

Bridget B. Baird

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EDUCATION

BA (cum laude) Bryn Mawr College 1969
MA (mathematics) State University of New York at Buffalo, 1972
PhD (mathematics) State University of New York at Buffalo, 1976

EXPERIENCE

Professor Emeritus of Computer Science and Mathematics, Connecticut College 2013-
Professor of Computer Science and Mathematics, Connecticut College 1992-2013
Fulbright Scholar Universidad San Francisco de Quito, Ecuador, 2009
Judith Ammerman '60 Director of Ammerman Center for Arts and Technology, Connecticut College 1997-2008
Fulbright Scholar Universidad de las Americas, Puebla, Mexico 1996
Chair, Mathematics Department, Connecticut College 1990-1994
Associate Professor of Mathematics, Connecticut College 1982-1991
John D. MacArthur Assoc. Prof. of Mathematics, Connecticut College 1982-1986 Assistant
Professor of Mathematics, University of Florida 1976-1982

AREAS OF RESEARCH AND INTEREST

Community installations and participation
Generative art and digital poetics
Mapping and visualization of data
Motion capture and multiple modalities; audio, haptics, arts and technology
Applications of computers in the humanities; using digital techniques to mine historical documents Virtual reality; virtual archaeology
Gender equity; women and under-represented groups in the sciences
Music and artificial intelligence

COURSES

Computer science: introductory course, algorithms, data structures, graphics and virtual reality, fundamentals of virtual reality, dimensional color (co-taught), human-computer interaction through web design, topics in the history of arts and technology, artificial intelligence, parallel programming, cognitive science
Mathematics: calculus, discrete mathematics, linear algebra, abstract algebra, intro to mathematical thought, mathematics from a cultural perspective (ethnomathematics), mathematical thought
Over 125 independent studies
38 supervised summer research students

SELECTED GRANTS AND AWARDS

Sherman-Fairchild grant to coordinate courses in the Art, Botany and Computer Science, with A. Wollensak, D. Pelletier, C. Jones (2013)
Sherman-Fairchild grant to coordinate courses in the Art Department and Computer Science, with A. Wollensak and D. Pelletier (2012)
Arts & Technology research grant for development of DEEP/PLACE project with A. Wollensak, O. Izmirlı and two students, Amy Barrett and Hannah Plishtin (2011-2012)
Grant from the Centennial Committee for the DEEP/PLACE Harkness project (2011)
Research Matters grant for Linguistics (2011)
CISLA summer grant for international research (2009)
Fulbright Scholar: Teaching and research in mathematics and computer science at Universidad San Francisco de Quito in Quito, Ecuador (2009)
Helen B. Regan Faculty Leadership Award; 2008
Mellon Foundation: Connecticut College, Post-doc Fellowships for the Centers (2008-2010)
Kitchings Foundation: Ammerman Center for Arts & Technology, funding for teacher outreach and symposium (principal) 2008
Citizens Bank: Ammerman Center for Arts & Technology, funding for symposium and colloquia series (principal) (2007-2008)

Lecturer for Connecticut Math Science Partnership grant for middle school teachers (2006-2008)
 Citizens Bank: Ammerman Center for Arts & Technology for support for symposium and colloquia (principal) (2005-2007)
 AT&T: Ammerman Center for Arts & Technology for local teacher support and symposium (principal) (2006)
 Mellon Foundation: Connecticut College, Trinity, Wesleyan Consortium in Computer Sciences Grant (principal writer) (2005-2008)
 Sherman-Fairchild to Connecticut College for the teaching of multidisciplinary courses in the arts (steering committee) (2006-2008)
 National Science Foundation: Scholarships in Mathematics and Computer Science (principal) (2001-2005)
 AT&T Arts, Teachers and Technology: professional development for art, music and media teachers (principal) (2001-2003)
 National Science Foundation: Curricular Modules: 3D and Immersive Visualization Tools for Learning (principal) (1998-2000)
 Eisenhower Grant from the State of Connecticut: Math/technology institutes for K-12 teachers (1998)
 Fulbright Scholar: Teaching and research in virtual reality at the Universidad de las Americas in Puebla, Mexico (1996)
 Excellence in Teaching Award: presented by the Student Government Association (1994)
 National Science Foundation: Real-Time Tracking of Simultaneous Musical Inputs Using a Multiprocessor (principal) (1990-1993)
 Apple Computer and the Consortium for Liberal Arts Colleges: Visualization of Parallel Algorithms (principal) (1990)
 Oak Ridge National Laboratories: Natural Language Understanding/Artificial Intelligence (principal) (1986-1987)

