Bill Manari is a computer science researcher, educator, and musician. He is Professor of Computer Science, and Director of the Computing in the Arts program, at the College of Charleston. His interests include computer music, human-computer interaction and artificial intelligence. He explores interaction design and modeling of aesthetics and creativity using statistical, connectionist, and evolutionary techniques. He designs systems for computer-aided analysis, composition, and performance in music and art. Bill is Associate Editor of the International Journal on Artificial Intelligence Tools, and has recently published a textbook in Computer Music and Creative Computing. He studied computer science and music at the University of New Orleans, and holds an M.S. and Ph.D. degrees in Computer Science from the Center for Advanced Computer Studies, University of Louisiana. He has been supported by the National Science Foundation, the Louisiana Board of Regents, and Google.

Renée McCauley is a professor of computer science at the College of Charleston. In her collaborative, multi-institutional education-based research, she studies the cognitive development of novice programmers. Her current focus is on how novice programmers learn and understand recursion. Renée has been involved in the Computing in the Arts program since its inception, with a focus on program and curriculum development.

William Bares is member of the College of Charleston Computer Science Department. He specializes in developing intelligent assistants that collaborate with humans to perform creative visual tasks in virtual computer graphics environments. His latest research seeks to develop an assistant which can offer guidance in composing and editing shots for film making. He teaches Computers, Music, and Art, Building Virtual Worlds, Game Programming, and the CITA capstone seminar. William earned his Ph.D. in Computer Science from NC State University.
Rebecca Bruce, Professor of Computer Science, University of North Carolina at Asheville. Rebecca’s current appointment is as Associate Director of the Mechatronics Engineering Program. After receiving a Master's degree in Mechanical Engineering from Stanford and thirteen years of industry experience, she returned to school to pursue her interests in artificial intelligence. She received her MS and PhD in computer science from New Mexico State University. Since that time she has published over 50 peer-reviewed articles and has been awarded (as PI or Co-PI) over 1.5 million dollars in research funding. Her current interests include tangible computing as applied to creative expression. Jointly with Susan Reiser, Rebecca has developed several classes focused on creative applications of tangible computing including Electric Origami, Creative Fabrication, and Tangible Computing.

Jennifer Burg, Wake Forest University is a Professor of Computer Science who specializes in digital imaging and sound. She has written two textbooks on the subject. The first, entitled The Science of Digital Media, was published by Prentice-Hall in 2008. The second, entitled Digital Sound and Music: Concepts, Applications, and Science, is freely available online at http://digitalsoundandmusic.com, and is soon to be published in hard-copy form by Franklin Beedle Publishers. Jennifer is particularly interested in the common ground of creativity shared by scientists, visual artists, and musicians. Her grant-funded research is aimed at creating engaging curriculum material and example projects that synergistically explore interdisciplinary art/science collaborations in digital media.

Marian Mazzone, Chair, Art History Department, College of Charleston, received her Ph.D. in art history from The Ohio State University, and is currently the chair of the Art History Department at the College of Charleston. Her areas of specialty are modern and contemporary art. She is one of the faculty involved in the college’s Computing in the Arts major. Her work with the Computing in the Arts program includes developing the original curriculum and teaching a course required of majors in the visual arts concentration (New Media in Contemporary Art), and CITA295/495 Seminar. Marian’s current research is focused on using computational methods to study the hundreds of Flower paintings and prints created by Warhol in the 1960s and 1970s. www.marianmazzone.com
Susan Reiser, Lecturer in the Departments of Computer Science and New Media and Associate Dean of Natural Sciences at UNC Asheville. Susan has been a part of the New Media program since its inception in 1998 and served for over ten years as the program’s Associate Director. Before teaching at UNC Asheville, Susan worked as a software developer and systems engineer. Her interests and publications attempt to link computer science and creativity through the fabrication of digit media or tangible artifacts. Over the last fifteen years, she and Rebecca Bruce have co-developed many courses with that theme. For example, during the past two years they've co-developed, co-taught, revised, and retaught Creative Fabrication: Art Meets Technology. Susan fell for computer science and basketball at Duke where she earned a BS in Computer Science with a concentration in Zoology. Her MS degree in Computer Science is from the University of South Carolina. Since joining the New Media Department, she's taken a number of classes from UNC Asheville's Art Department and some machining classes from AB Tech Community College. UNC Asheville prides itself as being a good community citizen, and Susan and Rebecca work to include community and societal issues in their classes. This dovetails with Susan's position as the Co-Director of the SENCER (Science Education for New Civic Engagement and Responsibilities) Center of Innovation South.

