



AIA Detroit

A Chapter of the American
Institute of Architects

AIA Detroit Christopher Kelley Leadership Development Program 2018-2019 Cohort

Session 8: Future of Practice

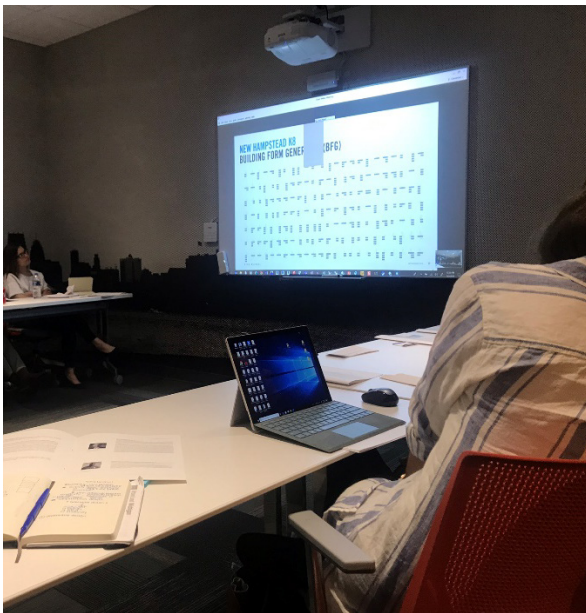
Date: 5/3/2019

Venue: AIREA Studio

Scholars: Zac VanOverbeke, Assoc. AIA and Leland Curtis

Session 8, titled “Future of Practice” explored the way the AEC industry is changing how they work, learn, and think as technology and digitization become common tools in practice. The presentation went into depth of how each speaker uniquely takes advantage of access to large amounts information and ability to easily manipulate the information through computational modeling, generative design, parametric model. The group projected how the process could provide solutions is challenges currently facing the industry.

Presentation #1 : What is the Future of the Practice by Tyrone Marshall (Perkins+Will)



Tyrone Marshall shared the work him and his fellow team members of the Perkins+Will Design Process Lab. The group researches and develops a new way of design thinking that takes advantage of software to better understand performance design. With the ability to run 32 simulation within 8 hours, performance design advances the abilities of designers to understand four major categories (daylight, energy, wind, and visibility) of each project. Software and process can be tailored to each project and challenge to focus in on specific design elements but overall Perkins+Will Design Process Lab shares their knowledge for free. The mindset of the group is that if more people are using these tools and process to design better and more efficient, the most likely we all our to reach the 2030 goals.

Presentation #2: U-Tube by Leland Curtis and ZacVanOverbeke

Youtube videos “*The Incredible Inventions of Intuitive AI by Maurice Conti*” and “*Autodesk Mars generative design*” describes our current age as the augmented age, pointing out our already heavy reliance on phones in our pockets to gather information and answer questions. Both explain the shift from passive to generative design as requiring pure logic to intuition, allowing a new partnership between designs and technology to create designs humans alone could not. After Maurice Conti’s video the group discussed if we agree or disagree with Maurice Conti’s argument and how we think generative design and machine



AIA Detroit

A Chapter of the American
Institute of Architects

learning could affect our day to day jobs. After the Autodesk video the group discussed two questions posed by Leland and Zac; what prevents you from learning and apply generative design and machine learning techniques? And do you see this as a risk or as an opportunity?



Presentation #3, Pecha-Kucha & Speed Dating

The introduction to presentation #3 started with a Pecha-Kucha style panelist introduction by **Dr. Richard Mistrick (Associate Professor of Architectural Engineering, Penn State)**, **Azubike Onyone (Design Computation Leader, inFORM Studio)**, **John Jurewicz (AIA, Leader of Technical Optimization, Walbridge)**, and **Ramon Corpuz (AIA, Project Architect, Smithgroup)**. Each panelist shared how they became leaders within

technology/digitization in the AEC industry and how they utilize it in their everyday tasks. A few shared success stories and lessons learned of projects that used computational design or other technology.

The cohort then divided into 4 groups, each group being assigned a panelist. Four questions were posed to the groups who were then given 10-15 minutes to discuss amongst themselves and report back out to the entire group. The topics included:

- 1. What emerging technology, computational modeling, parametric design, CAM, generative design, VR, AR, MR anything (can be something that we haven't talked about during the day) excites you the most and what are the opportunities that it presents?**

Response: There was a mix of what emerging technology excites people the most, but we all agreed that it's the ability to look at information quickly and manipulate it so that we can see patterns or solutions that weren't apparent before.

- 2. How is this technology currently being integrated? Are you seeing changes within your firm? We recently spoke about Architectural Students and studio culture: How are these disruptors going to alter/change design pedagogy?**

Response: Many people noted client-facing technologies such as VR/AR being used to share ideas or help clients who aren't familiar with the design world to visualize the design and give buy-in. Pre-construction software for clash-detection and BIM modeling is utilized to prevent field issues saving time, money and reputation. Data-mining provides opportunities to make better-decisions and track choices.



AIA Detroit

A Chapter of the American
Institute of Architects



3. Imagine it's the future and you have amazing AI to augment your design process. You are an air traffic controller, not a pilot. A conductor, not a composer. What kinds of tasks or workflows do you hope machines will augment? Conversely, what parts of your job do you hope they never replace?

Response: We hope machines replace all repetitive tasks in day to day tasks – such as placing room tags, naming consistency, etc. and all administrative tasks such as timesheets. Automating code analysis and responding to

RFI's would be great but also provides many issues. In broad terms, any task that allows the designer to spend more time on their real value which is understanding the clients needs and finding a solution.

4. Robots are coming, they will take your jobs, what will you do about it? Upskilling? Going back to school, digging into a niche? Do you want to control the robots? Are you even considering the AREs?

Response: Almost all groups noted that what differentiates designs from robots is our critical thinking abilities paired with human considerations (psychology, physiology, etc.). If robots were coming to take our jobs we would communicate our value of problem solving. This would require evaluating the current curriculum and what designers are told their role is. Possible rebranding of the profession to inform legislation or lean more towards environmental psychology.

Both presentation and the speed dating panel explored the current technologies that are within the field. As a group, we discussed where the technology is trending and how the profession can take advantage of the opportunities and challenges it presents to re-think our value and roles with the AEC industry.