THE DATA MADE ME DO IT
STUDIO ONE BERKELEY ARCHITECTURE
The research theme for the year-long 2014-15 studio, The Data Made Me Do It, is predicated on the observation that the balance of agency in architectural design culture is not fixed, but rather is in a constant state of renegotiation. New technologies of design do not directly determine social relationships, but are among the network of actors in this space — designers and specialists, professionals and clients, software and users, data and drawings — that compete to shape the diffusion of design authorship and the social distribution of design work.

This reality has become especially apparent in recent years, as many cultures of design have embraced new and ever more sophisticated data-driven techniques, including parametric design generation, analysis, and optimization, while simultaneously experiencing major territorial shifts and challenges to their domains of practice. Developments in architectural simulation and high-performance computing have made available software that is at once accessible to designers and capable of effectively encapsulating specialist knowledge — thereby lowering barriers of entry, while simultaneously challenging the status of professionals. Similarly, new methods of fabrication and models of end-user programming have disrupted entrenched conceptions of the role of software tools in the production of architecture. Where advanced architectural fabrication was once the exclusive providence of a shrinking consortium of experts, we now find an expansive and heterogeneous landscape of designers, toolmakers, and machinists that suggest new models for the realization of architectural form that effectively synthesize these roles.

During the year-long 2014-15 studio, students have speculated on the creative potential of the hybrid, collective, and diffuse notions of authorship that have arisen in contemporary design practice. We found inspiration in the idea that design agency is increasingly located in neither human subjects nor non-human objects alone, but in the composite associations between them. The setting of Northern California, the world’s leading region in software development and innovation, combined with UC Berkeley’s leadership in building science and simulation, provided studio participants with a unique opportunity to forge radically new design paradigms.
LUDIC OFFICE
RULES, ADAPTATION & INSPIRATION
ICONS AND OCCUPATION
THE OFFICE ON THE STREET / THE STREET IN THE OFFICE
EXPLICIT DESIGN
ACCURATE REPRESENTATION THROUGH SIMULATION
GESTALT: A NEGOTIATION OF PUBLICS FROM HEARTH TO FIRE
SYSTEMATIZE DESIGN PROCESS
URBAN DISPLACEMENT AND ADAPTATION
GEOMETRIC GROUND
THE MACHINES IN THE GARDEN
ABOVE US ONLY SKY

Mustafa Ahmad
Yawen Hui
Kyle Johnson
Namju Lee
Qingzhi Li
Mohammad Momenabadi
Yuqing Nie
Eleanna Panagoulia
Wenzhe Peng
Shima Sahebnassagh
Yinuo Wang
Dairan Xu
Jianjia Xu
WURSTER HALL

PARTIAL FIRST FLOOR PLAN
SATURDAY MAY 9
STUDIO ONE REVIEW

10-1:15 Morning Session
108 Wurster
Kyle Steinfeld Coordinator

10:30 Above Us Only Sky
Jianjia Xu

11:00 Rules, Adaptation & Inspiration
Yawen Hui

11:30 Break

11:45 Geometric Ground
Yinuo Wang

12:15 Systemize Design Process
Wenzhe Peng

12:45 Gestalt: A Negotiation of Publics
Yuqing Nie

1:15 Lunch
2nd Floor Lobby
2-6:15  Afternoon Session
108 Wurster, Elevator Lobby
Kyle Steinfeld Coordinator