Participants

Todd Berreth, Duke University, NC, is an instructor and research programmer in the Art, Art History and Visual Studies Department, and the Media arts + Sciences program. He is the technical director of a large-scale mediawall facility @ Duke, and has an equal involvement as a researcher and collaborator on computational generative art projects, interactive museum exhibition design, and AR/VR applications.

Steven Bogaerts, DePauw University, IN, is very interested in revising the introductory programming course at DePauw, with a goal of greater student engagement and a more suitable sequencing of topics. He plans on completely overhauling the course in light of ideas at this workshop and from other sources.
Duncan Buell, University of South Carolina, collaborates with Heidi Rae Cooley on digital humanities, hosting an NEH-funded Humanities Gaming Institute in 2010. The emphasis of their work has been the presentation of history in an interactive, participatory, manner on mobile devices on location at the site of the history, as an experience from which participants can gain an empathic awareness of the lives of those affected by political actions beyond their control.

Quinn Burke is an Assistant Professor at the College of Charleston, SC, School of Education. Focusing on integrating computer science (CS) into middle and high school math and ELA classrooms, Quinn examines the particular affordances of different activities (e.g., digital storytelling, video game making) and different introductory programming languages (e.g., Blockly, Scratch, Python) in successfully integrating CS into core curricula classrooms. He sits on the advisory board of the statewide Exploring Computing Education Pathways (ECEP) program as well as the advisory board of Charleston’s Chamber of Commerce CS Outreach program. He has written a number of articles around integrating CS into the middle and high school day, and he recently completed a book (with co-author Yasmin Kafai) entitled Connected Code: Why Children Need to Learn Programming, which was published by MIT Press in July of 2014.

Stephen Carl, Sewanee: The University of the South, TN, developed and began offering (in 2007) a course called Multimedia Programming and Design based partially on Guzdial's Media Computation but aimed at the sophomore level and using both Processing and Pure Data as the primary development environments. This course was developed in consultation with Art, Music, and Physics faculty in the hope that it could serve their students as well. He has also been involved in the development of a course in Digital Art, Multimedia Programming, and Electronic Music. He is also a musician, perform with university ensembles and have taken courses in music theory while a faculty member at Sewanee, and studied electronic music while an undergraduate and graduate student.
Paul Collins is the lighting designer in the Department of Theatre and Dance at the College of Charleston, SC. He was told once that in the modern world, it is not enough to be a lighting designer, that one would have to be a systems and networking expert too. Says Paul “I am far from this.” He looks forward to exploring how his experiences can help, and be helped by people who are much more in tune with these technological tools.

Heidi Rae Cooley, University of South Carolina, collaborates with Duncan Buell on digital humanities, hosting an NEH-funded Humanities Gaming Institute in 2010. The emphasis of their work has been the presentation of history in an interactive, participatory, manner on mobile devices on location at the site of the history, as an experience from which participants can gain an empathic awareness of the lives of those affected by political actions beyond their control.

