ARCH 5110 – Architecture as Catalyst: Hearing Space
March 10-14, 2014

Instructors
Michael J. Schumacher, Guest Instructor
Adjunct Professor of Digital Media, NYU/Poly
Founder/Director, Diapason Gallery, Brooklyn, NY
Website: http://www.michaelschumacher.com/
Representative projects: http://www.diapasongellery.org.
www.youtube.com/watch?v=znfxCb6zp4A

Jim Lutz, Host Instructor
Rapson 151 N
(612) 626.2482 office
(901) 229.1732 cellular
lutzx120@umn.edu

Office Hours
By appointment

Introduction
One can look at seeing; one can't hear hearing. -- Marcel Duchamp

Architecture has historically privileged sight over the other senses. This workshop will shift the focus to the acoustical aspects of architectural space by considering sound as a design medium.

The advent of digital technology has provided new opportunities to explore the relationship between sound and space. For this workshop, we will consider how digital technology can be used to create non-physical environments – How can sound contribute to the phenomenological experience of architecture? How can audio technology be employed to evoke memories associated with a place (or create new ones)? How do acoustics alter our perceptions of space?

This Catalyst workshop promotes the leaps in perception of what design can be by asking participants to think beyond a retinal approach to architecture, inviting them to explore the aural dimensions of space.

Course Content
This workshop will address certain important topics relative to issues of sound and space, including: perception of space, sound localization techniques, anatomy of sound, and building sonic "landscapes". Each day there'll be listening of various sorts, from technical ear training to creative work. Specific assignments will be made daily.

Learning Objectives
- Develop familiarity with the history and major concepts relating to composers' interest in creating environments for listening.
- Develop familiarity with the major technical paradigms, i.e., ambisonic, wavefield synthesis, surround formats.
- Develop an understanding of the mechanisms for localizing sound in the human ear.
- Develop the ability to work with a variety of sound focused software and hardware, (MaxMSP, Pro Tools, or similar interfaces), amplifiers, speakers, and microphones.
- Develop the ability to create a complex soundscape using multi-track software and a multi-channel speaker configuration.
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Format
The project(s) exploring the relationship between sound and space will primarily use acoustic media. This will be augmented with graphic and written work documenting the process and details of your explorations.

A Catalyst blog has been established at http://blog.lib.umn.edu/arch/catalyst/. Everyone will be expected to contribute one blog post about their work during the week.

Participants will make their final presentations in the Courtyard on Friday, March 14.

Selected projects may be included in an exhibit entitled "The Audible Edge" to be presented in the Katherine E. Nash Gallery, part of the Regis Center for Art on the UMN East Bank campus. Taking place May 26 - July 27, the exhibition will feature "With Hidden Noise", a collection of works by internationally known sound artists, including Michael Schumacher. Projects by students and graduates from the Department of Art will also be included. The show will function as the Gallery's contribution to the 2014 *Northern Spark* event which will be held on June 14th.

Schedule
Monday (03/10)
9:00 AM: Catalyst kick-off in Rapson Courtyard, followed by workshop (Rapson 35)
12:00 PM: Lecture – Maureen Cummins (Rapson 54)
1:30 - 5:30 PM: Workshop (Rapson 35)
6:00 PM: Lecture – Decker Yeardon (Bell Museum Auditorium)

Tuesday (03/11)
9:00 - 5:30 AM: Workshop (Rapson 225)
6:00 PM: Lecture – Andrea Ponsi (Rapson 100)

Wednesday (03/12)
9:00 AM - 12:15 PM: Workshop (Rapson 225)
12:15 PM: Lecture – Barry Kudrowitz (Rapson 43)
6:00 PM : Lecture – Randy Ewoldt (Bell Museum Auditorium)

Thursday (03/13)
9:00 AM - 5:30 PM: Workshop (Rapson 225)
6:00 PM: Lecture – Michael Schumacher (Rapson 100)

Friday (03/14)
9:00 AM – 2:00 PM: Final check-in, set-up for presentations (Rapson Courtyard)
2:00 – 5:00 PM: Presentations by all workshop groups (Rapson Courtyard)

Readings
Readings pertaining to the topics reviewed that day will be assigned daily. A Dropbox folder with the course readings can be found here:
https://www.dropbox.com/sh/dsno4v7l4m2vdqa/b3sIOeWerX

Required Materials
Students should download the following free software programs the week before the workshop begins: Max MSP (30-day fully functional demo), and Reaper or Audacity (for playback).

