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ammerman center

[arts & technology]

Annual Report 2011-2012

INTRODUCTION

The Ammerman Center continues to build on its strengths and augment its programs in the ever changing field of arts and technology. This report summarizes the main activities of the center including student programs, curricular activities, research, the symposium, funding, media placements and staff. The center remains to be a valuable resource for faculty and students interested in pursuing creative, collaborative and interdisciplinary projects.

STUDENTS

This year we admitted nine students into the program bringing the total enrollment in the Ammerman Center's certificate program to twenty. We awarded certificates to seven students at the end of the year.

The senior projects are the culmination of courses, independent studies, internships, colloquia, symposia, faculty advising, visiting artist interactions, the senior seminar and students' extensive work on implementation. Students presented their projects in two public sessions: one on the last day of classes for the campus community and the other on the day of the CAT certificate ceremony for families and guests. This year we had to move the location of the second presentation session from the CAT Lab where we usually host the event to a larger space because of the level of interest in attending the event. The presentations were very well received and our seniors demonstrated a broad range of interdisciplinary interests that they brought together for their projects. We held the certificate ceremony in the elegant Charles Chu Asian Art Reading Room. We were fortunate to have President Higdon attend the ceremony. He addressed the students and their families with an enthusiastic speech emphasizing the importance of interdisciplinary studies at the college.



Amy Barrett (Computer Science major, Mathematics minor)

Her main internship was funded by a KECK scholarship where she worked on campus with professors Baird, Wollensak and Izmirli on developing "DEEP/PLACE: Harkness Chapel." She also worked as a team member at the summer institute of the Humanitarian Free and Open Source Software Development Project at Connecticut College in the summer of 2010.



She is recipient of the center's Smalley-Zahler Award.

Project: "DEEP/PLACE: New London Hall" - Advisor: Baird.

DEEP/PLACE was a framework for site-specific, interactive multi-media art installations that Amy adapted for New London Hall. The purpose of this project was to document the construction and renovation through an interactive display of archival and new materials. The user navigates the virtual space using natural gestures, with the aid of a Kinect device that allows for tracking body gestures with minimal technological intervention.

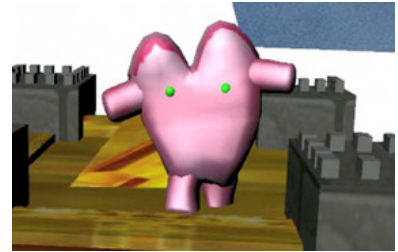
Matthew Gentile (Film Studies and English double major)

He interned at both Scott Rudin Productions and with director Jennie Livingston; he also interned for the Charlie Rose show in his sophomore year summer.

He is recipient of the center's Smalley-Zahler Award.

Project: "Heart to Heart" - Advisors: Baird and Morin.

A computer animated and live action film about a love story between two 13-year-old kids, Hugo and Olive. The characters were presented in live action, portrayed by middle school students. The hearts and their worlds, were created with 3D modeling in Maya and were brought to life by dance performance through motion capture technology.

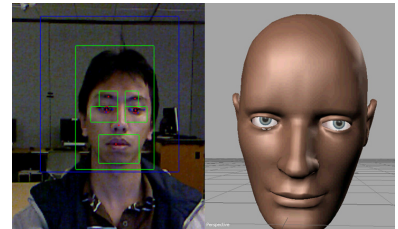


Ajjen Joshi (Computer Science and Architectural Studies double major, Mathematics minor)

He completed two internships: First, funded by a KECK scholarship where he worked with professors Baird and Izmirli in the CAT Lab on motion capture research, and the second was at Brown University in the Multimedia and Electronic Music Experiments studio.

Project: "Real-time Facial Animation by Gesture Imitation" - Advisor: Izmirli

A tool for real-time imitation of facial gestures using image processing. He developed a real-time facial animation system that processes video and depth information through use of Kinect technology. The purpose of this ambitious project was to lay the foundations of a system that captures facial gestures of an actor, run algorithms to track the features of the actor's face (seen in the left image), and transfer the data to control the gestures of a digital model (right image) in real time.