TALKS, EXHIBITIONS, PRESENTATIONS AND INSTALLATIONS (since 1995)

Installation: Anchorage Museum, Anchorage Alaska, Water Stories: Visual Poetics and Collective Voices, an audio visual outdoor projection of community stories about the changing environment, with A. Wollensak and B. Terry, scheduled for November 2022
 Installation: University of Connecticut at Avery Point, Groton Connecticut, Reading the Wrack Lines, an audio visual outdoor projection, with A. Wollensak and B. Terry, 2021
 Installation: 2019-20 Burchfield Penny Art Center, Open Waters, Buffalo, NY (interdisciplinary team), 2019-2020
 Talk and Exhibition Granoff Center Cohen Gallery, Open Waters [Northwest Passage & Polar Sea], Brown University, Providence, Rhode Island, (interdisciplinary team), 2018
 Performance: Ice Core Modulations, with J. Goldman, B. Terry and A. Wollensak, Fifteenth Symposium on Arts & Technology, New London, Ct, 2016.
 Talk and Exhibition: Ice Core Modulations: Performative Digital Poetics, with A. Wollensak, Generative Art Conference, Venice, Italy, 2015.
 Installation: Ph(r)ase Transition: A Generatively Constructed Interactive Visual Poetic Environment, with A. Wollensak, opening of Visualization Wall in Shain Library, Connecticut College, 2015.
 Talk and Exhibition: Ph(r)ase Transition: A Generatively Constructed Interactive Visual Poetic Environment, with A. Wollensak, Generative Art Conference, Rome, Italy, 2014.
 Presentation: Digital Diaries, Digital Tools, with C. Blevins, Women's History in the Digital World conference, Bryn Mawr, PA, 2013.
 Presentation and exhibition: OBSTACLE/FLOW: interactive presence project with A. Wollensak and O. Izmirlı, Generative Art Conference, Lucca, Italy, 2012.
 Presentation: "DEEP/PLACE: Creating a Site-Based Immersive Experience" at Arts & Technology Symposium, 2012.
 Presentation: "Using Motion Capture to Synthesize Dance Movements", with O. Izmirlı and A. Joshi ('12), Arts & Technology Symposium, 2012.
 Presentation: "DEEP/PLACE: site-based immersive history", with A. Wollensak and O. Izmirlı, ISEA (International Symposium of Electronic Arts) conference in Istanbul, Turkey, 2011.
 Installation: DEEP/PLACE at Harkness Chapel; an interactive 3D installation with sensors and glove to explore the history, culture and geology of Harkness Chapel, during the Centennial weekend, with A. Wollensak and O. Izmirlı and students Amy Barrett ('12) and Hannah Plistin ('13), 2011
 Demonstration and poster: A Midwife's Tale in the Digital Age: Text Mining the Diary of Martha Ballard, with C. Blevins, Berkshire Conference of Women Historians, 2011
 Talk: Cochasquí, Ecuador: A Multi-Faceted Approach, with Erin Okabe-Jawdat '10, Computer Applications and Quantitative Methods in Archaeology, Granada, Spain, 2010.
 Talk: Expanding CS1: Applications Across the Liberal Arts, with C. Chung, Northeastern Conference of the Consortium for Computing Sciences in Colleges, 2010.
 Panel Convener: Expanding Student Enthusiasm for, and Understanding of, Introductory CS, Northeastern Conference of the Consortium for Computing Sciences in Colleges, 2010.
 Talk: Faculty at Work: Digital Techniques in Archaeology, 2010.

