurbs Surface Modeling, Parametric Modeling, Generative Modeling & Responsive Modeling.  
3 credit hours

ARCH 508 – Design Communications III 2018 Graduate  
Focus on the advancement of digital design as an iterative process. Various modeling types covered are: Explicit Modeling, Nurbs Surface Modeling, Parametric Modeling, Generative Modeling & Responsive Modeling  
3 credit hours

ARCH 497 – Coolhunting: Architecture Embracing Change 2017  
Seminar course that recognizes that our students will be faced with developing a career that must successfully adapt to an environment of change around them and to be able to develop products and services to match current needs and evolution in practice. This course explores Change. What are and how do we deal with the technological and social changes

around us? How will these changes shape the practice of architecture and the built environment? How to investigate current trends in emerging technologies to understand these future impacts.

3 credit hours

ARCH 107 – Design Communications I 2017

A comparative study of physical and digital media from the immediacy of the hand to the logical rigor of algorithmic design. Organizational systems and mapping strategies are explored as craft is developed across a broad toolkit. Instruction in object-oriented thinking begins an introduction to computer science.

3 credit hours

ARCH 108 – Design Communications II 2018

The full design communication process, from contextual + programmatic analysis to the digital fabrication of a system of parts, will be introduced through a series of related studies. Computationally associative design methodologies will be utilized and continue the computer science introduction.

3 credit hours

ARCH 117 - Introduction to Computing in Architecture 1988-1994 (33 times)

Basic PC use; word processing, spreadsheets, and databases

1 credit hours; First Choice

ARCH 125 - Introduction to Computing in Architecture 1995-1999 (9 times)

Basic PC use; word processing, spreadsheets, databases, and business graphics; history and current computer use, BASIC programming to introduce basic concepts and methods in computer graphics and computing, vector representations; animation and morphing

3 credit hours; First Choice, QuickBASIC

ARCH 205 - Computer-Aided Design in Architecture 1983-1994 (26 times)

Includes BASIC programming to introduce basic concepts and methods in computer graphics and computing, raster and vector representations; animation and morphing

3 credit hours; QuickBASIC

ARCH 425 - Computer-Aided Design in Practice 1990-1995 (16 times)

Review 2D drafting and design concepts and methods; extensive use of a CAD system including overview of leading CAD systems, database applications, and management issues

3 credit hours; VersaCAD, AutoCAD

ARCH 426 - 3D Modeling and Rendering 1991-1995 (8 times)

Review 3D modeling concepts; extensive use of a CAD system for modeling, visualization, animation, rendering, painting, and creation of topographic models

3 credit hours; AutoCAD

- ARCH 427 - Image Processing in CAD Presentations 1993-2001(22 times)  
Advanced methods in presenting 2D and 3D images; scanning of images, converting drawings to images, images to drawings, CAD drawings to freehand, image composition, texture cloning techniques, image generation methods, multimedia presentations, web page creation, paper based presentations  
3 credit hours; AutoCAD, PhotoShop, CorelDraw, PowerPoint, Dreamweaver
- ARCH 428 - Animation in CAD Presentations 1994- 2013  
Review of 3D animation techniques in producing dynamic architectural presentations; advanced rendering methods, lighting techniques, material assignment, camera movements, assembling/disassembling objects, ground and background movements, morphing of objects and materials, digital editing of animation sequences, composing with multiple cameras, and adding titles and special effects.  
3 credit hours; 3D Studio MAX, Adobe Premiere
- ARCH 429 - CAD Programming and Form Generation 1995- 2012  
Review of programming methods to develop procedures in CAD systems to create architectural forms based on rules and random parameters; CAD database procedures for space planning and bill of quantities.  
3 credit hours; AutoCAD AutoLISP, 3D Studio MAX
- ARCH 497 – Advance Digital Applications 2008- irregular  
Continuation of ARCH 429 with group and independent projects based on student interests.  
3 credit hours; ARCH 429
- ARCH 601 – PhD Research Methodology 2007- 2012  
Co-taught with Professor Mahjoub Elnimeiri; course covers methods for PhD research and preparation for the Comprehensive Exam; proposal for the PhD Thesis  
3 credit hours; PhD standing
- EnPRO 359 - IIT Artworks 2004-2005  
Development of a business plan for an art gallery on campus and related activities.  
3 credit hours
- EnPRO 351 - VR Center 2005  
Development of a business plan for a virtual reality center on campus and related activities.  
3 credit hours
- IPro 306 - Video Wall 2005  
Development of the specifications for a video wall facade for the Hyde Park Art Center  
3 credit hours

EnPRO 354 - VR Center 2011  
Update on the development of a business plan for a virtual reality center on campus and related activities.  
3 credit hours

Independent Study

Jason Morris Spring 2004  
Investigation of fabrication methods using a laser cutter.

Eric Rehnberg, Computer Science Major Spring 2004  
Development of VRML viewing software using Open GL.

Current students researching a PhD thesis topic, preparing for the Comprehensive Exam:

Dongwoo Oh, ID Fall 2018  
Temporality in design methodology and how to understand users' temporal experience

Nurullah Alper Pehlivan Spring 2013-suspended  
Possible augmented/virtual reality applications

Jamil Binabid Fall 2012-2017  
Possible topic on image/drawing representations

Gilberto Osornio Nieto Spring 2013-2018  
Understanding the Relationship between Facade Strategies and Radiant Cooling Systems in Commercial Buildings in Mexican Climates

Nghia Phan Spring 2012-suspended  
Optimizing form of tall buildings for maximizing wind energy generation

Maryam Kalkatechi Fall 2011-2014  
Research into designing a new concrete block wall module and system

Mina Kalkatechi Spring-Fall 2012  
Importance of Bauhaus concepts on architectural design

Kristen Jones Fall 2010  
Research into the history and foundation of IIT's Visual Training courses

Students preparing their PhD thesis:

Kyungran Choi, ID Fall 2018  
Methodologically incorporating cultural factors into design

Caroline Morais Fall 2007-Fall 2008  
Investigation of the contribution of Catharine Beecher's home designs and environmental control concepts

Ayman AlMusharaf Fall 2008  
Development and expansion of the Building Information Model for use on the construction site; focus yet to be developed.

Students in the Civil Engineering; serve as the external committee member:

Chengyi Zhang (David Arditi, CAEE faculty) Fall 2012-continuing  
Committee: Scanning of construction sites for progress reporting

Students in the Institute of Design; serve as the external committee member:

Kyun Ran Choi (Keiichi Sato, ID faculty) Spring 2011-continuing  
Committee: Cultural factors of design for domestic environments.

Students awarded a PhD:

Mohammed H. Alkhabbaz Spring 2018  
Leaping into Modernity: Petro-Islamic Architecture in Saudi Arabia, 1962-1986.

Gilberto Osornio Nieto Spring 2018  
Evaluation Of Radiant Cooling Systems Based on the Glazing Facade Ratio in Office Buildings For Hot and Warm Climates: Mexico Case Study

Anh Tuan Pham Spring 2015  
Research into health care design in Vietnam

Aysan Khorraminejad Fall 2014  
Research into a new method for window design by respecting climatic and behavioral needs of solar heat and light

Farid Abdolhosein Pour Fall 2014  
Parametric Evaluation of Tall Office Building Form to Enhance Wind Energy Production in Building Integrated Wind Turbine

Matin Alaghmandan Spring 2014  
Committee: The Impact of Architectural and Structural Concepts to Reduce Wind Effect on Super Tall Buildings

Anisur Rahman Spring 2014  
Advisor: Optimizing the Envelope of Tall Office Buildings for Energy Efficiency and Thermal Comfort in the Tropic Climate of Dhaka

- Meysam Tabibzadeh Summer 2014  
 Advisor: Integration of Daylight in Commercially Used Buildings for Energy Saving Purpose
- Mahsa Nicknam Spring 2013  
 Committee, research into computational building performance modeling; incorporating structure and energy efficient design within architectural form generation
- Irina Susorova Spring 2013  
 Co-Advisor: Development of methods and systems for Green Walls
- Ahmad Fakhra (Judith Gregory, ID faculty) Fall 2012  
 Committee: Development of a conceptual and theoretical model of design creativity in the design studio.
- Qutaibah Hamadah Fall 2012  
 Committee: The Polymorphic Diagram: Concepts for Design Technology to Model Spatial Design Criteria in Architectural Design
- Christine Marriott Spring 2012  
 Advisor: Development of concepts for a digital ePortfolio system for architectural work presentation and assessment.
- Payam Bahrami Spring 2011  
 Committee: Habitat Architectural Design System (HADS), proposed module for lunar habitat
- Mohammad Babsail Spring 2011  
 Committee: Investigation of wind turbine placement and shape in tall buildings.
- Joseph Huang December 2007  
 Advisor: Develop a web-based system for use in the area of prefabricated buildings to assist the customer and architect to select the appropriate building components. Study the issues of client directed design.
- Pravin Bhiwapurk December 2006  
 Committee: Investigation of the heat island effect in dense urban areas; study the site parameters of the buildings and their materials. Assist in the development and understanding of related computational tools.
- Abdel-Salam Al-Dawoud December 2006  
 Committee: Investigating the energy requirements in the design of building atriums; develop initial design guidelines to better understand their performance. Assist in developing methods to analyze energy consumption and how to present the final results.

Tallal Abdalbasit Saeed May 2007  
Committee: Investigate the effect of natural ventilation in decreasing the energy consumption of residences with courtyards.

Ying-Chun Hsu May 2006  
Advisor: Development of space allocation advisor by including spatial characteristics and attempt to suggest initial three-dimensional forms from client preferences. Lead in developing the methods and computational software required to construct a working prototype.

Hassan Mahmoud Satti February 2006  
Advisor: Investigate the integrating of a Building Information Model and the requirements for a Building Code analysis. Lead in developing the software and approach to link building codes with CAD objects.

Jeoi Hun Lee November 2005  
Committee: Post occupancy analysis of long term care facilities. Assist in the review of the thesis and its approach and results.

Hiroki Tamai September 2005  
Committee: Development of Form Finding of Tensile Structures: Architectural Approach; assist in the review of the thesis and its approach and results.

Pongsang Chaisparasmkul April 2005  
Committee: Simplified Building Energy Analysis Tool for Architects; lead in developing the software required to produce and display the results.

Sang Min Park April 2005  
Committee: Tall Building Form Generation by Parametric Design Process; lead in development the geometric approach and the software required to generate and present the results.

Magdy Ibrahim February 2005  
Advisor: An XML Approach to Transferring Architectural Information to the Construction Site Based on the BIM Object Concept; lead in developing the software methods to extract and represent the results in a web-based format.

Hyeong-Il Kim November 2003  
Committee: Space efficiency in mixed-use high-rise building; lead in developing the CAD graphics required to analyze the case studies.

Ekka Mahaek May 2003  
Co-advisor: Solar Effective Envelope Design Advisor (SEEDA); lead in developing the computational framework the analysis and the CAD software required to construct a working prototype.

Hatice Sozer August 2002

Committee: Identification of barriers to the building integrated photovoltaic design process as applied to curtain-wall; assist in the review of the thesis and its approach and results.

Qi Zhou July, 2002  
Co-advisor: From CAD to iAD: An Internet application of steel construction consulting for architects; lead in developing the concepts for this web-based approach to design.

Kamon Jirapong July, 2002  
Advisor: Discovering architecture within a seashell; lead in developing the computational framework for the interpretation of the geometry and the software required to generate prototypical forms.