Jonathan Markson (Music and Technology major, Computer Science minor)

Interned at the Gallery Recording studio in Brooklyn, NY.

He is recipient of the center's Bridget Baird award for Excellence in Research.

Project: "Meaning in a Word" - Advisor: Kreiger.

An electro-acoustic and experimental/indie rock composition featuring guitar centric harmonies, drum centric rhythms and a progressive musical structure. The ensemble consisted of four guitars, a drum set, live electronics, marimba and bass guitar. This piece was debuted with a live performance during the symposium



and was performed two more times at the end of the semester in music department concerts. In the concert photograph above, Jon is controlling the electronic sounds and is seen to the immediate left of the conductor.

Patrick McGrath (History major)

Interned at Sonalysts Studios in Waterford, CT.

He is recipient of the center's Bridget Baird award for Excellence in Research.

Project: "Mandate" - Advisor: Izmirli.

A computer simulation exploring dynamics in ancient Chinese history. Mandate is a simulation set in Warring States China, around 250 BC, in which independent computer-driven characters took on different roles in society and competed for domination. Some of its elements are reminiscent of strategy games, such as the ability to build and upgrade cities, while others are more focused on simulation, such as the use of fuzzy logic in order to control how the different characters interact with each other.

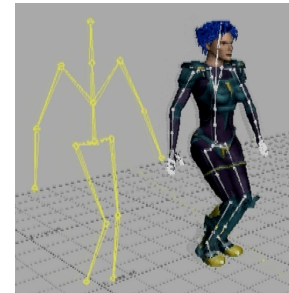


Eli Pack (Computer Science major)

Interned last summer at the CAT lab where he conducted research on applications using the Kinect. He used this internship as a preparation for his senior project.

Project: "Modified Motion" - Advisor: Izmirli.

A project to study algorithmic modifications of body movements. Hand-coded Python scripts were used to modify motion capture data obtained from a skeletal tracking program. The scripts were written to transform generic animations to portray different emotions and moods. The project opens a window into the interesting problem of controlling the extent of portrayed emotions on body gestures through algorithmic transformations. This idea has many applications for editorial refinement work and cost saving in animation production.

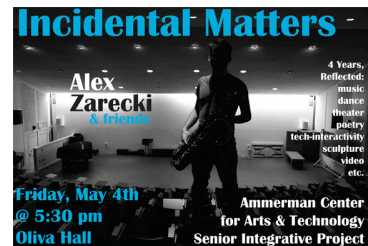


Alex Zarecki (Religious Studies major, Music and Technology minor)

He interned at the CAT lab where he worked on developing technologies for this senior project and attended a MAX/MSP/Jitter technology workshop at UC Berkeley.

Project: "Incidental Matters" - Advisor: Izmirli.

A 45-minute music, dance, theater and technology-based performance reflecting on his personal and academic experiences throughout his college years. Using the Microsoft Kinect and MAX/MSP/Jitter, "Incidental Matters" incorporated music, dance, video, and content from various religious studies and English courses, as well as Alex's personal college experience. A team of musicians, dancers, and crew collaborated on the performance.



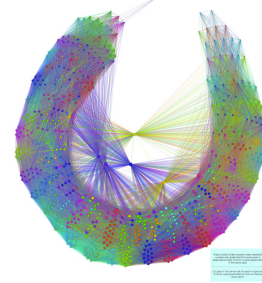
CURRICULAR ACTIVITIES

Students enrolled in the certificate program customize their course selections according to their interests while keeping to the center's requirements. In addition to the wide selection of courses offered by the related departments during the year, ART 222 and DAN 238 were co-listed with CAT. Details of these courses are given below.

ART 222: Designing Visual Information – Andrea Wollensak - Fall 2011.