Invited Talk: Ciencias Exactas, Tics y Género: Nuevos Desafíos para las Ciencias Sociales, FLACSO University in Quito, Ecuador, 2009.

Presentation and Panelist: Serious Video Game to Teach Biological Concepts, with Stephen Loomis, NITTE Conference on Expeditions in Scientific Visualization: Adventures across the Curriculum (Bard College) 2008.

Convocation Address: Liberal Arts 2.0, 2008.

Panelist: Arts and Technology: Pedagogy and Curriculum Design Strategies, Eleventh Biennial Arts & Technology Symposium at Connecticut College, 2008. Panelist: Arts and Technology: Pedagogy and Curriculum Design Strategies, Eleventh Biennial Arts & Technology Symposium at Connecticut College, 2008.

Talk and Demonstration: One thing Leads to Another (Interdisciplinary Antecedent/consequent Explorations), with Charles Hartman, Ozgur Izmirli, Arthur Kreiger and Andrea Wollensak, Eleventh Biennial Arts & Technology Symposium at Connecticut College, 2008.

Talk: Mathematics, Computer Graphics and Animation, Coast Guard Academy, 2006.

Talk: The Arts, Technology and Learning, Keynote address at annual meeting of Eli Whitney Museum, 2006.

Talk: Web Design: Interface to the Liberal Arts, Consortium for Computing in Small Colleges Northeastern Conference, 2006.

Talk and Demonstration: Red Ball: A Collaboration to Develop an Interdisciplinary Interactive Space, with Charles Hartman, Ozgur Izmirli, Arthur Kreiger and Andrea Wollensak, Tenth Biennial Arts & Technology Symposium at Connecticut College, 2006.

Talk: Attribute Correlations between Haptic and Auditory Modalities, 9th International Workshop on Immersive Projection Technology and 11th Eurographics Symposium on Virtual Environments, Aalborg, Denmark, 2005.

Talk: Haptics and Sound Correlations: Pitch, Loudness and Texture, Eighth International Conference on Information Visualization, London, 2004.

Talks: Haptics and Virtual Reality, University of Warsaw and Warsaw School of Social Psychology, Warsaw, 2003.

Talk: Interdisciplinary Centers and Undergraduate Research at Connecticut College, with Robert Askins, Fred Paxton and Peggy Sheridan, Council on Undergraduate Research, New London, 2002.

Talk and Demonstration: A Model For Integrating Arts And Technology In A Liberal Arts College, with Ozgur Izmirli, Consortium for Computing in Small Colleges Northeastern Conference, Worcester, 2002.

Talk: Modeling the Tempo Coupling between an Ensemble and the Conductor, International Computer Music Conference, Cuba, 2001

Talk and Demonstration: Curricular Modules: 3D and Immersive Tools for Learning Implementing a Philosophy of Arts and Technology, Syllabus, Cincinnati, 2001

Talk and Demonstration (with Ozgur Izmirli): A Tool for Designing Interactions with Multi-modal Objects, Arts & Technology Symposium, Connecticut College, 2001.

Talk and Demonstration: Interactive Exploration of Multi-modal Objects in a Virtual Gallery (with Ozgur Izmirli and David Smalley – presented with David Smalley), Consciousness Reframed 3, CAiiA (Center for Advanced Inquiry in the Interactive Arts) conference at the University of Wales College, Newport, 2000

Talk and Demonstration: Using Haptics and Sound in a Virtual Gallery, Phantom Users Group, Aspen, Colorado, 2000

Exhibit/Demonstration: Using 3-D Trackers to Conduct a Virtual Ensemble (research with Ozgur Izmirli), IEEE VR2000 (Virtual Reality Symposium), 2000