2:00  Accurate Representation through Simulation
Mohammad Momenabadi

2:30  The Machines in the Garden
Dairan Xu

3:00  Explicit Design
Qingzhi Li

3:30  Break

3:45  From Hearth to Fire
Eleanna Panagouli

4:15  The Office On The Street/The Street In The Office
Namju Lee

4:45  Icons and Occupation
Kyle Johnson

5:15  Ludic Office
Mustafa Ahmad

5:45  Urban Displacement and Adaptation
Shima Sahebanassagh
Guest Critics

MICHAEL BELL

Michael Bell is the Spring 2015 Friedman Visiting Professor at Berkeley Architecture and Professor of Architecture at the Columbia University Graduate School of Architecture, Planning and Preservation. At Columbia Bell is founding Chair of the Columbia Conference on Architecture, Engineering and Materials; a multi-year research program based at GSAPP and in coordination with Columbia’s Fu Foundation School of Engineering and Applied Science and the Institute for Lightweight Structures and Conceptual Design (ILEK) at the University of Stuttgart. Bell has taught at the University of California at Berkeley and Rice University, and held visiting professorships at the Harvard University Graduate School of Design, and the University of Michigan as the Saarinen Visiting Professor of Architecture. Bell was also a Fellow at the Joint Center for Housing Studies at Harvard University between 2011 and 2013.

Bell’s work has been exhibited at the Museum of Modern Art, New York, The Venice Biennale, The Yale School of Architecture, The University Art Museum, Berkeley, and at Arci-Lab, France. Bell has received four Progressive Architecture Awards, and work is included in the permanent collection at SFMoMA. Books by Michael Bell include Engineered Transparency: The Technical, Visual, and Spatial Effects of Glass; 16 Houses: Designing the Public’s Private House; Michael Bell: Space Replaces Us: Essays and Projects on the City; and Slow Space.

SHEILA KENNEDY

Sheila Kennedy is the recipient of the 2014 Berkeley-Rupp Prize. The Berkeley-Rupp Prize is awarded to a distinguished practitioner or academic who has made a significant contribution to promoting the advancement of women in the field of architecture, and whose work emphasizes a commitment to sustainability and community.

Kennedy received her Bachelor’s Degree in history, philosophy and literature from the College of Letters at Wesleyan University. Kennedy studied architecture at the Ecole National Supérieure des Beaux Arts in Paris and received the Masters of Architecture from the Graduate School of Design at Harvard University where she won the SOM National Traveling Fellowship and was graduated with Distinction. In 1990, she founded Kennedy & Violich Architecture (KVA MATx) in partnership with Juan Frano Violich. As an Associate Professor at Harvard’s GSD, Kennedy was Director of the M Arch II Program from 1991-1995 and is now Professor of the Practice of Architecture at MIT.
Chris Lasch, along with partner Benjamin Aranda, founded New York- and Tucson-based Aranda\Lasch in 2003. Committed to “experimental research and innovative building,” Aranda\Lasch’s projects are “multi-scalar and interdisciplinary,” operating at a wide range of scales from objects, furniture, and installations to buildings and landscapes. Aranda\Lasch was named one of Architectural Record’s 2015 Design Vanguard firms and one of Architectural Digest’s 2014 AD Innovators. They are also winners of the 2007 United States Artists Award and the 2007 Architectural League Prize for Young Architects + Designers. Aranda\Lasch’s work has been exhibited at The Museum of Modern Art, The Museum of Arts and Design, the Venice Biennale, Design Miami/, and Thyssen-Bornemisza Art Contemporary.

Chris Lasch received his B.S. in Architecture from the University of Illinois before receiving his M.Arch from Columbia University’s Graduate School of Architecture, Planning, and Preservation. He has also served as a visiting professor at Harvard University, Columbia University, Princeton University, University of Pennsylvania, and UC Berkeley.
The ubiquity of information technology has transformed the navigation of spaces at an urban scale, thereby forever changing the way we conceptualize the structure of cities. An analogous transformation at a smaller scale has yet to be realized, as we continue to conceptualize and design buildings from a pre-computational point of view. This thesis speculates on the potential of just this - what new forms of occupation might arise once we have shed the limitations of rational space planning and wayfinding? The contemporary office provides a programmatic context for the investigation.