This course was sponsored through the center's Collaborative and Multi-Disciplinary Teaching Grant. It guided students through rules of visual perception and form, and discussed how these can be effectively applied to graphs to promote data exploration and analysis. It covered a wide range of tools and techniques to visualize meaningful data from a broad range of disciplines. At the end of the semester students had the opportunity to explore their own subject through the GEPHI software. Bridget Baird co-taught the final project introducing students to GEPHI and basic programming in PYTHON. The semester was concluded with a public viewing of the students' semester-long work. Doug Scott (Visiting Faculty in Design at RISD and Yale University) gave a lecture on Visual Information and Diagrams. He returned later in the semester for a final critique on the second class project: Comparative Timeline. The class went on a field trip to New York City to meet with William Bevington, director of The New School's PIIM (Parson's Institute for Information Mapping). They also received a tour and generous lecture of his work. The class had lunch with William Bevington and Dona Wong who is Assistant Vice President and Director of Visual Communications at the Federal Reserve Bank of New York and author of *The Wall Street Journal Guide to Information Graphics: The Dos and Don'ts of Presenting Data, Facts, and Figures*.

Connecticut College Alumni Couples



DAN 238: Dance and Technology – Shawn Hove – Spring 2012.

This course was a lab/practicum course that explored visual digital media as a compositional element in live performance. Students conducted choreographic, improvisational, directorial and creative experiments. The goals of the course included understanding characteristics of mediated performance; gaining familiarity with key artists working in the field, theoretical constructs, and historical foundations; examining the conceptual issues of working with media tools in performance; analyzing work to improve observational and critical skills; developing compositional skills in multimedia performance through projects and demonstrate competence in multimedia production skills including the set-up and use of video/audio equipment and cables, projectors, screens, and the use of real time media playback systems. The students gave public presentations of their mid-term and final projects.

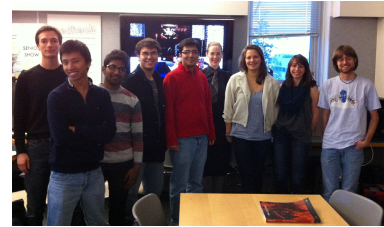
AT 401 (Fall 2011) and AT 402 (Spring 2012): Senior Seminar in Arts and Technology – Ozgur Izmirlı and Libby Friedman (staff).

The two-semester seminar provides structure to the senior projects and is mandatory for all seniors in the Ammerman Center's certificate program. The students register to the seminar in addition to the independent studies taken with their respective advisors during which most of the detailed work of the project is performed. The seminar involves many different activities including discussion of their individual projects, visiting professor critiques, project management, technology research, discussions

with visiting artists, presentations and demonstrations at the Arts and Technology Symposium, the senior show and graduation weekend presentations.

As part of the college-wide initiative we developed an assessment plan for the senior projects mainly guided by the learning goals of the center. It articulates aspects of the creative process and implementation issues for the senior projects. Some of these include: level of interdisciplinarity, creativity, originality and innovation of final project; student's constructive use of critique; student's research and problem solving skills; student's critical thinking skills; student's project management and planning skills and student's presentation and oral skills. We believe that this assessment plan will help us better articulate our goals and expectations from the individual student projects.

Animation workshop: The Maya Workshop took place Jan. 16-20, 2012 in the CAT Lab. 10 students attended the workshop. We hired Jane Kernan, who teaches animation courses at the Rhode Island School of Design, for a third year. Similar to the past two years, she taught our course for the entire week while staying in residence at the college. This year students developed projects during the week working on scenes from Shakespeare's Macbeth which she had assigned. In the last two years we have been incorporating motion capture into the workshop which has brought a fresh perspective to the animation workshop. The students have been recording personalized movement sequences for their projects using the center's motion capture equipment. The motion capture system was set up in the film studies lab (which is next to the CAT lab) and one of our seniors, Ajjen Joshi, ran the recording sessions including the installation and calibration of the system. This year, Jane brought in an independent director who instructed the students during their motion capture sessions. We had an enthusiastic group of students and the workshop ran really well culminating in a Friday afternoon showing of their work. A smaller group of these students formed an informal CAT animation club after the workshop to continue with their animation studies independently.



Internships - Summer 2012:

The internships scheduled for this summer exhibit a variety of interests.