Marguerite Doman, Winthrop University, SC attended the 2014 workshop with colleague, Courtney Starrett. She found the workshop “eye-opening.” She discovered that her idea of the cooperation between arts and computing was basically the idea that CS merely supported the arts in graphics and animation. The discussions at the workshop opened her mind to realize this multidisciplinary work is more about collaboration than cooperation. Since the workshop, Courtney and she have held summer computing camps for middle and high school students: Jewelry and Computing Camp and a Music Technology and Computing Camp. This summer they are running the Jewelry and Computing Camp for middle schools girls and an additional camp that includes modeling, computing and 3D printing for everyone. She returns to the workshop this year because she is anxious to continue this journey.
Patrick FitzGerald, North Carolina State University is interested in STEAM related learning research. Over the years, he has collaborated with many computer science faculty for research and teaching. Recently, for example, they finished a 3 year summer program conjuring and building apps (award winning!) with an interdisciplinary group of CSC/Design students (undergrad/grad). We have also just finished jurying this year’s round of CODE + ART competition for the giant Microtile displays at NC State’s HUNT Library. He has a history of making art and media in collaborative environments.

Sarah Fitzgerald is the Music Technology and Media Arts Instructor at Charleston County School of the Arts. Sarah has been awarded a National Artist Teacher Fellowship to study Computing in the Arts with workshop organizer Bill Manaris as her mentor for the fall 2015 semester at the College of Charleston.

Kelley Hamilton is director of Music Programs for Keuka College in NY. A significant part of her job involves developing new courses with the goal of eventually establishing a fully realized Music Program at Keuka College. Her vision involves creating multi-discipline arts courses and integrating the arts into other fields of study. She is also interested in designing an arts "tech lab" which would allow students to learn all of the many ways music and art can be created and shared digitally. In addition to music and performing arts teaching, Kelley is a professional opera singer and musical theatre actress. She has an interest in using techniques that performing artists use and applying those to other fields. She designed a new course at Keuka College entitled "The Art of Improvisation". This course launches Keuka College’s "Creative Arts" minor which is designed to give students a skill set that will enhance any career path (i.e. thinking outside the box).
Cecily Heiner, Southern Utah University, has taken private art lessons and is working on the equivalent of an associates degree in organ via AGO certification. She plays organ for her church congregation and also plays piano. She teaches CS1 and does a golf animation, a Pollock style piece using loops and random numbers, and a creative final project which can be anything from a visual rendering to a piano keyboard to other things as well.

David Heise, Lincoln University, MO, is creating a new research group at Lincoln called CRoMA-TIC (Computational Research on Music & Audio - Team of Interdisciplinary Collaborators). His goal is to create a center of expertise through collaborations (across disciplines, and between institutions) that will ultimately provide enriching experiences for undergraduate students.

Sara Hooshangi, The George Washington University, DC, College of Professional Studies, teaches a sequence of CS1-CS2 courses in Python to students who are majoring in IT. Her students are not computer science majors, so GWU has taken a different approach with their CS2 class and incorporated a lot of image processing in it. She is very interested to see how she can be more creative in designing this course, so it is more useful and beneficial for her student population. She thinks art and design could be a good approach.

Ned Irvine, University of North Carolina-Wilmington, has a BFA in printmaking and MPD in graphic design. He is interested in how to engage students in the formal and experiential possibilities of the computer as a means of relating to and enhancing the experience of the analog world. He currently uses computers and commercial software for layout and production for print design and (in the ancient past, over 10 years ago) for interactive design applications including software interfaces and websites. He has recently learned some basic CSS and is very excited about the visual affordances it brings to the screen. Says Ned: “I am not a programmer.”
Jennifer Jolley, Ohio Wesleyan University, Music, is collaborating with Alan Zaring, Computer Science, in designing an introductory level music course in music programming that they will team teach. The course will be offered for the first time in spring of 2016, will be open to all students, and will satisfy the college’s quantitative course requirement (which must be met by all students). They envision a course that will provide a blend of instruction and activities in introductory computer science, programming, music theory, and music programming via some mix of App Inventor, Python, and/or Pd. They see this course as perhaps being the beginning of a number of collaborations between students and faculty in music (and other fine arts), computer science, and mathematics.