Khaled Mansy July, 2001  
Committee: Sustainable regionalism, climate responsiveness as a regional character stimulus, assist in the review of the thesis and its approach and results.

Samir Abdelmawla May 2000  
Committee: A visual approach for structural analysis for architects; lead in developing the JAVA modules and method to show real-time structural concepts.

Yong-Sun Choi May 2000  
Committee: A Study on Planning and Development of Tall Building: The Exploration of Planning Considerations; assist in the review of the thesis and its approach and results.

#### Advisor, Master Candidates in Architecture

Jonathan Howard 2006-2007  
Advisor: New media art museum for the Chicago downtown area.

Jhilmal Jha 2006-2010  
Advisor: Projective geometry methods for architectural form.

Jason Morris Spring 2004  
Committee: Investigation of a temporary portable architectural system. Assist in thesis review.

Jolly Thulaseedas Spring, 2003  
Advisor: Investigation of the Mobius Strip for the development of architectural forms. Lead in developing the mathematical framework and supporting software.

Omar Torres Rivera Spring 2003



Committee: Design of a structure for urban nomads.

Ying-Chun Hsu Spring 2000  
Committee: Investigation of CAD-based architectural form generation

Advisor, PhD Candidate in in Mechanical and Aerospace Engineering  
Developing Hybrid Acoustic Method Including Beamforming and Nesi For Air  
Infiltration/Leakage by Hirenkumar Patel defended August 31, 2017

Advisor, PhD Candidate in Civil Engineering  
Cost estimating database and multimedia system 1993-1994

Advisor, Master Candidate in Computer Science  
Analysis methods integrated with CAD systems 1992-1993

### **Education:**

Bachelor of Architecture, Building Technology, 1974  
University of Illinois at Chicago

Selected graduate coursework in Artificial Intelligence  
DePaul University, Department of Computer Science 1979-1980

### **Areas of Teaching Competence:**

All graphic related computer applications in architecture and software development in most architectural and engineering disciplines.

My professional office and consulting experience has enabled me to have a working knowledge of almost every area of architectural practice.

Commercial software applications covering: image composition, 2D drafting and drawing, 3D modeling, rendering, animation, and web design.

Design experience and skills to correctly use all the above mentioned software.

Current areas of focus are in software development for architectural form generation, web applications and virtual reality. Interest in smart building technology, and art-to-part manufacturing with rapid prototyping.

Experience with fabrication methods in architectural design: rapid prototyping and laser cutting.

Digital art based on mathematical relationships or scientific concepts; fractals, chaos, strange attractors, music, and cellular automata; all using custom developed software.

Computer programming skills in: Assembler, Lisp, PL/1, FORTRAN, BASIC, C, dBASE, AutoLisp, PAL, JAVA, Logo, VisualBASIC, and Python

**Research:**

Proposed IPRO project based on building automation used in creating a kinetic sculpture	Fall 1998
One year Guest Faculty Research Appointment at Argonne National Laboratory in the area of virtual reality	1998-1999
Computer adviser, Ezekiel's Temple Construction, multimedia project by Abe Rokach	1996-1997
Computer advisor, Hankang City Project, IIT, funded research project Hyundai Corporation	1997
Space planning methods, undergraduate thesis at the University of Illinois at Chicago	1974

**Professional Experience:**

Murphy/Jahn (formerly C. F. Murphy Associates) Assistant Computer Manager responsible for developing and maintaining architectural, graphic, and engineering software.	1970-1978
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Major Projects:

Development of a computer graphics presentation system to generate perspective views simulating walk-throughs and fly-arounds. Used in winning a national design competition and part of local design exhibit.

Development of database system to inventory and evaluate signage at O'Hare International Airport.

Development of cost estimating database system for mechanical and electrical trades for World Trade Center in Moscow.

Development of computer program for analysis of interrelationships of functional spaces during preliminary design for corporate headquarters.

Development of computer program for design and analysis of elevator requirements for commercial and residential projects.

Kyle Benkert Associates 1969-1970  
Architectural Drafter, Designer,  
and Planner

Burnham and Hammond 1967-1968  
Architectural Drafter

### **Individual Professional Practice:**

BitArt 1996-Present  
Development of computer generated art work,  
laser cut ornaments accepted in Illinois Craft Shops  
See: [www.BitArtWorks.com](http://www.BitArtWorks.com)

ManageWare 1978-present  
Computer Application Consulting to Building  
Design Professionals

Skidmore, Owings, Merrill LLP, Chicago  
Eight week seminar/workshop on algorithmic methods

Perkins & Will, Architects and Engineers  
Development of Space Programming Data Base System and Space Planning System  
Development of computer graphics system to fully automate the drawing of over  
3,000 lot plans from civil engineering computations.

I S D Incorporated  
Installation of 36 CAD workstations, 42 general purpose microcomputers, and an  
8-workstation accounting network  
Development of Space Programming, Marketing, Project Review Database Systems

Abbott Laboratories, Construction Management Division  
Development of Contract Management, Open Contract Accounting, and Inventory  
Investment Recovery Database Systems

Mid-America Engineers, Inc.  
Installation of 4-workstation minicomputer system, 12 CAD workstations, and  
6 general purpose microcomputer systems  
Development of Project Reporting System and engineering software for the design  
of blending plants.

O'Donnell Wicklund Pigozzi and Peterson Architects  
Installation of 4 CAD workstations and 12 general purpose microcomputer systems

## Development of Project History Database System

Bertrand Goldberg Associates, Architects

Installation of 3 CAD workstations and 8 general purpose microcomputers

Development of Shop Drawing, Activity Status, and Drawing Status Database Systems.

Fujikawa Johnson and Associates, Architects

Development of Shop Drawing Reporting Database System

Project Control Associates, Construction Managers

Development of Cost Estimating System for the U. S. Embassy Complex in Moscow.

Welton Becket Associates, Architects

Development of Furniture Specification Database System

Loebl Schlossman and Hackl, Architects

Installation of 6-workstation minicomputer system for accounting, word processing, and marketing databases.

## **Awards and Honors:**

2010 ACADIA Award for Teaching Excellence, Association of Computer-Aided Design in Architecture, October 23, 2010, New York

“The award recognizes your dedicated and innovative teaching in the field of digital architecture, and in particular, your pedagogical approach that has been influential on other educators. The committee was also impressed by the letters from your former students who attested to your formative influence on them and their work.”

2008 and 2011 United States Artists Fellowship, blind nomination, not awarded

1984 Chicago Chapter American Institute of Architects Young Architects Award

1980 Building Design & Construction's Young Professionals Award

## Publications and Exhibit Web Sites:

[www.iit.edu/~krawczyk](http://www.iit.edu/~krawczyk)  
[www.BitArtWorks.com](http://www.BitArtWorks.com)  
[www.BitArtWorks.com/codewriting](http://www.BitArtWorks.com/codewriting)

## Publications Books:

Author, chapter, "CA: Dying to Live Again, Architecture, Art, Design", in *Designing Beauty: The Art of Cellular Automata*, Editors: Andrew Adamatzky and Genaro J. Martínez, Springer, 2016

Author, chapter, "Transformations", in the Fall 2013 306090 Journal, Volume 15, titled (Non-)Essential Knowledge for (New) Architecture, Editor: David L. Hays, Princeton Architectural Press, 2013

Author, textbook, *The Codewriting Workbook, Creating Computational Architecture in AutoLISP*, Princeton Architectural Press, New York, New York, 2008, 416 pages, 274 figures, over 400 code examples; released January 2009

## Publications Articles and Conference Papers:

Co-Author with Nathaniel Friedman, "Generalized Tetrahedrons and Sculptural Variations", *The International Society of The Arts, Mathematics and Architecture, ISAMA Hyperseeing Winter 2014 Journal*

Co-Author with Nathaniel Friedman, "Twistors: Sculptural Explorations", *The International Society of The Arts, Mathematics and Architecture, ISAMA Hyperseeing Winter 2014 Journal*

Author, "Exploring the Visualization of Music", *Bridges 2012 Conference, Mathematical Connections in Art, Music, and Science*, Towson University, Baltimore, MD, July 25-29, 2012

Author, "Revisiting Truchet Tilings", *Conference of The International Society of The Arts, Mathematics and Architecture, ISAMA 2011, Columbia College, Chicago, IL, June 13-17, 2011*

Poster and Proceeding Cover, "Path Cubes", *Conference of The International Society of The Arts, Mathematics and Architecture, ISAMA 2011, Columbia College, Chicago, IL, June 13-17, 2011*

Poster, "Spirals, Fractals, and Music: The Same only Different.", artwork on the College public lecture series poster, College of Architecture, Illinois Institute of Technology, Chicago, IL, April, 2011, one images

Co-author with Caroline Morais, Ray Clark, Harry Mallgrave, "Catharine Beecher's Home Designs and Environmental Control Concepts". In: *PLEA 2009: The 26th International Conference on Passive and Low Energy Architecture*, 2009, Quebec, Canada

- Co-author with Joseph. Huang, "Web Based BIM for Modular House Development", Proceedings of the Third International Conference of Arab Society for Computer Aided Architectural Design, ASCAAD 2007, Alexandria, Egypt
- Co-author with Joseph. Huang, "A Choice Model of Consumer Participatory Design for Modular Houses", Proceedings of the 25th International Conference on Education in Computer Aided Architectural Design in Europe, eCAADe 2007, Frankfurt, Germany
- Co-author with Joseph. Huang, "i\_Prefab Home: Customizing Prefabricated Houses by Internet-Aided Design", Proceedings of the 24th International Conference on Education in Computer Aided Architectural Design in Europe, eCAADe 2006, Volos, Greece
- Co-author with Joseph. Huang and George Schipporeit, "Integrating Mass Customization with Prefab Housing", Proceedings of the Second International Conference of Arab Society for Computer Aided Architectural Design, ASCAAD 2006, Sharjah, UAE
- Co-author with Joseph. Huang and George Schipporeit, "Mass Customizing Prefab Modular Housing by Internet-aided Design", Proceedings of the 11th International Conference on Computer Aided Architectural Design Research in Asia, CAADRIA 2006, Kumamoto, Japan
- Author, "Exploring the Massing of Growth in Cellular Automata", in Demonstrating Digital Architecture, 5th Far Eastern International Digital Architectural Design Awards, editing by Yu-Tung Liu, Birkhauser, 2005
- Co-author with Sang Min Park, David Sharpe, "Innovative Tall Building Form Development" Council of Tall Buildings and Urban Habitat, CTBUH 2005 Conference, New York, NY, October, 2005
- Author, "Fermat's Spiral Mandalas", Bridges 2005 Conference, Mathematical Connections in Art, Music, and Science, Banff Conference Center, Banff, Alberta, Canada, July 30, 2005
- Author, "Exploring the Massing of Growth in Cellular Automata", Dresden International Symposium on Architecture, Aesthetics and Architectural Composition 2004, Technische Universität Dresden, June 16 to 19, 2004, published June, 2005
- Co-author with Hassan M. Satti, "Issues of Integrating Building Codes in CAD", First International Conference on Computer Aided Architectural Design, ASCAAD 2004 Conference, Dhahran, Saudi Arabia, February, 2005
- Co-author with Khaled Sherbini, "Overview of Intelligent Architecture", First International Conference on Computer Aided Architectural Design, ASCAAD 2004 Conference, Dhahran, Saudi Arabia, February, 2005
- Co-author with Sang Min Park, Mahjoub Elnimeiri, David Sharpe, "Tall Building Form Generation by Parametric Design Process", Council of Tall Buildings and Urban Habitat,