Student	Location	Type of work	Amount	Source	Dates
Hannah Plishtin	Donna Karan	Design Assistant	3000	CELS	Jun10 – Aug 4
Gyanendra Sharma	IDC CEMA	Assoc. Research Analyst	3000	CELS	Jun 15 – Aug 15
Max Novak	Sonalysts	Games design	3000	Sonalysts	May 21 – Jul 13
Eric Stern	Smash Studios	Recording Studio Assistant	3000	CELS	Jun 4 – Aug 10
Andrew Nathanson	Perkins Eastman Architecture	Architectural Firm Technology Assistant		Perkins Eastman Architecture	Jun 4 – Aug 10

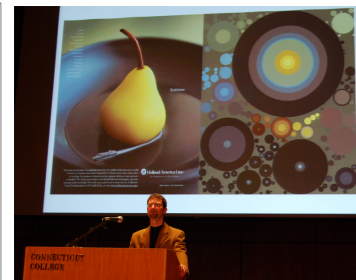
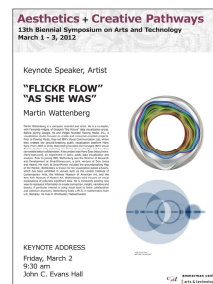
SYMPOSIUM

The Thirteenth Biennial Symposium on Arts and Technology was home to many interesting talks, performances and installations. It was a successful event by all means and this tradition continues to impress and enrich the campus community and the event's attendees. The co-directors for the symposium were Arthur Kreiger (music selection and concerts) and Andrea Wollensak (visual media and installations). Libby Friedman was coordinator for all events of the symposium. Here, I will give a summary of the main events, and details, including the schedule, can be found on the symposium website at <http://www.conncoll.edu/CAT/sym2012>.

This year we switched to an electronic submission system which allowed submissions and proposals to be uploaded through a web page. The Information Services Department worked with us to custom-build this site which took into consideration some of our special requirements. We observed that this made a difference in the number of submissions and subsequently we had to turn away some very qualified music submissions.

An upgrade to the existing sound system in Evans Hall, which serves as the main venue for our evening concerts, had been the focus of many departments at the college. We had been cognizant of the state-of-the-art all along and the requirements of many music submissions helped us move this priority to the top. Working with the music department, theater services and audio-visual services, the Ammerman Center contributed toward purchase of a new sound system that supports seven channels and a subwoofer with ample power for Evans Hall.

Keynote: Our keynote speaker was Martin Wattenberg, who is a computer scientist and artist, and co-leader of Google's "Big Picture" data visualization group. Wattenberg's work focuses on visual explorations of culturally significant data. He is also interested in using visual tools to foster collaboration and collective discovery. His talk consisted of a delightful spectrum of examples from his visualization work, and was well attended by a diverse group from the campus community.



Invited talk: The talk entitled "Mind-to-Art: Cross-Modal Aesthetics and Pathways to Neuro-Creativity" was given by Michael Casey (Professor and Chair of the Department of Music and Adjunct Professor of Computer Science; Director of the Bregman Music and Audio Research Studio (BMARS) at Dartmouth College.) In his talk, Casey presented the application of cutting edge brain imaging to creativity and aesthetics. He gave examples to show the broad range of implications of this futuristic approach.

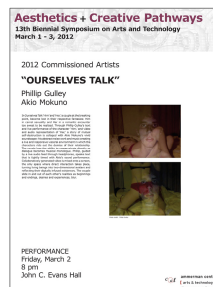
Commissions: We awarded four commissions for proposals representing multi-disciplinary and collaborative works that combine an area of creative expression with a technological component. Our review panel awards commissions to proposals of new works that will be developed specifically for this occasion and to be premiered at a symposium event with possibly the final touches being put during the artists' residency at the college. Our classes meet with the artists during these residencies to learn about their work and discuss them. Students then write reflection/summary papers about these visits,

performances and talks. The campus community also has the opportunity to interact with the commissioned artists during the opening reception which is scheduled on the first day of the symposium and features large-format posters to introduce the members of the groups and the commissioned work.

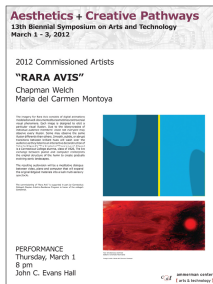
"*Cross Talk*" by Adam Wilson (NY) and William Brent (American Univ.) was an interactive electronics environment for improvisation incorporating two performers playing gesturally extended instruments: the piano with a camera tracking the pianist's wrist and arm movements and the fretless guitar with position trackers. The extended instruments were able to exchange control information which enabled each performer to affect the other performer's sound effects through interactive electronics. They gave a live performance of their own composition using their system at the Saturday concert.



