

ARC 640

CONDITIONAL FORM

Spring 2010

Tuesday 10:00 – 12:40

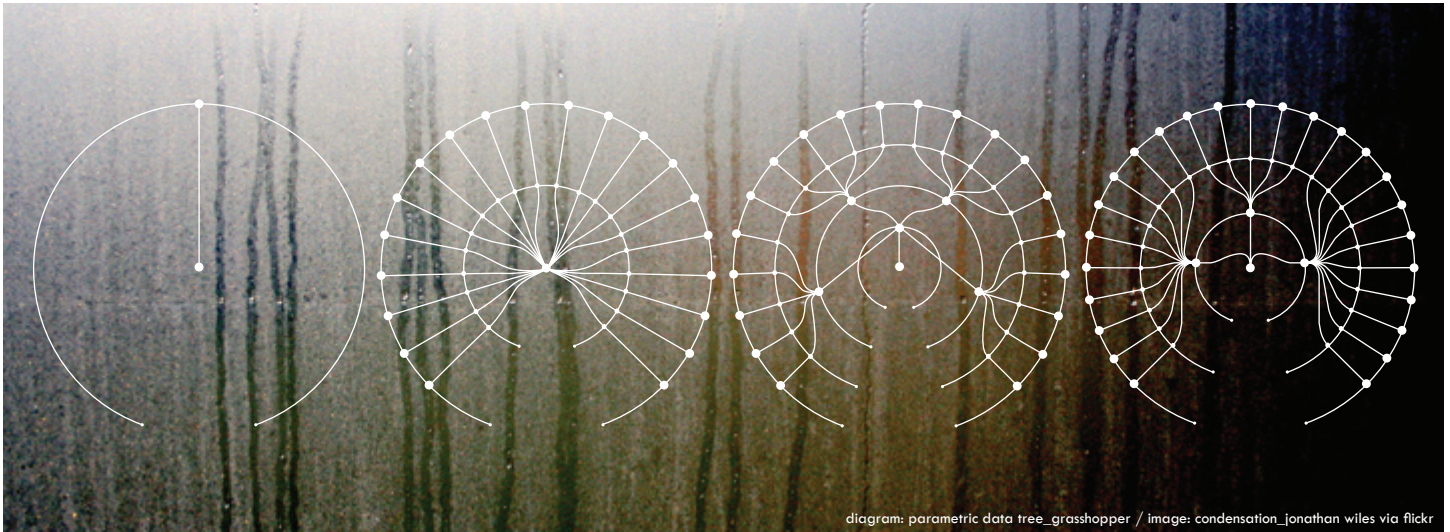
302 Hayes Hall

Instructor: Nicholas Bruscia (nbruscia@buffalo.edu)

Eligibility: Graduate students that have passed ARC 611 or equivalent. Media Robotics I or Atmospheric Architectures and prior experience with Rhinoceros is preferred.

Requirements: Arduino USB board, personal laptop (PC or Windows capable Mac) is recommended.

Office Hours: Tuesdays and Thursdays by appointment.



Goethe defined morphology as the science of form (Gestalt), formation (Bildung) and transformation (Umbildung) in organic bodies. He laid the foundations for a systematic method for observing the relation between the outward appearance of things and the intuited processes that made them come about. This recognized form as unstable and conditional; the product of transformations performed on more primordial forms. Based upon this supposition we may propose to first observe the immaterial and the phenomenal as a fluid formal condition, one that is never static. Harnessing non-static environmental conditions then, may become a method to develop responsive systems that are contingent to the processes of their making.

The research agenda within this seminar will be focused on the potential agency of environmental sensing (temperature, humidity, light, air pressure) to generate form and structure. How can immaterial atmospheric conditions be incorporated into a formal design process? What are the affordances and shortcomings of tying real world data to more abstract formal explorations? What are its potential material ramifications? As the research moves forward, we will experiment and develop a critical stance on the connection between physical and digital computing as an instigator of formal study.

Students will focus on a local atmospheric condition by situating various sensors within a specific context to document a change in the condition over time. Depending on the chosen condition, the duration within which the data is collected will vary and become an important design parameter in the development of an architectural response to the studied environmental condition. Topics of study (within the parametric modeling environment) include surfaces, solids, systems, data visualization, modeling / fabrication, and physical computing (data collecting)

Class time will be held in workshop format and split into two sessions, one of demonstration and the other of hands on exercises. The digital toolsets introduced are Rhinoceros 4.0 (surface modeling), Grasshopper 0.6 (parametric modeling), and Arduino (physical computing). All design research and prototypes will be documented on the course website which will be continuously updated throughout the semester.