CTBUH 2004 Conference, Seoul, Korea, October, 2004

Co-author with Ying-Chun Hsu, "Form Development with Spatial Character", Education in Computer Aided Architectural Design in Europe, eCAADe 2004 Conference, Copenhagen, Denmark, September, 2004

Co-author with Magdy Ibrahim, " Two Approaches to BIM: A Comparative Study ", Education in Computer Aided Architectural Design in Europe, eCAADe 2004 Conference, Copenhagen, Denmark, September, 2004

Author, "The Ghostly Imagery of Strange Attractors", Bridges 2004 Conference, Mathematical Connections in Art, Music, and Science, Southwestern College, Winfield, KS, July 30, 2004

Author, "Introduction to Artistic Programming", Bridges 2004 Conference, Mathematical Connections in Art, Music, and Science, Southwestern College, Winfield, KS, July 30, 2004, workshop

Author, "Introduction to the Visualization of Geometry Using Computer Graphics Programming", Conference of The International Society of The Arts, Mathematics and Architecture, ISAMA 2004, DePaul University, Chicago, IL, June 15, 2004

Co-author with Ying-Chun Hsu, "Space Adjacency Behavior in Space Planning", CAADRIA 2004 Conference, Seoul, South Korea, April 28, 2004

Co-author with Magdy Ibrahim, "A Web-Based Approach to Transferring Architectural Information to the Construction Site Based on the BIM Object Concept", CAADRIA 2004 Conference, Seoul, South Korea, April 28, 2004

Author, "Exploring the Massing of Growth in Cellular Automata", Generative Art 2003 Conference, Milan, Italy, December 11, 2003

Co-author, with Magdy Ibrahim, "The Level of Knowledge of CAD Objects within the Building Information Model", Association for Computer-Aided Design in Architecture, ACADIA 2003 Conference, Indianapolis, IN, October 23, 2003

Co-author with Kamon Jirapong, "Digital Methods of Abstracting Forms from Nature", CAADRIA 2003 Conference, Bangkok, Thailand, October 18, 2003, received 1 of the 3 presentation awards

Co-author with Ying-Chun Hsu, "New Generation of Computer-Aided Design in Space Planning", CAADRIA 2003 Conference, Bangkok, Thailand, October 18, 2003

Co-author with Qi Zhou, "A Survey of the Internet Application in the AEC Industry", Journal of Southeast University, vol. 10 no. 3, Sept. 2003, Nanjing, China

Co-author with Magdy Ibrahim and George Schipporeit, "CAD Smart Objects: Potential

and Limitations”, eCAADe 2003, Education in Computer-Aided Architectural Design in Europe, Graz, Austria, September, 2003

Author, “Dimension of Time in Strange Attractors”, ISAMA/Bridges 2003 Conference, Mathematical Connections in Art, Music, and Science, Granada University, Spain, July 23, 2003

Co-author with Kamon Jirapong, "Seashell Architectures”, ISAMA/Bridges 2003 Conference, Mathematical Connections in Art, Music, and Science, Granada University, Spain, July 23, 2003

Co-author with Jolly Thulaseedas, "Mobius Concepts in Architecture”, ISAMA/Bridges 2003 Conference, Mathematical Connections in Art, Music, and Science, Granada University, Spain, July 23, 2003

Author, “Architectural Interpretation of Cellular Automata”, Generative Art 2002 Conference, Milan, Italy, December 11, 2002

Co-author with Kamon Jirapong, “Architectural Forms by Abstracting Nature”, Generative Art 2002 Conference, Milan, Italy, December 11, 2002

Author, “Experiments in Architectural Form Generation Using Cellular Automata”, eCAADe 2002, Education in Computer Aided Architectural Design in Europe, Warsaw, Poland, September, 2002

Co-author with Kamon Jirapong and Mahjoub Elnimeiri, “Natural Form as Virtual Architectures”, eCAADe 2002, Education in Computer Aided Architectural Design in Europe, Warsaw, Poland, September, 2002

Co-author with Qi Zhou and George Schipporeit, “From CAD to iAD, A Web-Based Steel Consulting of Steel Construction in Architecture, eCAADe 2002, Education in Computer Aided Architectural Design in Europe, Warsaw, Poland, September, 2002

Author, “Sculptural Interpretation of a Mathematical Form”, Bridges 2002: Mathematical Connections in Art, Music, and Science 2002 Conference, July 27, 2002, Towson University, MD

Co-author with Magdy Ibrahim, “Exploring the Effect of Direction on Vector-Based Fractals”, Bridges 2002: Mathematical Connections in Art, Music, and Science 2002 Conference, July 27, 2002, Towson University, MD

Co-author with Qi Zhou and George Schipporeit, “Issues in Developing an Internet Application for Engineering Consulting in Architecture”, 9<sup>th</sup> ISPE International Conference on Concurrent Engineering: Research and Applications, Cranfield University, United Kingdom, July 27, 2002

Author, “Shattered Perfection: Crafting a Virtual Sculpture”, IEEE IV’02, 6<sup>th</sup> International



Conference on Information Visualization, D-Art Gallery, University of London, London, England, July 10, 2002

Co-author with Qi Zhou, "From CAD to iAD: An Evolutionary Model of the Internet-Based Engineering Consulting in Architecture", CAADRIA 2002 Conference, Cyberjaya, Malaysia, April 18, 2002

Co-author, with Samir Abdelmawla and Mahjoub Elnimeiri, "An Interactive Web-Based Learning Environment for Engineering", American Society for Engineering Education, Chicago, IL, April 11, 2002

Co-author with Qi Zhou, "From CAD to iAD: A Survey of Internet Application in the AEC Industry", Association for Computer-Aided Design in Architecture, ACADIA 2001 Conference, Buffalo, NY, October 11, 2001

Author, "Experiments in Architectural Form Generation Using Cellular Automata", ACSA On Growth and Form Conference, October 4, 2001, Cambridge, Ontario, Canada

Author, "More Curved Spirolaterals", Bridges 2001 Conference, Mathematical Connections in Art, Music, and Science, Winfield, KS, July 27, 2001

Author, "More Curved Spirolaterals", VisMath - Visual Mathematics OnLine Journal, Vol. 3, No.2, June 2001; [members.tripod.com/vismath](http://members.tripod.com/vismath)

Author "Curving Spirolaterals", Mathematics & Design 2001 Conference, Geelong, Victoria, Australia, July 3, 2001

Author, "The Art of Spirolateral Reversals", Journal of Mathematics & Design, March 2001, Buenos Aires, Argentina

Co-author, Poster with Qi Zhou, "From CAD to iAD", Association of Collegiate Schools of Architecture, ACSA 2001 Annual Meeting, Baltimore, MD, March 16, 2001

Author, "Developing Parametrically Based Forms", ACADIA Quarterly, Volume 3, Fall 2000

Co-author, with Ying-Chun Hsu, "Constraint Based Space Planning - A Case Study", ACADIA Quarterly, Volume 3, Fall 2000

Author, Poster, "Developing Methods to Teach Form Generation", Generative Art 2000 Conference, Milan, Italy, December 14, 2000

Co-author, with Samir Abdelmawla and Mahjoub Elnimeiri, "Interactive Computer Modules for Structural Education", First Saudi Technical Conference, Riyadh, Saudi Arabia, November 18, 2000

Co-author, with Samir Abdelmawla and Mahjoub Elnimeiri, "Structural Gizmos", Association for Computer-Aided Design in Architecture, ACADIA 2000 Conference, Washington, DC, October 19, 2000

Author, "The Art of Spirolaterals", The Millennial Open Symposium on the Arts and Interdisciplinary Computing", MOSAIC 2000, Seattle, WA, August 21, 2000

Author, "Evolution of Mathematically Based Form Development", Bridges 2000 Conference, Mathematical Connections in Art, Music, and Science, Winfield, KS, July 27, 2000

Author, "The Art of Spirolateral Reversals", Conference of The International Society of The Arts, Mathematics and Architecture, ISAMA 2000, Albany, NY, June 24, 2000

Co-author, Poster with Samir Abdelmawla and Mahjoub Elnimeiri, "Virtual Environment for Structural Education", Association of Collegiate Schools of Architecture, ACSA 2000 Annual Meeting, Los Angeles, CA, March 14, 2000

Co-author, Poster with Yongsun Choi, Mahjoub Elnimeiri, and David Sharpe, "A Study on Tall Building Planning and Development", Association of Collegiate Schools of Architecture, ACSA 2000 Annual Meeting, Los Angeles, CA, March 14, 2000

Co-author, Poster with Khaled Mansy and Pat Dolan, "The Use of Hourly Climatic Data in Bioclimatic Analysis", Association of Collegiate Schools of Architecture, ACSA 2000 Annual Meeting, Los Angeles, CA, March 14, 2000

Author, "Virtual Ornaments", ACADIA Quarterly, Volume 4, Winter 1999

Co-author with Khaled Mansy and Pat Dolan, "Climatic Responsive Forms: Energy Conservation through Building Form and Orientation", Second International Conference on Sustainability in Desert Regions, Al-Ain, United Arab Emirates, November 20, 1999

Co-author with Yongsun Choi, Mahjoub Elnimeiri, and David Sharpe, "An Exploration of Tall Building Design Factors", Third Sao Paulo International Conference on High Technology Buildings, October 20, 1999

Author, "Spirolaterals, Complexity from Simplicity", Conference of The International Society of The Arts, Mathematics and Architecture, San Sebastian, Spain, June 7, 1999

Author, Poster "Common Geometry - Uncommon Forms", Association of Collegiate Schools of Architecture, ACSA 1999 Annual Meeting, Minneapolis, MN, March 20, 1999

Co-author with Khaled Mansy, Poster "Optimum Envelopes - Energy Study",  
Association of Collegiate Schools of Architecture, ACSA 1999 Annual Meeting,  
Minneapolis, MN, March 20, 1999

Author, "Hilbert's Building Blocks", Mathematics & Design 98 Conference, San  
Sebastian, Spain, June 1, 1998

Author, "Programs as Pencils: Investigating Form Generation", Association for  
Computer-Aided Design in Architecture, ACADIA 1997 Conference, Cincinnati,  
OH, October 3, 1997

Author, "Computer-Assisted Scheduling for Architects", Architectural Technology,  
Spring, 1984.

Author, "Space Plan--An User-Oriented package for the Evaluation and the Generation  
of Spatial Interrelationships", presented at 1973 Annual Design Automation  
Workshop in Portland, Oregon.

Co-author, with Elliot Dudnik, "An Evaluation of Space Planning Methodologies",  
presented at 1973 EDRA 4 Conference at Virginia Polytechnic Institute

Contributor, to SYMAP User's Reference Manual, Report No. 71-1 (computer  
mapping software), Department of Architecture, University of Illinois at Chicago,  
1971

## **Presentation and Publication of Work:**

Exhibitor, Ellipticals, Chicago Alliance of Visual Artists 2018 30th Anniversary Exhibition, Gallery 1070, Chicago, IL, October 27 through November 18, 2018, one print, group

Exhibitor, Spiral Mandala Mesh Series, Water Street Studios' 9th Anniversary Exhibition, Batavia, IL, September 14 through October 7, 2018, one print, group

Exhibitor, More Paths Series, Chicago Alliance of Visual Artists 2018 Later Impressions Exhibition, Old Town Art Center, Leslie Wolfe Gallery, Chicago, IL, September 4 through September 26, 2018. One print, group

Exhibitor, Children's Song Series, St. Charles Arts Council ArtsFest Juried Art Show, St. Charles, IL, September 7 through September 27, 2018, four prints, group

Exhibitor, Dis-Functional and Containing Air: Exploring Structure series, Three-Dimensional Contemporary Sculpture by Illinois Artists exhibition, Bridgeport Art Center, Chicago, IL; July 20 through September 7, 2018, seven sculptors showing, sixteen 3D printed sculptures in sandstone and metallic plastic, and over one-hundred design sketches.