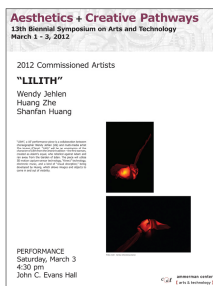
"*Ourselves Talk*" by Phillip Gulley (NY) and Akio Mokuno (NY) was a theatrical performance with music controlled video mixing. It was a narrated piece with multiple video projections depicting an introspective reflection of a previous relationship. The video mixing was controlled through Mokuno's live guitar performance.



"*Rara Avis*" by Chapman Welch (Rice Univ.) and Carmen Montoya (OR) was a multimedia composition for piano, video and real-time electronics. It was an interactive work for piano with computer-generated audio and imagery, based on the sacred song "The Greatest of These is Love," composed by Connecticut College alumna Roberta Bitgood.



"*Lilith*" by Wendy Jehlen, Huang Zhe and Shanfan Huang (Anikai Dance) was a solo dance work accompanied by projected animated images generated from motion capture data obtained through the Kinect. It told a segment of the story of Lilith from the Jewish tradition.



DEEP/PLACE Harkness Chapel installation: The site-based immersive and interactive installation included diverse media elements which draw on historical and contemporary materials of Harkness Chapel (see the research section for photo and details.)

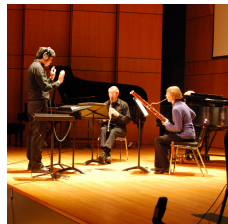
Faculty engagement: Many faculty members participated in the symposium in various capacities – as presenter, moderator, performer, conductor and artist. These include Bridget Baird (Computer Science), Arthur Kreiger (Music), Andrea Wollensak (Art), David Dorfman (Dance), Julie Rivkin (Associate Dean of the Faculty), Charles Hartman (English), Jim McNiesh (Music), Ross Morin (Film Studies), Karen Gonzalez-Rice (Art History), Shawn Hove (Dance), David Jaffe (Theater), Peter Jarvis (Music), Thomas Labadorf (Music), Patrice Newman (Music), Rebecca Noreen (Music), Lisa Race (Dance) and Mark Seto (Music).

Students: A number of CAT students helped with numerous tasks. Max Novak, Eric Stern, Amy Barrett, Andrew Nathanson, Ajjen Joshi, Gyanendra Sharma, Alex Zarecki, Sara Rubino, Daniel White all participated by recording video or sound or assisting commissioned artists throughout their residency weeks. Connecticut College students Andy Stein-Zeller, Craig Mahoney, James Finucane, Kyle Joseph and Erik Caldarone performed in “Meaning in a Word.”

Images from other performances and showings at the symposium:



“...for toy piano”



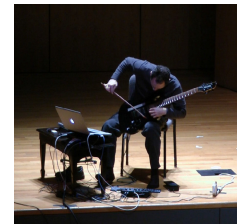
“Mutations I”



“Meaning in a Word”



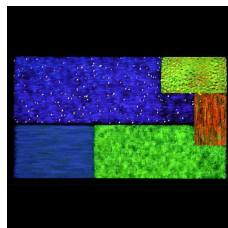
“Folded”



“Point / Line /Shape”



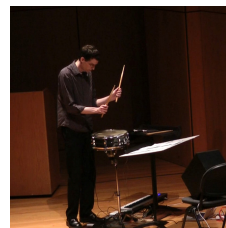
“of Dust and Sand”



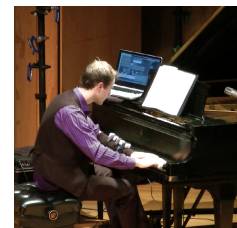
“Angel Wing”



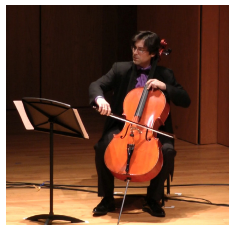
“Rainsticks”