Participants should bring a pair of headphones or high quality earbuds for use.

Attendance
Attendance is mandatory for all workshop sessions and lectures. Please come prepared, ready to participate in discussions and to ask questions, having completed the required readings and preparatory work for the session in advance. Punctuality is important as a means of minimizing class disruptions.

Excused Absences
The School of Architecture policy for legitimate absences states: "Students shall not be penalized for absences due to unavoidable or legitimate circumstances. Such circumstances include, but are not limited to: verified illness, participation in intercollegiate athletic events or other group activities sponsored by the University, subpoenas, jury duty, military service, and religious observances. Students are responsible for providing documentation to the instructor to verify the reason for the absence." In case of an unplanned absence or emergency, contact the instructor immediately, ideally before the class period missed, otherwise as soon afterward as possible.

Grading
This is a 1-credit, pass/fail graduate design workshop. Detailed information about grading criteria for assignments will be provided at the time they are issued. All assignments must be completed in order to pass the class.

Late Work
Late work will be accepted without penalty only in cases of documented legitimate absences as defined above. If you anticipate a legitimate absence on a day something is due, make arrangements to turn the work in early. All assignments must be completed in order to receive a passing grade for the course.

Incomplete Work
Incomplete work will not be accepted without the instructor's prior approval and written agreement as to the revised due dates and grading policy. The grade of "incomplete" can only be given if the work is substantially complete and the student has documentation of legitimate circumstances.

Extra Credit Work
Students are not allowed to submit extra work to raise his/her grade.

Student Workload
Be mindful of potential conflicts with deadlines and due dates in other classes and plan your work accordingly.

Academic Policies
Academic policies for this course, including but not limited to: accommodations for students with disabilities, statements on classroom conduct, statements regarding sexual harassment, and academic integrity, can be found in the University's website at
http://www.umn.edu/usenate/usen.usenpol.html

Classroom misconduct, violation of academic integrity, sexual harassment, and issues concerning students with disabilities should be reported to the College of Design's Director of Student Services and to the Head of the School of Architecture.

Scholastic Misconduct
All students are responsible for conduct in conformance with the University of Minnesota Student Conduct Code.

Scholastic misconduct is broadly defined as "any act that violates the right of another student in academic work or that involves misrepresentation of your own work. Scholastic dishonesty includes, but is not necessarily limited to: cheating on assignments or examinations; plagiarizing, which means misrepresenting as your own work any part of work done by another; submitting the same paper, or substantially similar papers, to meet the requirements of more than one course without the approval and consent of all instructors concerned; depriving another student of necessary course materials; or interfering with another student's work."

Intellectual Property
The College of Design has the right to retain any student project whether it is for display, accreditation, archive, documentation or any other educational or legal purpose. In addition, the College of Design reserves the right to reproduce and publish images of any student work in collegiate publications, printed or electronic, for the purpose of research scholarship, reaching publicity and outreach, giving publication credit to the creator/student.

Sexual Harassment
University policy prohibits sexual harassment as defined in the December 1998 policy statement, available at the Office of Equal Opportunity and Affirmative Action. Questions or concerns about sexual harassment should be directed to this office, located in 419 Morrill Hall.

Students with Disabilities
This syllabus can be made available in alternative formats upon request; contact the School of Architecture office for facilitation.

Students with diagnosed and documented disabilities that affect their ability to fully participate in class or to meet all course requirements are encouraged to bring this to the attention of their instructor so that appropriate accommodations can be arranged. Further information is available from Disabilities Services (230 McNamara).

Critique and Evaluation
Students will critique the course at the end of the workshop. Please be frank in making your assessment of the class.

Subject to Change
With the exception of the grading and attendance policies, parts of this syllabus are subject to change with advance notice, as deemed appropriate by the instructor.