Exhibitor, 3D printing, "Being Dis-Functional", In and Around – Vessels and Jewelry; Kavanagh Gallery of Fine Line Creative Arts Center, St. Charles, IL; June 20 - August 10, 2018, two sculptures, group

Exhibitor, Visualizing music, laser-cut reliefs and digital prints in the Hand in Hand: Craft and New Technologies at the Crooked Tree Art Center in Traverse City, MI, January through March 2018; and then Petoskey, MI, April through June 2018; in collaboration with the University of Michigan and local maker spaces, four digital reliefs and prints, group. Awarded 2<sup>nd</sup> Place Prize.

Exhibitor, laser-cut sculpture, OUTSIDE THE PRACTICE: Artworks Created by Architects and Designers, Bridgeport Art Center, Chicago, IL; January 19 - March 2, 2018; 20+ sculptures, group. Entry image used in promotion postcard.

Exhibitor, 3D printing, "Being Dis-Functional", 2018 6<sup>th</sup> Annual Art Competition, Bridgeport Art Center, Chicago, IL; March 16 to May 3, 2018; two sculptures, group

Exhibitor, 3D printing, "Containing Air, Exploring Structure Series", Architectural Elements Exhibition, Chicago Alliance of Visual Artists, Bridgeport Art Center, Chicago, IL; January 4-30, 2018; two sculptures, group, Awarded Award of Excellence.

Exhibitor, "Strange Attractor Series", Consilience of Art & Science exhibition, Pence Gallery and UC Davis Art/Science Fusion, Davis, CA; January 26-March 2, 2018; three prints, group. Entry image used in promotion poster.

Exhibitor, laser-cut sculpture, Biomimicry - Re-defining Nature Through Art; Kavanagh Gallery of Fine Line Creative Arts Center, St. Charles, IL; March 30 - May 12, 2018, one sculpture, group

Exhibitor, 3D printing, “Being Dis-Functional”, In and Around – Vessels and Jewelry; Kavanagh Gallery of Fine Line Creative Arts Center, St. Charles, IL; June 20 - August 10, 2018, two sculptures, group

Exhibitor, geometric print, “Spiral Mandala”, Chicago Alliance of Visual Artists 2018 Members Show; Beverly Arts Center Gallery, Chicago, IL; May 20 – June 30, 2018, one print, group

Exhibitor, 3D printing, “Being Dis-Functional: Extensions and Bypasses”, Rapid3D 2018 Art Gallery, Fort Worth, TX; April 23-26, 2018; four sculptures, group

Exhibitor, laser-cut sculpture, “Randomly Layered Circles Series”, Fox River Art Ramble, St. Charles Art Council’s Art Gallery, April 21 through May 12, 2018, two pieces, group

Exhibitor, 3D printing, “Containing Air, Exploring Structure Series”, International Sculpture Center's Chapter Member Exhibition at ZonaMaco, Mexico; 15<sup>th</sup> Edition Arte Contemporáneo; February 8-28, 2018; one sculpture, group, online.

Exhibitor, “Strange Attractor Series”, Staring into Space exhibition, MACAA\*Mid-America College Art Association, 2018 MACCA Conference, The University of Nebraska Lincoln, October 3-6, 2018, online February 20th 2018 – June 30, 2018; CAA\*College Art Association, 2018 Annual Conference, Los Angeles Convention Center, February 21-24, 2018.; two prints, group. Awarded Honorable Mention

Exhibitor, 3D printing, “Containing Air, Exploring Structure Series”, Architectural Elements Exhibition, Chicago Alliance of Visual Artists, Bridgeport Art Center, Chicago, IL; January 4-30, 2018; two sculptures, group

Exhibitor, 3D printing, “Containing Air, Exploring Structure Series”, The Shape of Air exhibition at the Contemporary Art Center of Peoria, January 12-February 16, 2018, three sculptures, group

Exhibitor, Visualizing music digital prints in the Intersecting Perspectives online exhibition at the SciArt Center, New York, December through January 2018, three digital prints, group

Exhibitor, digital print, “Crova’s Disc Vortex”, 2018 Joint Mathematics Meetings Exhibition of Mathematical Art, San Diego, CA, January 10-13, 2018; one print, group

Exhibitor, Digital geometric cross prints, 29th Annual juried Christmastime at FineLine Holiday Exhibit, Kavanagh Gallery at the FineLine Creative Arts Center, December 1 – 9, 2017, four digital prints, group

Exhibitor, Digital geometric elliptical mesh prints, Winter PopUp Gallery, St. Charles Art Council’s Pheasant Run Resort Art Gallery, November 20, 2017 through January 20, 2018, four digital prints, group

Exhibitor, Digital geometric floral prints, ArtsFest, St. Charles Art Council’s Pheasant Run Resort Art Gallery and at the Dempsey Gallery at the FineLine Creative Arts Center, October through December, 2017, six digital prints, group

- Exhibitor, Sol LeWitt inspired art tote bags in the Visit Oak Park: Urban Local Made exhibit, October through December 2017, six designs, group
- Exhibitor, 3D printing, “Containing Air, Exploring Structure Series”, CSI Skin & Bones: Surface & Structure exhibition at the Noyes Cultural Arts Center in Evanston, October through November 2017, three sculptures, group
- Exhibitor, "Being Dis-Functional Series", Rapid3D Conference 2017 3D Art Gallery at the 3D: Printing, Scanning, and Additive Manufacturing Conference, May 8-11, 2017, David L. Lawrence Convention Center - Pittsburgh, PA, sponsored by the Society of Manufacturing Engineers, two sculptures, group
- Exhibitor, Visualizing music, 3D printed sculpture, laser-cut reliefs, “Twinkle Twinkle Little Star, Old McDonald Had a Farm, and Yankee Doodle”, St. Charles Art Council’s Pheasant Run Resort Art Gallery, April 28–May 28, 2017, three sculptures, group
- Exhibitor, "Being Dis-Functional Series", 2017 Joint Mathematics Meetings Exhibition of Mathematical Art; The Mathematical Association of America (MAA) and the American Mathematical Society (AMS); held in Atlanta GA, January 4-7, 2017, four sculptures, group
- Exhibitor, "Being Dis-Functional Series", True to Form: Works from Chicago Sculpture International at the Brauer Museum of Art, Valparaiso University, from August 23 – December 11, 2016, two sculptures, group
- Exhibitor, “More Paths Series”, Bridges 2016 Art Exhibition, Bridges Finland 2016 Mathematics, Music, Art, Architecture, Education, Culture, August 9-13, 2016, three prints, group
- Exhibitor, “Dimension of Time in Strange Attractors”, Digital Arts Community of ACM SIGGRAPH, "Science of the Unseen: Digital Art Perspectives" Exhibit, five prints, group, starting July 1, 2016
- Exhibitor, “Dimension of Time in Strange Attractors”, SciArt Center of New York "Distinguishable From Magic." Exhibit, Collar Works, Troy, NY, June 24 – July 30, 2016, five prints, group
- Exhibitor, 3D printing, “Containing Air, Exploring Structure Series”, CURRENTS 2016 Santa Fe International New Media Festival, form & concept art gallery, June 10 - June 26, 2016, three sculptures, group
- Exhibitor, 3D printing, “Containing Air, Exploring Structure Series”, Rapid3D 2016 3D Printing & Additive Manufacturing Convention, Contemporary Art Gallery, Orlando, FL, May 16 - 19, 2016, one sculpture, group
- Exhibitor, “Dimension of Time in Strange Attractors”, SciArt Center of New York "Distinguishable From Magic." Exhibit, January, 2016. The exhibit will be featured in the

February 2016 issue of SciArt in America, five prints, group

Exhibitor, “More Paths Series”, Mathematical Art Exhibition of JMM 2016, Joint Mathematics Meeting, the Mathematical Association of America (MAA) and the American Mathematical Society (AMS), Seattle Convention Center, January 6-9, 2016, two prints, group

Holiday Card Art, “Harmony”, exhibited at Mark di Suvero’s Peace Tower, Chicago Rooms, Chicago Cultural Center, June 8 to October 1, 2007, Illinois Institute of Technology Provost Holiday Card, December, 2015, one laser cut

Exhibitor, 3D printing, “Containing Air, Exploring Structure Series”, CSI: Themes in Contemporary Sculpture, Foster Gallery, Haas Fine Arts Center, University of Wisconsin, Eau Claire, WI, October 22 through November 24, 2015, three sculptures, group

Exhibitor, 3D printing, “Twisted Bangles: Mobius Twists”, St. Charles Arts Council neXt Gallery, St. Charles, IL, July 9 through August 2, 2015, three metal bangles, group

Exhibitor, 3D printing, “Twisted Bangles: Mobius Twists”, Bridges 2015 Conference Art Exhibition, College of Fine Arts Gallery, Towson University, Towson, MD, June 26 through July 26, 2015 and then University of Baltimore, Baltimore, MD, July 29 through August 1, 2015 and then Centennial MathFest Exhibition, Mathematics Association of America, Washington, DC, August 5 through August 8, 2015, eight bangles, group

Exhibitor, 3D printing, “Containing Air, Exploring Structure Series”, SCULPTURE INVASION 2015, Koehnline Museum of Art, Oakton Community College in Des Plaines, IL, July 9 through September 18, 2015, one sculpture, group

Exhibitor, lasercuts and print, “Twinkle Twinkle Little Star, Old McDonald Had a Farm, Yankee Doodle, and ABC Song”, Sound Check: Exploring the interrelationships between visual art and sound, Fermilab Art Gallery, Batavia, IL, July 1, 2015 to September 10, 2015, five sculptures, one print, group

Exhibitor, 3D printing, “Containing Air, Exploring Structure Series”, Joint Mathematical Meeting Art Gallery, Henry B. Gonzalez Convention Center, San Antonio, Texas, January 9-11, 2015, two sculptures, group

Exhibitor, 3D printing and lasercut fabrications, “Containing Air, Exploring Structure Series” and “Six Lacy Cubes”, MATERIALIZE | Sculpture Using Digital Fabrication, Robert and Elaine Stein Galleries, Wright State, Dayton, OH, October 26–December 7, 2014 and Purdue University Galleries, Lafayette, Indiana, January–March, 2015, eight sculptures, group

Exhibitor, lasercut fabrication, Invited, Chicago Public Library's Polish American Heritage Month at the Sujlzer Regional Library, Chicago, IL, October 2014, solo, over 30 pieces

Exhibitor, lasercut fabrications, “Old McDonald had a Farm and Yankee Doodle”, Mathematical Art Exhibition Invitational, Ridderhof Martin Gallery, University of Mary Washington, Fredericksburg, VA, September 4 - October 5, 2014, sculpture, group

Exhibitor, 3D printing, “Containing Air, Exploring Structure Series”, Chicago Sculpture International Juried Exhibition, The Brent and Jean Wadsworth Family Gallery, Lewis University, Romeoville IL, August 18 - September 18, 2014, sculpture, group