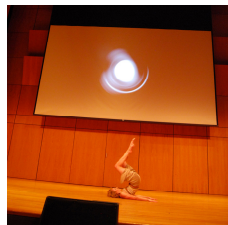
“fzzl”



“In Vitro Oink”



“Lyric for Cello and Piano”



“Between the Sun and the Moon”



“Windows”



“Medusa in Fragments”



“of Dust and Sand”

RESEARCH ACTIVITIES

Funded by the Ammerman Center, the Centennial Committee, ConnSSHARP and KECK student programs at Connecticut College, the multi-year DEEP/PLACE project was started in the summer of 2011 by faculty Bridget Baird, Andrea Wollensak, Ozgur Izmirli, and students Amy Barrett '12 and Hannah Plishtin '13. It is a site-based, immersive, interactive installation exploring the history and culture of Harkness Chapel. It includes three themes: architecture, culture and geology. This work resulted in a number of installations and presentations over the year. The project was initially implemented for the Harkness Chapel on campus. Archival material was first collected and put together with a thematic organization telling the story of the chapel over the years. The computer program was then developed for the interactive presentation of this material. We had two on-site installations of 'Harkness Chapel DEEP/PLACE': First during the Fall Weekend, in October and the second during the symposium in March. We presented this work at the International Symposium on Electronic Art in September and at our symposium. The accompanying papers are:



Baird, B., Izmirli, O. and Wollensak, A., "DEEP/PLACE: Site-Based Immersive History," proceedings of the 17th International Symposium on Electronic Art (ISEA), 14-21 Sept., Istanbul, Turkey, 2011.

Baird, B., Izmirli, O. and Wollensak, A., "DEEP/PLACE: Creating a Site-Based Immersive Experience," proceedings of the Thirteenth Biennial Symposium on Arts and Technology at Connecticut College, March 1-3, 2012.

More recently, Amy Barrett built on this framework for her CAT senior project and adopted it to the construction and renovation of New London Hall – the new Science Building. Amy had been involved in the development of the project from the start through an 8-week KECK internship over the summer of 2011. She changed the interface from using position trackers and a flex sensing glove to the Microsoft Kinect which offered greater flexibility for the user. Amy had a public installation in May in the Alice Johnson Room, attended by a wide-range of faculty and staff from across the campus, and she presented her project together with the CAT seniors at the end of the semester.

The Dance Motion Capture project was started in the summer of 2010 by Baird, Izmirli and CAT junior Ajjen Joshi and continued with the help of professors David Dorfman, Lisa Race and three students in the Dance department. It involved development of a computer interface that allows users to bring together, and play in sequence, basic dance movements recorded through motion capture technology. This work was presented at the symposium:

Baird, B., Izmirli, O. and Joshi, A., "Using Motion Capture to Synthesize Dance Movements," proceedings of the Thirteenth Biennial Symposium on Arts and Technology at Connecticut College, March 1-3, 2012.

In the summer of 2011, CAT junior Gyanendra Sharma worked on an audio-to-score alignment project with Izmirlı and took two follow-up independent studies. He presented his project as a student poster at the Consortium for Computing Sciences in Colleges Conference in April at Quinnipiac University, Hamden, CT. A detailed paper describing this research has been accepted to the International Society for Music Information Retrieval Conference and will be presented in Porto, Portugal this fall.

Also in the summer of 2011, center students Elijah Pack and Alex Zarecki completed 8-week summer internships with Izmirlı doing research in preparation of their senior projects.

This summer, two students worked under the supervision of Izmirlı on an NSF sponsored project (Humanitarian Free and Open Source Software Grant - HFOSS) that involved synchronization of events over multiple web-based platforms. One of the students was Gyanendra Sharma who is a rising senior. The purpose of the project was to enable tightly timed collaborative activity among people with mobile or wired devices connected over a network. One application of the project is to play multi-track music recordings through a set of computers with the purpose of creating rich spatialization and an improved listening experience.