Jennifer Kay, Rowan University, NJ, is always looking for exciting ways to attract non-majors to computer science. She holds M.S. and Ph.D. degrees in Computer Science from Carnegie Mellon University, as well as a B.A. in Mathematics and a B.S.E. in Computer Science and Engineering from the University of Pennsylvania. She was drawn to this workshop as a result of her experiences over the last few years with using media computation in a general education course. Jennifer is the Director of the Rowan University Laboratory for Educational Robotics (RULER) and has produced two MOOCs (designed for K-12 teachers but free and open to all) that teach “Educational Robotics for Absolute Beginners.” http://elvis.rowan.edu/~kay/cs4hs/

Erin Leigh teaches dance at the College of Charleston, SC, where her interests involve integrating technology with dance performance (Isadora, Final Cut) and the use of technology in K-12 classrooms for teaching artists and arts specialists.
Nancy Marksbury, Keuka College, NY, is interested in Python, pedagogy, new skills and tools for creating student engagement and deep learning. She is director of Digital Learning at Keuka College. Digital Learning @ Keuka College (DL@KC) is an initiative charged with infusing computational thinking across the curriculum. Keuka College is in the early stages of an amazing journey. Keuka College has a minor approved in Digital Studies and faculty are in the process of developing student learning outcomes that may be applied to any course, in the general education and discipline-specific curricula, for becoming a “DL certified” course, program and major. Says Nancy: “The workshop emphases on individual course activities, courses, and curricula are essential to our growth, and I believe we offer in return a laboratory “in the wild” that can serve as an additional test bed for instructional research. We are committed for the long term and offer reciprocal collegiality.”

Cate Sheller, Kirkwood Community College, IA, has recently been awarded an endowed chair to work for a year on music-related software and to incorporate media computation into her computer science classes.

Courtney Starrett, is an associate professor of fine arts at Winthrop University, SC, and teaches digital fabrication and jewelry design. She has been working with technology in the arts for many years but has just recently started coding, working with graphical algorithmic modeling of objects and drawing through codes using Processing. She is developing a camp curriculum that interweaves Processing, wearable technologies and the Raspberry Pi. This summer she will teach a camp that involves 3D printing, jewelry design and programming. Her experiences and conversations with Computer Science faculty from Winthrop and other schools has helped her integrate much more background and "computing" into her computer courses. Her ultimate goals are to integrate computing into her personal creative work as well as the undergraduate and graduate curriculums. She and colleague in computer science, Marguerite Doman, attended the 2014 workshop at Wake Forest. Says Courtney: “I have not stopped thinking and talking about my experience in that 2 day workshop. I believe that we have just begun to scratch the surface of our potential collaborations.”
Tim Ward, The American College of Greece, Athens is a musician who spends a lot of time working in music technology. Writes software in languages like MaxMSP and Pure Data in order to process sound in unusual ways for use in electronic music composition and live improvised performance. Is also interested in circuit bending and interactivity (via solutions like Arduino).

Ben Watson, North Carolina State University, teaches mobile development, web development, user experience, computer graphics. He works in visualization, human computer interfaces, vr, computer graphics, user experience. I'm director of the visual experience lab and leading an interdisciplinary user experience effort in the triangle called nexUX. With Patrick FitzGerald he’s taught several courses mixing aesthetic with practical. Current projects include mixing online maps with the old paper maps, a mobile game much like name that tune but visual, and interactive books for children.

Alan Zaring, Ohio Wesleyan University, Computer Science, is collaborating with Jennifer Jolley, Music, in designing an introductory level music course in music programming that they will team teach. The course will be offered for the first time in spring of 2016, will be open to all students, and will satisfy the college’s quantitative course requirement (which must be met by all students). They envision a course that will provide a blend of instruction and activities in introductory computer science, programming, music theory, and music programming via some mix of App Inventor, Python, and/or Pd. They see this course as perhaps being the beginning of a number of collaborations between students and faculty in music (and other fine arts), computer science, and mathematics.