Exhibitor, lasercut fabrications “Lane Cubes Series”, Chicago Sculpture International: Six to the 3<sup>rd</sup> Exhibit, Cliff Dwellers Club, Chicago, IL, August 5 - November 1, 2013, sculpture, group

Exhibitor, lasercut fabrications “Random Square/Circles, Rotated Sticks, Votive/Vase Series”, St. Charles Arts Council, Fine Craft Show, St. Charles, IL, September 12 to 15, 2013, sculpture, group

Exhibitor, lasercut fabrications “Old McDonald had a Farm”, Chicago Sculpture International Biennial Exhibition, Bridgeport Art Center, Chicago, IL, September 11 - November 2, 2013, wall sculpture, group

Exhibitor, lasercut fabrications “Orderly Disorder: Squares #07/08/06, 3-D 12 Chicago Sculptors Exhibit, Bloomingdale Park District Museum, IL, July 20 - August 24, 2013, wall sculpture, group

Invited Speaker, “Dimension of Time in Strange Attractors”, 2013 American Association for the Advancement of Science’s (AAAS) Annual Meeting, February 14–18, 2013, Boston, panel titled “Artful Science” and eight prints were exhibited on the Conference Exhibition Hall

Exhibitor, a series of lasercut fabrications of musical scores, Joint Mathematics Meetings in San Diego, CA on January 9-12, 2013 at their Math and Art Gallery hosted by The Mathematical Association of America, 2 wall sculpture, group

Exhibitor, “Gathering Wave I”, 8th Annual City Hall Exhibit at the Art In Your Eye Festival, Batavia, IL, August 4 and 5, 2012, print, group

Exhibitor, “Random Squares Votives, Vases, and Lamps” St. Charles Arts Council, neXt Gallery, September 22 to October 28, 2012, group

Exhibitor, lasercut fabrications “Falling Circles Inside/Outside Series” Chicago Sculpture International: Six to the 3<sup>rd</sup> Exhibit Expo Chicago, Navy Pier, Chicago September 20 to 23, 2012 and Lillstreet Art Center, September 25 to October 14, 2012, group

Exhibitor, lasercut fabrications of Indonesian music, “The Arts Converge: Contemporary Art and Asian Musical Traditions” at the Jack Olsen Art Gallery, Northern Illinois University in DeKalb, Illinois, September 4 through October 12, 2012; four pieces, group

Exhibitor, lasercut fabrications "Twinkle, Twinkle Little Star CII", Bridges 2012 Conference, Mathematical, Connections in Art, Music, and Science, Towson University, Baltimore, MD, June 23 to July 29, 2012, Extended Art Gallery Exhibit, print, group



Invited Speaker, "Exploring Digital Fabrication", Conference of The International Society of The Arts, Mathematics and Architecture, ISAMA 2012, DePaul University, Chicago, IL, June 18-21, 2012

Exhibitor, "Strange Attractors", Kinetic Energy, Fermilab Art Gallery, Batavia, March 21 to May 9, 2012, print, group

Exhibitor, "Spiral Mandala Glass Prints", St. Charles Art Council's neXt Gallery, St. Charles, March 17 to April 7, 2012, group

Exhibitor, "Falling Squares Inside/Outside", St. Charles Art Council's neXt Gallery, St. Charles, November 19 to December 11, 2011, group

Exhibitor, "Random Squares Inside/Outside", Chicago Sculpture International Group Exhibit, Six to the 3<sup>rd</sup>, Framing Mode & Gallery, Chicago, October 1 – 29, 2011, group

Exhibitor, "A Path of Your Own 013 plus Path Cubes", Bauhaus Now: Contemporary Applications of Bauhaus Concepts and Practice, Ukrainian Institute of Modern Art, Chicago, October 14, 2011 to December 4, 2011, group

Exhibitor, "Ring Unraveling II", The Next Big Idea: Science & Math-Based Art Contest, Los Alamos Main Street, NM, September 16-17, 2011, group, finalist 150 selected from over 900 entries

Exhibitor, "Laser Cut Series", Analogue is the New Digital, An online exhibition; showcasing the latest works from ACM SIGGRAPH's Digital Arts Community (dac). Curated by Andrea Zapp and co-ordinated by Jacquelyn Ford Morie; August 2 to December 31, 2011, group

Exhibitor, "Path Cubes, Planes", St. Charles Art Council's neXt Gallery, St. Charles, May 27 to June 26, 2011, group

Lecture, "Nature, Architecture, Mathematics, and the Digital", Mathematics and Computer Science Symposium, IIT, College of Science and Letters, April 29, 2011

Exhibitor, "Path Cubes", Art Chicago 2011, Chicago Sculpture International 6<sup>3</sup> Exhibit, Merchandise Mart, April 29 to May 2, 2011, group

Lecture, "Spirals, Fractals, and Music: The Same only Different", College of Architecture Lecture Series, IIT, April 6, 2011; lecture image also used on lecture poster

Lecture, "Seeing Order in Chaos", annual meeting of the Prairie section of the American Physical Society, IIT, College of Science and Letters, November 19, 2010

Exhibitor, "A Path of Your Own 013", Chicago's Art Loop Open, Merchandise Mart, October 12 to November 12, 2010, group, 200 selected from over 750 entries

Exhibitor, "Spiral Mandala", 1065th Meeting of the American Mathematical Society  
University of Richmond, Virginia, November 7, 2010, group

Lecture, "The Role of Exploration – What to Do When You Don't Know What to Do",  
Divergent Perceptions/Convergent Realities, Colloquium on Integrated Planning and  
Project Delivery, IIT College of Architecture, April 17, 2010

Exhibitor, "Six Lacy Cubes", Sculpture Invasion 2010, Koehnline Museum of Art,  
Oakton Community College, May 13 to August 26, 2010, six sculptures, group

Exhibitor, "Planes and Cubes", St. Charles: Art Around the Corner, Municipal Building,  
May 1 to 31, 2010, eight sculptures, group

Exhibitor, "Random Squares Series", Second Chicago Sculpture International Biennale 2008  
FlatfileGalleries, Chicago, IL, June 20 –August 22, 2008, one three part wall sculpture,  
group

Exhibitor, "Sticks Series" MultiXply, Columbia College A+D Gallery,  
Chicago, March 6 - April 19, 2008, ten sculptures, over 4,000 drawings, group

Exhibitor, "Spiral Mandala" Tenth Annual Chicago Art Open 2007, Iron Studios,  
Chicago, October 8 - 27, 2007, one print, group

Exhibitor, "Spiral Mandala", 1st Loyola National Works on Paper Competition at the  
Crown Center Gallery, Loyola University Chicago, July 27 to September 7, 2007,  
one print, group

Exhibitor, "Any Week", Sculpture Invasion, Koehnline Museum of Art, Oakton Community  
College, July 12 to August 30, 2007, one sculpture, group

Exhibitor, "Harmony", Mark di Suvero's Peace Tower, Chicago Rooms, Chicago Cultural  
Center, June 8 to October 1, 2007, one relief, group

Reproduction, Strange Attractor "Breaking Wave I" included in Crystal Productions Art  
Education series Digital Media Art Take 5 Art Prints, one print of five

Exhibitor, "Spiral Mandala", 60th Juried Exhibition, Sioux City Art Center, Sioux City, IA,  
October 7 to January 7, 2007, two prints, group

Exhibitor, "Spiral Mandala: Metallic Bead Series" Ninth Annual Chicago Art Open 2006,  
B Zhou Art Center, Chicago, October 10 - 24, 2006, one print, Curator's Choice, group

Exhibitor, "Cross Series ", 2006 Liturgical and Sacred Art Exhibition Springfield Art  
Association, Springfield, IL, April 29 - June 10, 2006, one print, group

Exhibitor, "Möbius Spider Series", First Chicago Sculpture International Biennale 2006  
FlatfileGalleries, Chicago, IL, May 5 - June 23, 2006, one sculpture, group

Exhibitor, "Spiral Mandala", ArtFutura Exhibition of American Art 2006, Rehabilitation Institute of Chicago, Chicago, IL, February 3 - 16, 2006, one print, group

Exhibitor, "Spiral Mandala", In View member show, The Art Center Highland Park, Highland Park, IL, January 6-26, 2006, one print, group

Exhibitor, "Ring Crosses", TeleSculpture'05, Arizona State University, Tempe, AZ, October - December, 2005, two sculptures, online, group

Exhibitor, "Ring Crosses", Intersculpt'05, 3rd International Digital Sculpture Competition, Paris, France, December, 2005, one sculpture, online, group

Exhibitor, "Spiral Mandalas", Digital Art Competition, Beecher Center for Technology in the Arts, The Butler Institute of American Art, Youngstown, OH, November 30 to April 15, 2006, two prints, group

Exhibitor, "Spiral Mandalas", AMS-MAA Joint Mathematics Meeting Art Exhibit, American Mathematical Society and Mathematical Association of America, San Antonio, TX, January 12-15, 2006, one print, group

Exhibitor, three collaborative pieces; Bradford Hansen-Smith, Mary Williams, and Susan McBurney, AMS-MAA Joint Mathematics Meeting Art Exhibit, American Mathematical Society and Mathematical Association of America, San Antonio, TX, January 12-15, 2006, two prints and one quilt, group

Exhibitor, "Spiral Mandalas", Mandalas: Maps of Conscious Order, Caladan Gallery, Beverly, MA, November 5 to December 4, 2005, three images, group, online

Article, "Fermat's Natural Spirals" MathTrek issue September 3, 2005, by Ivars Peterson for Science News Online,

Exhibitor, "Spiral Mandala: Metallic Bead Series" Eighth Annual Chicago Art Open 2005, The School of the Art Institute, Chicago, October 10 - 24, 2005, one print, group

Exhibit, "Dimension of Time in Strange Attractors", Digital '05: Exquisite, 7th International Digital Print Competition and Exhibition at the New York Hall of Science, Queens, NY, October 1, 2005 to January 15, 2006, two prints, group

Exhibit, "Dimension of Time in Strange Attractors", Upgrade! International at the Eyebeam Art and Technology Center, New York City, NY, September 13 to 24, 2005, on-line, ten images, group

Exhibitor, "Spiral Mandala: Metallic Bead Series" ArtSplash 2005, Rockaway Center for the Arts, NY, September 10 to October 16, 2005, three prints, group

Exhibitor, "Spiral Mandala: Metallic Mesh Series" NWCC Members Show, Northwest

Cultural Council Gallery, Rolling Meadows, IL, August 7 to September 9, 2005, one print, group

Exhibitor, "Fermat's Spiral Mandalas", Bridges 2005 Conference Art Exhibit, Mathematical Connections in Art, Music, and Science, Banff Conference Center, Banff, Alberta, Canada, July 30, 2005, five prints, group

Conference Logo, "Spirolateral #008", Bridges 2005 Conference, Mathematical Connections in Art, Music, and Science, Banff Conference Center, Banff, Alberta, Canada, July 30, 2005

Exhibit, "Dimension of Time in Strange Attractors", CGIV'05, 2<sup>nd</sup> Computer Graphics, Imaging and Visualization Conference, Beijing, China, July 26-29, 2005, Digital On-Line Art Gallery, three images, group

Exhibit, "Dimension of Time in Strange Attractors", IV'05, 9<sup>th</sup> International Conference on Information Visualization, University of London, London, England, July 6-8, 2005, Digital On-Line Art Gallery, five images, group

Exhibitor, "Dimension of Time in Strange Attractors", Intersection, University of Colorado's UMC Art Gallery, Boulder, June 27 – August 5, 2005, two prints, group