CENTER STAFF AND FELLOWS

Last year we had restructured the senior seminar to include visiting faculty provide critiques for the senior projects during the fall semester. Since we invite faculty members from different departments, students find the opportunity to hear a wide spectrum of perspectives as visiting faculty provide feedback on their projects. The faculty members were Art Kreiger (Music), Bridget Baird (Computer Science), Andrea Wollensak (Art), David Dorfman (Dance), Ross Morin (Film Studies), and Shawn Hove (Dance). I taught both semesters of the seminar and Libby Friedman attended the seminars, organized all related events, including a day-long film shoot for one of our students, and worked with the students on their presentations.

Andrea Wollensak and Art Kreiger served as co-directors of events mainly through advising and selection of submissions for the symposium. I continued to serve as the Associate Director for Technology. We hired Jane Kernan (RISD) to teach the one-week animation/motion capture workshop.

We welcomed three new fellows this year: Ross Morin in the Film Studies Program, David Jaffe in the Theater Department and Lee Hisle, Vice President for Information Services and Librarian of the College. We are excited to expand the interdisciplinary reach of the Ammerman Center to new members across campus.

Libby Friedman, the Center's Assistant Director, ran the daily operations of the center. These span a wide range of tasks including student recruitment, advising, internships; meeting with students individually to organize their project-related events and to work on their project presentations; organizing all center related events including the student presentations, installations, ceremonies, awards etc.; coordinating all events of the symposium; maintaining center related communication with other academic departments, Advancement, College Relations, Admission, CELS and other centers; maintaining budgets; and coordinating the center's publicity. Libby served as a Staff Council member representing Middle Management and was nominated as chair elect. She will serve as chair for a two-year term starting in

2012. She was organizing member of the academic fair committee led by Abby Van Slyck, Associate Dean of the Faculty, in Spring 2012. Libby represented CAT at Unity House information sessions, the two academic fairs, sophomore information sessions and Arts Luncheons for prospective students. She has been serving on the Connecticut College “House of Steel” Restoration Project Advisory Committee since 2007. Libby is a true asset to the center and brings not only professional experience, knowledge and great personal skills to her job but is a problem solver and multitasker. The center benefits from her network of connections on and off campus.

PUBLICITY AND MEDIA PLACEMENTS

- “College to host arts and technology symposium” - CC press release, Feb. 23.
- "Songs Take Shape, literally, at Conn" - The Day, March 4.
- "Exploring ‘Aesthetics and Creative Pathways’" - The Day, Feb 26.
- “Love is ... a well-designed graph” – article about ART 222, CC magazine, Spring 2012.
- DEEP/PLACE project included in Fall Weekend pictures - CC magazine, Winter 2011.
- CAT listed under "Change and Innovation" section of Centennial Magazine, Fall 2011.
- “Senior Jonathan Markson realizes his full musical potential” – CC News, Mar. 20.

FUNDING

The funds from Judith Ammerman’s endowment came into full swing last year. This has allowed for this year’s new program directions in collaborative research and teaching, the center’s equipment and software purchases, faculty and staff compensation as well as center’s successful symposium. The Patricia Blackall fund and other contributions continue to supplement the budget in different categories. Sonalysts Studios contributed \$8500 for their corporate sponsorship of the center and a summer internship. Milt Stretton, President, and Dave Samuelson, Vice President of Sonalysts continue to support the center and both attended the senior final presentations, the certificate ceremony and the symposium this year. Dayton Residency Fund contributed \$6000 through Libby Friedman’s initiative - \$3000 for a symposium commission, and \$3000 for the Deep/Place Project. The college’s centennial committee contributed \$500 toward the Fall Weekend events and Sara Lesko’s (’09) family contributed \$500.

NEXT YEAR'S OUTLOOK AND CONCLUDING REMARKS

After a successful symposium year I look forward to next year’s events that include a colloquia series, collaborative student and faculty research activities, student projects and other curricular activities. We are working to set up several new collaborative projects for the upcoming year. We are looking forward to the Computer Science faculty search to take place next year. We are particularly excited about the Art Department’s new hire in mixed media, Nadav Assor, who we believe will augment the center’s relationship with the Art Department due to his artistic interests and the nature of his work. I look forward to another productive year full of interesting activities and projects.

Ozgur Izmirli

Judith Ammerman ’60 Director, Ammerman Center for Arts and Technology
Associate Professor, Computer Science Department