Exhibit/Demonstration: Immersive Modules for Scientific Visualization, with Ademola Adekanbe, Milan Pradhan, and Alok Shrestha (students), IEEE VR2000 (Virtual Reality Symposium), 2000

Talk for Computer Science Dept Seminar: Musica e Inteligencia Artificial, Universidad de las Americas, Puebla, Mexico, 1996

Talk and Demonstration: Musica e Inteligencia Artificial, Iberamia Conference, Universidad de las Americas, Puebla, Mexico, 1996

Talk: La inteligencia artificial de la computadora como ejecutante, Festival Universitario de las Artes, Universidad de las Americas, Puebla, Mexico, 1996.

Talk for Mathematics Dept Seminar: La Realidad Virtual: Que Es y Para Que Sirve, Universidad de las Americas, Puebla, Mexico, 1996.

Talk: Musica e Inteligencia Artificial, Universidad Autonoma de Tamaulipas, Tampico, Mexico, 1996.

Talk and Demonstration: Cezanne Set, with David Smalley and Donald Blevins, 16th International Sculpture Conference, 1996.

Talk: Art, Music, and Computer Science, US-China Joint Conference on Women's Issues, Beijing, 1995.

PUBLICATIONS (since 1990)

- Ice Core Modulations: Performative Digital Poetics, with J. Goldman and A. Wollensak, Generative Art Conference Proceedings and Exhibition, Venice, Italy (2015), 8-13.
- Ph(r)ase Transition: A Generatively Constructed Interactive Visual Poetic Environment, with A. Wollensak, Generative Art Conference Proceedings and Exhibition, Rome, Italy. (2014), 4-6.
- Image Grid, with C. Blevins. Computer program published on GitHub through a Creative Commons license (2013).
- OBSTACLE/FLOW: interactive presence project with A. Wollensak and O. Izmirlı, Generative Art Conference, Lucca, Italy (2012)
- DEEP/PLACE: Creating a Site-Based Immersive Experience with A. Barrett, O. Izmirlı, A. Wollensak, Arts & Technology Symposium (2012).
- Using Motion Capture to Synthesize Dance Movements, with O. Izmirlı and A. Joshi ('12), Arts & Technology Symposium (2012).
- Cochasquí, Ecuador: A Multi-Faceted Approach, with Erin Okabe-Jawdat '10, Iván Burbano, Abstracts of Computer Applications and Quantitative Methods in Archaeology, Granada, Spain (2010), 223-226.
- Expanding CS1: Applications Across the Liberal Arts, with C. Chung, Journal of Computing Sciences in Colleges, 25:6 (2010), 47-54.
- Signs matter: Signage, auditory distractions, and wayfinding success, with Ann Devlin, A. J. Zane '09, Proceedings of the 40th annual conference of the Environmental Design Research Association, Edmund, OK: edra., Kansas City, Missouri (2009), 410
- One thing Leads to Another (Interdisciplinary Antecedent/consequent Explorations), with Charles Hartman, Ozgur Izmirlı, Arthur Kreiger and Andrea Wollensak, Proceedings of the Eleventh Biennial Arts & Technology Symposium at Connecticut College (2008), 10-15.
- Web Design: Interface to the Liberal Arts, Proceedings of the Consortium for Computing in Small Colleges Northeastern Conference (2006), 14-19.
- Red Ball: A Collaboration to Develop an Interdisciplinary Interactive Space, with Charles Hartman, Ozgur Izmirlı, Arthur Kreiger and Andrea Wollensak, Proceedings of the Tenth Biennial Arts & Technology Symposium at Connecticut College (2006), 1-3.
- Attribute Correlations between Haptic and Auditory Modalities, with Özgür Izmirlı, Bradford Heacock '06 and Donald Blevins, Proceedings of the 9th International Workshop on Immersive Projection Technology and 11th Eurographics Symposium on Virtual Environments, in cooperation with ACM SIGGRAPH (2005), 157-161.
- Haptics and Sound Correlations: Pitch, Loudness and Texture, with Dessislava Peeva, Ozgur Izmirlı and Donald Blevins, Proceedings of the Eighth International Conference on Information Visualization (2004), 659-664.
- A Model For Integrating Arts And Technology In A Liberal Arts College, with Ozgur Izmirlı, Proceedings of the Consortium for Computing in Small Colleges Northeastern Conference (2002), 102-109.
- Modeling the Tempo Coupling between an Ensemble and the Conductor, with Ozgur Izmirlı, Proceedings of the International Computer Music Conference (2001), 163-166.
- Curricular Modules: 3D and Immersive Visualization Tools for Learning, Syllabus, Vol. 14, No. 9 (2001), 23-26.
- A Tool for Designing Interactions with Multi-modal Objects, with Ozgur Izmirlı, the Eighth Biennial Symposium for Arts and Technology, New London, CT (2001), 1-5.
- Interactive Exploration of Multi-modal Objects in a Virtual Gallery, with Ozgur Izmirlı and David Smalley, Consciousness Reframed 3 Conference Proceedings, University of Wales College, Newport, Wales, UK (2000), 38-41.
- Using Haptics and Sound in a Virtual Gallery, Phantom Users Group Proceedings, Aspen, Colorado, (2000), 1-3.
- An Approach to Visualization of Musical Sound, with Ozgur Izmirlı, The Seventh Biennial Symposium for Arts and Technology, New London, CT (1999), 11-14.
- Virtual Poetics: Three Poems by William Meredith, with Andrea Wollensak, The Seventh Biennial Symposium for Arts and Technology, NewLondon, CT (1999), 15.
- The Reality of Virtual Reality, with Donald Blevins, David Smalley, and Noel Zahler, The Sixth Biennial Symposium for Arts and Technology, NewLondon, CT (1997), 8-9.
- Green's R , D and H Relations for Generalized Polynomials, with K. D. Magill, Jr. Semigroup Forum 55(1997), 267-293.
- Sculptor's dream: a virtual world, with Donald Blevins, David Smalley, and Noel Zahler. The Fifth Biennial Symposium for Arts and Technology, NewLondon, CT (1995), 307-308.
- Art, Music, and Computer Science, Proceedings of Joint US/China Conference on Women's Issues, 1995.
- Real-time musical accompaniment. AAAI Spring Symposium Series: AI and Creativity, Stanford University (1993), 127-132.