Exhibitor, "Dimension of Time in Strange Attractors", Intersection, Studio Aiello, Denver, June 2-17, 2005, two prints, group

Exhibitor, "Dimension of Time in Strange Attractors", Art+Math=X Conference Digital Art Gallery, University of Colorado, Boulder, June 2-5, 2005, one image, group

Lecture, "The Art of Strange Attractors", Art+Math=X Conference, University of Colorado, Boulder, June 2-5, 2005

Cover Art, "Strange Attractor, Smoldering Rise, II", infinity, April 2005, issue 1, Tarquin Publications, London, England, back cover

Exhibitor, "Dimension of Time in Strange Attractors", ArtFutura Exhibition of American Art 2005, Rehabilitation Institute of Chicago, February 4 - 17, 2005, three prints, group

Exhibitor, "Dimension of Time in Strange Attractors", Joint Mathematics Meeting Art Exhibit, American Mathematical Society and Mathematical Association of America, Atlanta, GA, January 5 - 8, 2005, two prints, group

Exhibitor, "Any Wall", C.A.N. chico.art.net, California State University, Chico, December 1, 2004 - March 30, 2005, net art, group

Holiday Card Art, Spirolateral Series, Illinois Institute of Technology Holiday Card, December, 2004

Exhibitor, International Rapid Prototyping Sculpture Exhibition: Annex, Kemper Room

- Art Gallery, art @ IIT, November 10 to December 19, 2004; 4 pieces, group
- Gallery Talk, "Dimension of Time in Strange Attractors", Seventh Annual Chicago Art Open 2004, National Vietnam Veterans Art Museum, Chicago, October 22, 2004
- Exhibitor, "Dimension of Time in Strange Attractors", Seventh Annual Chicago Art Open 2004, National Vietnam Veterans Art Museum, Chicago, October 10 - 31, 2004, one print, group
- Exhibitor, "Dimension of Time in Strange Attractors", Northwest Cultural Council Galleries: Assurance Agency, Rolling Meadows, IL, October 4 to January 3, 2005, twelve prints, solo
- Exhibitor, "Dimension of Time in Strange Attractors", Snap to Grid Exhibit, Los Angeles Center for Digital Art, September 9 to October 1, 2004, one print, group
- Exhibitor, "Dimension of Time in Strange Attractors", Bridges 2004 Conference Art Exhibit, Mathematical Connections in Art, Music, and Science, Southwestern College, Winfield, KS, July 30, 2004, two prints, group
- Exhibit, "Dimension of Time in Strange Attractors", CGIV'04, 1<sup>st</sup> Computer Graphics, Imaging and Visualization Conference, Penang, Malaysia, July 26 - 29, 2004, Digital On-Line Art Gallery, four images, group
- Exhibit, "Dimension of Time in Strange Attractors", IV'04, 8<sup>th</sup> International Conference on Information Visualization, University of London, London, England, July 14 - 16, 2004, Digital On-Line Art Gallery, four images, group
- Exhibitor, "Exploring the Massing of Growth in Cellular Automata", Dresden International Symposium on Architecture, Aesthetics and Architectural Composition 2004, Technische Universität Dresden, June 16 to 19, 2004, 3 panels, group
- Exhibit, "Dimension of Time in Strange Attractors", Digital Art Competition, Beecher Center for Technology in the Arts, The Butler Institute of American Art, Youngstown, OH, May 22 to December 3, 2004, one print, group
- Exhibitor, "Dimension of Time in Strange Attractors", 68th Rockford Midwestern Juried Exhibition, Rockford Art Museum, Rockford, IL, May 14 to July 25, 2004, three prints, group
- Exhibitor, "Flowing Transformations", Project Creo - In Motion Exhibit, The Arts Center, St. Petersburg, Florida, April 23 to June 13, 2004, streaming web piece, group
- Exhibitor, "Dimension of Time in Strange Attractors", NWCC Members Show, Northwest Cultural Council Gallery, Rolling Meadows, IL, April 16 to May 24, 2004, one print, group
- Exhibitor, "Dimension of Time in Strange Attractors", Art and Science Exhibit, Orleans Street Art Gallery at Pheasant Run Resort, St. Charles, IL. April 8 to May 29, 2004,

ten prints, group

Exhibitor, "Dimension of Time in Strange Attractors", ICON Show by the Whiplash Art Club, Illinois Institute of Technology, Chicago, IL, April 7, 2004, two prints, group

Exhibitor, "Dimension of Time in Strange Attractors", Northwest Cultural Council Galleries: Zurich North America, Schaumburg, IL, April 5 to July 6, 2004, twelve prints, solo

Exhibitor, "Dimension of Time in Strange Attractors", Arlington Heights Library, Arlington Heights, IL, March 2 to 31, 2004, eighteen prints, solo

Exhibitor, "Dimension of Time in Strange Attractors", A. Montgomery Ward Gallery, University of Illinois at Chicago, January 12 to February 6, 2004, thirty-two prints, solo

Exhibitor, "Flowing Transformations", Design Communication Conference, January 8-10, 2004, California Polytechnic University, San Luis Obispo, CA, web site, group

Exhibitor, "Exploring the Massing of Growth in Cellular Automata", Generative Art 2003 Conference, Milan, Italy, December 11, 2003, two panels, group

Article, "6th Annual Chicago Art Open Offers Diversity and Freshness", Chicago Artists' Coalition, Chicago Artists' News, December, 2003, work highlighted

Exhibitor, "Möbius Spider Seating", InterSculpt'03, 3rd International Digital Sculpture Competition and Exhibition, Paris, France, November, 2003, two designs, group

Article, "Strolling Down Möbius Lane" covering research with Jolly Thulaseedas in the MathTrek issue November 1, 2003, by Ivars Peterson for Science News Online, [www.sciencenews.org/20031101/mathtrek.asp](http://www.sciencenews.org/20031101/mathtrek.asp)

Exhibitor, "Dimension of Time in Strange Attractors", Sixth Annual Chicago Art Open 2003, The School of the Art Institute, Chicago, October 12 - 19, 2003, one print, group

Gallery Talk, "Dimension of Time in Strange Attractors", Sixth Annual Chicago Art Open 2003, The School of the Art Institute, Chicago, October 15, 2003

Exhibitor, "Dimension of Time in Strange Attractors", DigitalSplash 2003, Rockaway Center for the Arts, NY, September 20 to October 26, 2003, two prints, group

Article, "In Search of a Scientific Revolution" by Peter Weiss, Science News, August 16, 2003, image from "Architectural Interpretation of Cellular Automata", New Kind of Science 2003 Conference Art Gallery included

Review, "BitArt" by Lusia Paraguai Donati, Leonardo Reviews, August, 2003, review of website

Exhibitor, "Dimension of Time in Strange Attractors", SIGGRAPH 2003 Art Gallery,

- San Diego, CA, July 27 - 31, 2003, four prints, group
- Exhibitor, SIGGRAPH 2003 Web Expo, a streaming web piece titled Flow Transformations and an interactive web piece titled Any Wall, San Diego, CA, July 27, 2003, group
- Exhibit, "Dimension of Time in Strange Attractors", IV'03, 7<sup>th</sup> International Conference on Information Visualization, On-Line Art Gallery, University of London, London, England, July 17, 2003, four images, group
- Exhibitor, "Dimension of Time in Strange Attractors", Northwest Cultural Council Galleries: Unilever, Helene Curtis, Rolling Meadows, IL, July 7 to October 6, 2003, nine prints, group
- Exhibitor, "Architectural Interpretation of Cellular Automata", New Kind of Science 2003 Conference Art Gallery, June 27 to 29, 2003, Boston, MA, poster, seven panels, group
- Co-artist with Kamon Jirapong, rendering "Perfectio Spira-Tapestry Turban I" accepted for The Best of 3D Graphics, Rockport Publishers, TX, Spring 2003
- Lecture, "The Element of Time in Strange Attractors", Subtle Technologies 6<sup>th</sup> Festival on Art, Science and Technology, University of Toronto, Toronto, Canada, May 23, 2003
- Exhibitor, "Dimension of Time in Strange Attractors", Cyberarts, Art Institute of Boston, Lesley University, Boston, MA, April 26 to May 10, 2003, online ten images, group
- Exhibit, "Dimension of Time in Strange Attractors", Digital Art Competition, Beecher Center for Technology in the Arts, The Butler Institute of American Art, Youngstown, OH, April 22 to December 1, 2003, one print, group
- Lecture, "Digital Craftsmanship", College public lecture series, College of Architecture, Illinois Institute of Technology, Chicago, IL, March 5, 2003
- Poster, "Dimension of Time in Strange Attractors", artwork on the College public lecture series poster, College of Architecture, Illinois Institute of Technology, Chicago, IL, February, 2003, two images
- Exhibitor, "Dimension of Time in Strange Attractors", Northwest Cultural Council Galleries: Rolling Meadows Library, Rolling Meadows, IL, January 6 to April 7, 2003, nine prints, solo
- Exhibitor, "Dimension of Time in Strange Attractors", Northwest Cultural Council Galleries: Northwest Cultural Council Gallery, Rolling Meadows, IL, January 7 to February 25, 2003, three prints, group
- Exhibit, "Dimension of Time in Strange Attractors", Generative Art 2002 Conference, December 11 to December 14, 2002, Milan, Italy, three prints, group
- Article, included in "Art and Programming" issue, YLEM Newsletter, Sep/Oct 2002,

By Anna Ursyn, Artists Using Science and Technology, two prints

Exhibit, Curving Spirolaterals and Strange Attractors, Faculty Exhibit, College of Architecture, Illinois Institute of Technology, Chicago, IL, November 11 to November 24, 2002, nineteen prints, solo

Exhibit, Curving Spirolaterals, JavaMuseum, Fundamental Patterns - Peripheral Basics Exhibit, starting October 1, 2002, [www.javamuseum.org](http://www.javamuseum.org), web display, group

Exhibit, Curving Spirolaterals, Digital Links –A Survey of Digitally Enhanced Art, Montgomery College Gallery of Art, Rockville, MD, September 30 to October 18, 2002, web display, group

Exhibit, Curving Spirolaterals, Istanbul Contemporary Art Museum, /iS.CaM/ Net-Art Open Exhibition, 2002, starting September 1, 2002, [www.isatanbulmuseum.org](http://www.isatanbulmuseum.org), web display, group

Exhibit, featured artist at DigitalArtMuseum web site, [www.digitalartmuseum.com](http://www.digitalartmuseum.com), starting August 1, 2002

Exhibit, Curving Spirolaterals, Digital Gallery on the Digitalism Tour by Corel Corp., starting July 31, 2002, for seven months, 32 cities, ten images, [www.digitalismtour.com](http://www.digitalismtour.com), group

Exhibit, Curving Spirolaterals, Digital Showcase, Austin Museum of Digital Art, Austin, TX, August 20, 2002, web display and eight prints, solo

Exhibit, Curving Spirolaterals, Digital Artist Exhibit, Beecher Center for Technology in the Arts, The Butler Institute of American Art, Youngstown, OH, starting July 31, 2002, web display, group

Exhibitor, "Strange Attractors", Bridges 2002 Conference Art Exhibit, Mathematical Connections in Art, Music, and Science, Towson University, MD, July 27, 2002, two prints, group

Exhibit, Curving Spirolaterals, IV'02, 6<sup>th</sup> International Conference on Information Visualization, D-Art Gallery, University of London, London, England, July 10, 2002, web display, group