The Taylorist office was organized by functional necessity, the Modernist office by an adherence to abstract formal systems, the Post-Modern Bürolandschaft office mirrored the social organization of the corporate structure which it served, while the contemporary Ludic Office conflates recreation and work. This project represents this latest conception of office space taken to its logical conclusion. Generative design plays a central role: producing a spatial intricacy not possible using manual methods.
In this project, the systems inherent in a rule-based design take the position of a prompt, an artifice to activate the imagination of a human designer. In creative work, rules and inspiration are often thought of as opposites. Rules bring to mind the objectivity of systems and the uniformity of a constrained set of results, while inspiration suggests the non-conformity and subjectivity of an independent mind. Beyond this superficial understanding, there lies a more in-depth link among systems, rules, adaptation and inspiration. The original inspiration can form rules, which can be concluded as objective system. The system can adapt to my architecture and further activate more inspiration. This can cast a profound and comprehensive effect on the development of architecture.
The monuments that litter our cities must be held to account. Too often, they do not serve the infrastructural needs of the public, but rather serve the private interests of privilege. Too often, they do not represent the industriousness of the city’s populace, but rather have come to be seen as boondoggles that benefit only the powerful. Too often, these public monuments are not in the interest of the public at all, but rather are some of the most irresponsible actors in the public sphere, contributing significantly to global climate change through inefficiencies of construction and operation.

There will come a time when the public asserts its ownership of these monuments, and corrects this misuse of resources through the means by which otherwise powerless publics have historically asserted themselves - through occupation.

This thesis speculates on the architecture of this occupation. The practical needs of these occupants are considered - from the equipment required for the appropriation to the configuration of a new form of settlement that forms over time - but so are their aesthetic and propaganda needs - from the conspicuous repurposing of wasted resources to a new aesthetics of efficient reuse.
This project reconsiders the space of office on streets, and the separation between the office environment and public place like streets in contemporary cities. The basic underlying problem is alienation between private workspace and public space on the street.

Street is important because it is (1) a social mixer, (2) historical depository, and (3) civic platform, those we lost in contemporary cities.

The project proposes a new typology of occupation that mixes space of street and spaces of work by calculating how we can bring this back together not only by moving the offices onto street, but also by moving the street onto the offices. Urban analysis calculate the urban dynamic, pattern, identification of site, giving from to intervention and detail of tectonics. After identification of sites, the module system populate on that sites.
The project consists of two parts, a headquarter office campus and the six satellite offices across the world. The massive project is mainly about a generative system which takes the data information from the site and by a series of setting rules we generate the outgoing forms of both the office space and the landscape. The massive project design is mostly coming from a horizontal way, however the six satellite office design goes vertically as it is always situated in-between buildings with a small scale. The satellite office design tries to keep the same forming logic from the massive project, in the meantime, it also moves forward to the parametric model. And by bringing in the climate energy data, I also got an opportunity to refine the satellite office design system and move toward "Net Zero Energy".
Shifting from drawing to general processing changed the world of architecture. Currently, however, the simulations of general processing most of the time are not trustable because they do not give us an accurate and real representation of the phenomena of space. Their simulations are too general rather than being specific for unique questions. Also, they are not context-based enough. They are not influenced by their specific site enough. Hence, those simulations will not tell us what will happen in reality. We need more truthful means to simulate the architecture.

Computational Design gives architects rigor for ensuring that the architecture is going to behave in a way that architects want it to be. This project is going to respond to a specific question in different contexts and represents an accurate performance simulation of building. Having the question and context in mind, I as an architect define accurate rules for computer to get the architecture, and then I manipulate the definition to get the most appropriate architecture out of the defined parametric simulation.

This project is concerned about Vision [question] which is really important for the health of urban spaces. Some of them operate at the level of city and at the level of internal city because vision is so important to make a good understanding for the application of computation and how should we get what we want as an architect.
Everyone has his or her own perspective regarding design. Some believe that this is the era for parametric design, while others believe that this is the era for tool driven design. In my opinion, I believe that human-inspired ideas best serve as the core of design. This type of human-inspiration cannot be simply replaced by data driven design. Formal design processes struggles to account for a quality of architectural design that are best left to human intuition. However they can be useful in these situations as a method of capture design intent after the design has been formulated.
“Architecture can be understood as a material organization that regulates and brings order to energy flows; and, simultaneously and inseparably; as an energetic organization that stabilizes and maintains material forms.”