Artificial intelligence and music: implementing an interactive computer performer, with Donald Blevins and Noel Zahler. Computer Music J. 17:2 (1993), 73-79.

The artificially intelligent computer performer and parallel processing. Proceedings of the 1991 International Computer Music Conference, San Francisco: Computer Music Association (1991), 340-343.

The artificially intelligent computer performer: the second generation, with Donald Blevins and Noel Zahler. Interface 19, (1990), 197-204.

COMMUNITY ACTIVITIES

Planned Parenthood of Southern New England, volunteer at Norwich clinic, 2015-

Let There Be Light International (targets energy poverty in developing world through solar lanterns), Board, 2014 -2021

Planned Parenthood Global Advisory Board, 2014-2021

Planned Parenthood of Southern New England (PPSNE), Board, 2014-2019

Safe Futures (deals with domestic violence issues), volunteer, 2014-2019

Bryn Mawr College, Trustee, 2002 - 2015

Community Foundation of Southeastern Connecticut, Trustee and Vice-Chair, 2000-2005; Chair, 2005-2008

Young Audiences of Connecticut, Board of Trustees, Treasurer, 2000-2002

Treasurer, Committee to Elect Betsy Ritter State Representative from 38th District, 2004, 2006, 2008, 2010

Steering Committee for Fund for Women and Girls, a program sponsored by the Community Foundation, 1999-2006

ISAAC (Interdistrict School for Arts and Communication): Treasurer and Board of Directors, 1997-2000

Summer Music, Board of Trustees 1989-1993

Waterford Public School: member of Strategic Planning Team, 1994-1998