Exhibit, Curving Spirolaterals, Digital Art Competition, Beecher Center for Technology in the Arts, The Butler Institute of American Art, Youngstown, OH, June 1 to November 1, 2002, four prints, group

Exhibit, Curving Spirolaterals, Digital Visions Exhibit, The Center for Contemporary Art, Sacramento, CA, May 11 to June 1, 2002, three prints and web display, group

Exhibit, Curving Spirolateral web site selected for the HyperArtSpace Gallery, Boston Cyber



Festival Online Gallery, May, 2002, [www.gallery.boston.cyberarts.org/display.html](http://www.gallery.boston.cyberarts.org/display.html)

Exhibit, featured artist at Digital Arts Group web site, [www.digitalartsgroup.com](http://www.digitalartsgroup.com), April, 2002

Article, "Interview with Robert J. Krawczyk", YLEM Newsletter, Nov/Dec 2001, by Torrey Nommesen, Artists Using Science and Technology, four prints

Exhibitor, "Curving Spirolaterals", Computer Art International 2001, Rolland Art Center, February 2 to March 2, 2002, University of Saint Francis, Fort Wayne, IN, four prints, group

Exhibitor, "Shattered Perfection", InterSculpt'01, 2nd International Digital Sculpture Competition, Paris, France, November, 2001, group

Exhibitor, "Shattered Perfection", TeleSculpture'01, Arizona State University, Tempe, AZ, November, 2001, group

Article, Spirolateral images included in "Fragments of Infinity, A Kaleidoscope of Math and Art" by Ivars Peterson, John Wiley & Sons, 2001

Exhibitor, "The Art of Spirolaterals", TAACCL'S Science and Technology Digital Arts Competition, The Arts Alliance Center at Clear Lake, Nassau Bay, TX, November 8, 2001, group

Exhibitor, "The Art of Spirolaterals", juried Digital Media Exhibit, Association for Computer-Aided Design in Architecture, ACADIA 2001 Conference, Buffalo, NY, October 11, 2001, web display, group

Exhibitor, Mediaterra Festival 2001, "The Art of Spirolaterals", September 14 through October 15, 2001 in Lavrion, Athens, Sofia, Belgrade, Maribor, Frankfurt and Osnabruck, web display, group

Exhibitor, "Curved Spirolateral Series", SOMARTS Cultural Center Main Gallery, YLEM: 20 Years of Art, Science and Technology, San Francisco, CA, September 6, 2001, four prints, group

Exhibitor, "The Art of Spirolaterals", JavaMuseum, 1st of Java - Perspectives on New Media, starting September 3, 2001, [www.javamuseum.org](http://www.javamuseum.org), finalist, web display, group

Exhibitor, "Curving Spirolateral Series", N-Space Art Gallery, juried digital exhibit, SIGGRAPH 2001, Los Angeles, CA, August 12, 2001, twenty prints, also selected for the international Traveling Exhibit till 2003, group

Exhibitor, "Curving Spirolaterals", Bridges 2001 Conference Art Exhibit, Mathematical Connections in Art, Music, and Science, Winfield, KS, July 27, 2001, four prints, group

Exhibitor, "Transforming Spirolaterals", IV'01, 5th International Conference of Information Visualization, Brunei Gallery, University of London, England, July 25-27, 2001, four prints, group

Exhibitor, "Spirolateral Series", immedia:1901, juried digital exhibit, University of Michigan, Ann Arbor, MI, February 8, 2001, eight prints, group

Exhibitor, "Form Generation, Creating Hilbert's Blocks", juried Digital Media Exhibit, Association for Computer-Aided Design in Architecture, ACADIA 2000 Conference, Washington, DC, October 19, 2000, web display, group

Web Site of the Week, "BitArt, Spirolateral Series", September 18, 2000, Canadian Mathematical Society, [www.camel.math.ca/Kabol/](http://www.camel.math.ca/Kabol/)

Article, "Turtle Tracks" covering spirolateral designs in the MathTrek issue July 24, 2000, by Ivars Peterson for the Mathematical Association of America, [www.maa.org/mathland/mathtrek\\_7\\_24\\_00.html](http://www.maa.org/mathland/mathtrek_7_24_00.html)

Exhibitor, InterSculpt'99, 1st International Digital Sculpture Competition, Paris, France, October, 1999, group

Exhibitor, TeleSculpture'99, Arizona State University, Tempe, AZ, October, 1999, group

Exhibitor, 1983 Chicago Architectural Club's TOPS Competition, a computer-generated architectural design study exhibited at The Art Institute of Chicago, group

Exhibitor, 1984 Chicago Chapter American Institute of Architects Young Architects Award exhibited at The Art Institute of Chicago, group

### **Exhibition Curatorial and Organizational Experience:**

Press: the entire 2006-2007 season received a review in Chicago Tribune, November 1, 2006

Dee Breger, Seeing Beyond Our Vision, art @ IIT, March 1 to September 1, 2007. Using a scanning electron microscope, photomicrographer Dee Breger is able to reveal to us the natural beauty of an invisible world that includes seeds, bugs, feathers, bloodclots, microfossils, and cosmic dust; the common to the exotic; organized and curated the exhibition of 30 pieces; prepare gallery notes; image descriptions, design of the promotion postcard, eCard, poster; and press release

Press: Breger's exhibit received a review in Time Out Chicago, March 22, 2007.

Dennis Lee Mitchell, Material Transformation, art @ IIT, January 25 to February 24, 2007. The tree is the universal metaphor for the human form both ethereal and concrete. Clay reflects the natural world and the source of our presence. Energy is expressed with intense heat transforming the scorched clay into fragile natural forms; organized and curated the

exhibition of 12 pieces; prepare gallery notes; image descriptions, design of the promotion postcard, eCard, poster; and press release

Anna Ursyn, Transformational Scapes, art @ IIT, January 25 to February 24, 2007. The juxtaposition of nature's regularly with man's physical and intellectual constructions; Anna Ursyn's twenty year digital exploration of what the technological and human worlds have in common; organized and curated the exhibition of 35 pieces; prepare gallery notes; image descriptions, design of the promotion postcard, eCard, poster; and press release

Press: Ursyn's exhibit received a review in Chicago Reader, February 16, 2007 by Fred Camper.

Jan Dean, inside outside - attraction repulsion, art @ IIT, November 9 to January 20, 2007. Paradox. The vessel is a metaphor of our human existence, the body symbolized as a box or bowl is the vessel for the soul. The paradox between the need to belong and the need for individuality; attraction and repulsion; the inside and the outside; material expansion and contraction; organized and curated the exhibition of 15 pieces; prepare gallery notes; image descriptions, design of the promotion postcard, eCard, poster; and press release

Ellen Sandor (art)<sup>n</sup> Multi-Dimensional Imagery: 3D Pixels Realized, art @ IIT, November 9 to January 20, 2007. For over twenty-five years, PHSColograms, the integration of photography, holography, sculpture, and computer graphics, have created a post-canvas three-dimensional medium that has expanded the visual imagery of the work of a variety of scientists, mathematicians, engineers, architects, and artists. Collaborators include: Janine Fron, Stephan Meyers, Dan Sandin, Tom DeFanti, Donna Cox, Charles Csur, Bob Lostutter, Keith Miller, T. J. McLeish, Jim Zanzi, Stephanie Barish, Mirosław Rogala, Michael Dunbar, Sabrina Raaf, Nick Gaul, Fernando Orellana, Arthur Olson, Martyl, Karl Wirsum, Mr. Imagination, Chris Landreth, and Ed Paschke; and organizations such as NASA, UCLA School of Medicine, and Johnson and Johnson Pharmaceutical Research and Development; organized and curated the exhibition of 32 pieces, prepare gallery notes; image descriptions, design of the promotion postcard, eCard, poster; and press release

Amy Lee Segami: Suminagashi, Painting On Water: the Probability of Certainty, art @ IIT, September 21 to November 4, 2006. With water as her canvas, Chicago artist and IIT alumni, Amy Lee Segami uses modern fluid engineering techniques to revive and transform a 2,000 year-old art practiced by Shinto priests. By reviving such an ancient art, Segami has broken historical boundaries of art to bring it to current times and with her professional understanding of fluid dynamics, has expanded technological boundaries by expanding its expression; organized and curated the exhibition of 40 prints; prepare gallery notes; image descriptions, design of the promotion postcard, eCard, poster; and press release

Form Follows Form: Architecturally Inspired Furniture, art @ IIT, September 21 to October 28, 2006. 24 members of the Chicago Furniture Designers Association were challenged to transform the notion of furniture as a utilitarian functional object to furniture as an expression of architecture. Buildings and structures are whimsically interpreted and misinterpreted; their scale and form is inspiration for uncommon everyday furniture,

bringing the complex to a simpler form; organized and curated the exhibition; prepare gallery notes; image descriptions, design of the promotion postcard, eCard, poster; and press release

Adolf Loos, An Exhibition of the Restoration of the Müller Villa in Prague, art @ IIT, July 13 to September 30, 2006; The villa for Milada and František Müller in Prague (1928-30) is the chef-d'oeuvre of the international architectural avant-garde. It is an example of the rare concord between an enlightened client and a brilliant architect and the embodiment of the surprising harmony between modern Functionalism and the classic English style. The exhibition consists of fifty panels, two architectural models, and material samples covering the history of the Villa and all aspects of the restoration highlighting materials, architectural details, and furnishings. An additional twenty panels show the prerestoration conditions of the Villa; organized and installed the exhibition of 70 pieces; prepare gallery notes; design of the promotion postcard, eCard, poster; in collaboration with the City Museum of Prague and the City of Chicago Sister's City Program

Tom Lauerma, Captured Dissipations, art @ IIT, April 13 to September 16, 2006; organized and curated the exhibition; clouds, formations that have no mass; seemly as light as the air they float on. How can they be captured in a form that is not as fleeting? Tom Lauerma searches for lightness and buoyancy in ceramic material that is formed to the edge of collapse and then arrested into a disintegrating cloud; 13 ceramic pieces, prepare gallery notes; image descriptions, design of the promotion postcard, eCard, poster; and press release

ben f. laposky, the electronic abstractions exhibition; restaged and remixed, art @ IIT, April 13 to September 16, 2006, organized and curated the work of the late Ben Laposky, among the pioneers in electronic art, which preceded the development of computer graphics. This exhibit recreates his first exhibition held in 1953. It includes over 100 black & white and color images, and is the first showing of his collected works and historical images from his archives in over 35 years; gallery notes; preparation of archival material, design of the promotion postcard, eCard, poster; and press release

Press: Laposky's exhibit received a review in Chicago Reader on September 1, 2006 by Fred Camper; Chicago Tribune on September 7, 2006 by Alan Artner and Symmetry Magazine, April, 2007, cover and article

The Art of the Illusion, art @ IIT, March 3 to April 9, 2006, organized and curated the exhibition of the work of vision scientist Akiyoshi Kitaoka. Thirty-six of the most moving illusions ever created; a perfect visual blend of art and science; prepare and print 36 prints, gallery notes; image descriptions, design of the promotion postcard, eCard, poster; and press release

Press: Kitaoka's exhibit received a review in Time Out Chicago, March 23, 2006.

Frozen Architecture, art @ IIT, January 26 to February 26, 2006, the artistry of snowflakes captured from the research laboratories of the United States Department of Agriculture; prepare and print 36 prints, gallery notes; image descriptions, design of the promotion

postcard, eCard, poster; and press release

art @ IIT begins its second year of exhibitions with a series of artists working in differing media have a strong common connection of structure and form; opening November 3, 2005; gallery notes; image descriptions, design of the promotion postcard, eCard, poster; and press release

Roland Kulla in "Painted Steel". Celebrate the ordinary, the passed over; the everyday unnoticed structures of Chicago. Bridges simply painted; abstracted from context, with hard-edge realism. The beauty and majesty of utility that can only be seen when we stop and look; through January 21.