Architectural design encompasses a shift from static schemas towards scenarios that integrate the fluctuating context of contemporary society. As architecture frequently tends to be addressed as a static medium, this project interprets architecture as a system that embraces dynamics, in order to perform both functionally and socially. This research aims to explore alternative methods that supersede the traditional methods of design, hence it takes on the realm of data-driven and rule-based design as modi operandi to position and integrate temporality in architectural design.
The age of computation is upon us. No longer can we shrink into the dark gilded corners of our addled discipline. It’s time to abandon the romanticization of the T-square and triangle, shake off our reliance on instinct and intuition, and accept the gifts of a more systematized approach to architectural design. Generative approaches to design have long been practiced in other industrial fields, yet still a new thing in the field of architectural design. Though design problem is the kind of thing that are less easy to stereotype, there should be certain ways to employ those techniques to aid the design process.

The research aims to explore the application of systemize design as a part of the workflow in an architectural design process. Either to the aspects that are more computable, so that I tries to optimize its application, or make an attempt to those that are more obscure.
The globalization of capital and the sharp rise in technical capabilities have produced major scaling effects in every aspect of social and economical factor. As architects who design for such societies we need to get evolved with technologies to be able to understand and author control on the relationships that we design for. As Tschumi suggests, architecture should be studied through the three axes of space, movement and event. He defines events as “a particular item in a program. Events can encompass particular uses, singular function or isolated activities”. When events are added to spatial sequence, they are not qualified independently but they construct a narrative that can be articulated through architectural language.
Space is referred to as being 'negative' and 'positive'. In my project, I place the building underground to use the negative space, and create a public park by using roof space. Courtyards are used as light wells to light the interior of the building. A parametric model guides this intervention: a one-story hexagonal space with a courtyard in the center, and functional divisions flanking. Based on climate data and energy simulation, the building can adapt to different climatic and contextual conditions - by changing the number and dimension of each aggregate unit, we may adapt this form to the geometry of the land; by changing the size of the courtyard and the area of the windows, the amount of natural light may be adjusted, by changing the included angle and the area shared by two overlapped units, we may influence the character of the outdoor space. This flexibility leads to a new form of adaptable architecture, an architecture better tuned to its context and less reliant on the consumption of energy.
Paradigmatic shifts in the means of industrial production alter not only the way that goods are designed, produced, and distributed, but hold social, spatial, and perhaps aesthetic implications as well for which architectural design as a discipline must confront. We have seen this to be true in the industrial revolution of the 19th century, the information revolution of the 20th century, and we may find this to be true yet again in the ongoing transformations related to new advances in automation and artificial intelligence.

This project aims to account for the potential new forms of architectural space that arise from the spatial requirements of autonomous machines, of the humans that interface with them, and the relationship between these two. In contrast with overly utopian or dystopian narratives of an increasingly networked society, this project speculates on practical ways in which the efficient logics of artificial intelligence and the humanistic interests of people might synergistically combine for mutual benefit.
The sky embodies hope. In a life full of disappointments, discarded dreams, and forgotten beliefs, a life of compromises that drag us down and drag us together, the sky offers us an uncompromised solitude. A pure and original hope that can drive us forward to a new way a living. A utopia of sky. With this in mind, I offer two projects - two meditations on the sacred sky.

The first project imagines a new form of city. All people there are to build a spiritual city of self-sufficiency. Following Coop-Himmelblau, this architecture “has no physical ground plan, but a psychic one. Walls no longer exist. Our spaces are pulsating balloons. Our heartbeat becomes space; our face is the façade.” In the service of this utopia, the city is cleaved into two parts, the profanity of the ground and the sacredness of the sky. Living in working in this new city is to dwell in the space between.