Bilhenry Walker in "Jagged Vectors". Lines drawn in space. Sculptural calligraphy. Abrupt changes in direction and force. A visual interplay of two and three dimensions. A new series of smaller metal sculpture inspired from previous work at a monumental scale; through December 24.

Bradford Hansen-Smith in "Folded Circles". The folding, reforming, and joining of simple paper circles. Complex organic geometric constructions that reflect on the simple process of folding a circle as a step towards the discovery of Wholeness; through January 21.

An Earthly Canvas, Kemper Room Art Gallery, art @ IIT, September 15, 2005 to October 30, 2005, organized and curated the exhibition of the satellite imagery of Larry Ammann and Stuart Black; 34 prints; gallery notes; image descriptions, design of the promotion postcard, eCard, poster; and press release

An Eye of Africa, Hermann Hall Corridor Lounge Gallery, art @ IIT, June 23, 2005 to September 30, 2005, organized the exhibition of the photography of faculty member Larry Broutman; 52 prints; gallery notes; design of the promotion postcard, eCard, poster; press release

No Limits, Kemper Room Art Gallery, art @ IIT, April 5 to October 22, 2005, organized and curated the exhibition of the sculpture of Terry Karpowicz; 84 pieces and 16 prints; gallery notes; design of the promotion postcard, eCard, poster; press release and special 24 x 36 in. art poster

Press: Karpowicz's exhibit received a review in Sculpture Magazine, October, 2005 by Victor Cassidy; Time Out Chicago on May 5, 2005 and an WTTW Artbeat segment, airing July 11, 2005

Organic Constructions, Kemper Room Art Gallery, art @ IIT, March 3 - 31, 2005, organized and curated the exhibition of Kenneth Huff; 21 prints; gallery notes; design of the promotion postcard and poster; press release

Liquid --- Crystal, Kemper Room Art Gallery, art @ IIT, January 17 to February 26, 2005, organized and curated the exhibition of Stuart Larson and Mark Eisenhauer; 35 prints; gallery notes; design of the promotion postcard and poster; press release

International Rapid Prototyping Sculpture Exhibition, Kemper Room Art Gallery, art @ IIT, November 10 to December 19, 2004; organized installation of a traveling show of 18 artists and curated the exhibition of five additional artists; 50 pieces; gallery notes; design of the promotion postcard and poster; press release

**Academic Administrative Experience:**

I PRO Day Dean's Award Selection	2013-2017
Sigma XI Research Award Selection Committee	2016
WISER Award Selection Committee	2015
Academic Lead in NAAB Accreditation Visit	October, 2013
University; General Education Working Committee	Fall 2013-2014
Chair of the Tenure Faculty	Fall 2012-2014
Associate Dean Academic/University Affairs	Spring 2013-2017
University: Innovation Center Programming Committee	Spring 2014-2017
University: Innovation Center Steering Committee	Spring 2013-2017
University Dean Search Committee College of Architecture	Fall 2011-Spring 2012
Associate Dean Undergraduate Academic Affairs	Fall 2011-Spring 2013
University; Distinctive Education Working Committee	Fall 2009-2011
Chair, College Faculty Appointments and Retention Committee	Fall 2008-Spring 2013
College Faculty Appointments and Retention Committee	Fall 2006-2008
University; CAMCoPT member Promotion and Tenure	Fall 2008-2011
I PRO Oversight Review Committee	Fall 2008-2015
College; Director of the Undergraduate Program	Fall 2006-2011

College; Undergraduate advising	Fall 2004-Present
University; Undergraduate Studies Committee	Fall 2006-2016
University Dean Review Committees Institute of Design College of Architecture	Spring 2006 Spring 2005
University Faculty Council member	Fall 2004-Spring 2010
College; Curriculum Committee	Fall 2006-Present
College; Digital Committee	Fall 1988-Spring 2011
Main Campus Faculty Council member	Fall 2003, Spring 2004
Chairperson of Lecture Committee	Spring - Fall 2003
Secretary of the Faculty	Fall 2003-2006
University; Graduate Studies Committee	Spring 2004-Fall 2006

### **Professional Organizations:**

Chicago Alliance of Visual Artists CAVA	2017-present
FineLine Creative Arts Center, St. Charles	2017-present
Water Street Studio, Batavia	2012-2013, 2018-present
St. Charles Art Council, board member	2011-Present
Chicago Sculpture International	2006-Present
YLEM, Art and Technology	2000-2005
ASCI, Art and Science	2001-2015
Chicago Artists' Coalition	1999-Present
Mathematics & Design Association	1999-Present
International Society for the Arts, Mathematics and Architecture	1999-Present
American Institute of Architects	1983-1998
National Computers in Architecture Committee	1983-1985
Chicago Chapter Computer Committee	1983-1988
ACADIA, Association for Computer-Aided Design in Architecture	1985-2015
Association of Computing Machinery	1985-2007

### **Professional Service:**

The Architectural Research Centers Consortium, Inc. (ARCC); technical paper reviewer, November 2018, March 2017, March 2016

Shape Modeling International - Fabrication and Sculpting Event (SMI) and the Fabrication and Sculpting Event (FASE); technical paper reviewer, February, 2016

Bridges 2016 Art and Math Conference, technical paper reviewer, March 2016

ACADIA 2013 Conference, Association of Computer-Aided Design in Architecture, technical paper reviewer, May 2013

Bridges 2013 Art and Math Conference, technical paper reviewer, March 2013

ACADIA 2012 Conference, Association of Computer-Aided Design in Architecture, technical paper reviewer, May 2012

Practical BIM 2012, the Sixth Annual USC BIM Symposium, July 13, 2012 in Los Angeles, technical paper reviewer, May 2012

ISAMA 2012, program committee, Conference of The International Society of The Arts, Mathematics and Architecture, School of the Art Institute, Columbia College, Chicago, IL, June 14-18, 2012

Associate Editor, Journal of Mathematics and Art, 2007-2013



William Rainey Harper College 1989-Present  
Member, Board of Advisors, Architectural Technology

College of DuPage 2010-Present  
Member, Board of Advisors, Architectural Technology

ISAMA 2011, program committee, Conference of The International Society of The Arts, Mathematics and Architecture, Columbia College, Chicago, IL, June 13-17, 2011

ACADIA 2011 Conference, Association of Computer-Aided Design in Architecture, technical paper reviewer, May 2011

ACADIA 2010 Conference, Association of Computer-Aided Design in Architecture, technical paper reviewer, June 2010

SIGGRAPH-Asia 2010 Conference, ACM Special Interest Group in Computer Graphics, technical paper reviewer, June 2010

Jury member, St. Charles Sculpture in the Park Committee, 2009 - present

ASCAAD 2009 Conference, Arab Society of Computer-Aided Architectural Design, technical paper reviewer, December, 2008

Bridges 2009 Art and Math Conference, technical paper reviewer, March 2009

ASCAAD 2008 Conference, Arab Society of Computer-Aided Architectural Design, technical paper reviewer, May, 2008

Bridges 2008 Art and Math Conference, technical reviewer, March 2008

ASCAAD 2007 Conference, Arab Society of Computer-Aided Architectural Design, technical paper reviewer, May, 2007

International Society of Art, Mathematics, and Architecture, ISAMA 2007, technical paper reviewer, March 2007

Bridges 2007 Art and Math Conference, technical paper reviewer, March 2007

ASCAAD 2006 Conference, Arab Society of Computer-Aided Architectural Design, technical paper reviewer, May, 2006

Chicago River Art Connects: River Walk, sculpture jury, March, 2006

Bridges 2006 Art and Math Conference, technical paper reviewer, March 2006

International Journal of Architectural Computing, technical paper reviewer, March, 2006

Organizing committee for a new international journal on art and mathematics, planning started June 2005

September 2005, reviewer for the on-line digital exhibit and papers for:  
10th International Conference Information Visualisation International Symposium on Digital Art, and Online Gallery IV06-Dart, July, 2006, University of London, London, England and  
3rd International Conference Computer Graphics, Imaging and Visualization, July, 2006, Sydney, Australia

Jury member, November 2005, Joint Mathematics Meeting Art Exhibit, American Mathematical Society and Mathematical Association of America, Austin, TX, January 2006

April 2005, reviewer for the on-line digital exhibit and papers for:  
9th International Conference Information Visualisation International Symposium on Digital Art, and Online Gallery IV05-Dart, July, 2005, University of London, London, England and  
2nd International Conference Computer Graphics, Imaging and Visualization, July, 2005, Beijing, China  
and prepared a slide presentation of exhibit to show artwork at conference

ASCAAD 2005 Conference, Arab Society of Computer-Aided Architectural Design, technical paper reviewer, May, 2005

Bridges 2005 Art and Math Conference, technical paper reviewer and session chair, March and July 2005

Jury member, UIC Graduate Portfolio Day 2005 Review, February 18, 2005

ASCAAD 2004 Conference, Arab Society of Computer-Aided Architectural Design, technical paper reviewer, May, 2004

April 2004, reviewer for the on-line digital exhibit and papers for:  
8th International Conference Information Visualisation International Symposium on Digital Art, and Online Gallery IV04-Dart, July, 2004, University of London, London, England and  
1st International Conference Computer Graphics, Imaging and Visualization, July, 2004, Parkroyal Penang, Malaysia  
and prepared a slide presentation of exhibit to show artwork at conference

International Journal of Architectural Computing, technical reviewer, Issue 2 in 2004

Bridges 2004 Art and Math Conference, technical paper reviewer and session chair, March and July 2004

Northwest Cultural Council, art organization, newsletter calendar editor,

April 2004 to January 2007

Corresponding Editor and member of the Editorial Board of the Nexus Journal,  
January 2004 - 2007

Organizing Committee, International Society of Art, Mathematics, and Architecture,  
ISAMA 2004, June 16, 2004, Chicago, IL

Jury member, UIC Graduate Portfolio Day 2004 Review, January 23, 2004  
Bridges 2003 Art and Math Conference, technical reviewer, March 2003

Organizing Committee, Eighteenth International Joint Conference on Artificial I  
Intelligence, Workshop titled: Doing It With Style: Computational Approaches to Style  
Analysis and Synthesis, August 10, 2003

eCAADe 2002 Conference, session chair, September 2002

ACADIA 2002 Conference, technical reviewer, May 2002

Bridges 2002 Art and Math Conference, technical reviewer and session chair,  
March and July 2002

ACADIA 2001 Conference, technical reviewer, April 2001

Bridges 2001 Art and Math Conference, session chair, July 2001

Bridges 2000 Art and Math Conference, session chair, July 2000

ACADIA 1999 Conference, technical reviewer, April 1999

### **Professional Presentations:**

Leader in consultation session at 1993 American Institute of Architects National  
Convention

Organizer and leader of 1984 Chicago Chapter American Institute of Architects  
Microcomputer Training Seminars.

Seminar leader at 1983 American Institute of Architects National Convention.

Speaker, University of Wisconsin Extension Seminar on Management and Computers in  
Architectural Offices, 1982

Speaker, CEPA 1981 Fall Conference on Architectural Applications

Speaker, Chicago area American Institute of Architects, Institute of Business Designers, and

American Society of Civil Engineers seminars on computer applications, 1980