A. Presentation of design submissions by alumnus Master of Ceremonies Stanley Britton
B. 1967 Stick-of-Office ‘hand-off’ from outgoing Senior Stick George Kneider (right) to incoming Senior Stick Ernie Walter (left)
C. Winning design submission by Rotterdam architect Tanner Merkeley, BEnvD ‘02, MArch ‘07
Undergraduate education in design schools can be a “pressure cooker” experience. Thus, it is a key function of the student-led Student's Architectural Society (SAS) to attend to the health and well-being of members. Energy draining recreation (Ditch Ball). Social shindigs (Beaux Arts Ball). Technology advancement (FABLab & C.A.S.T. technology fee). Academics (representation on Faculty Council). Peer-on-peer counseling. Astute pilotage is of essence. SAS leadership is a calling: unsung heroes who are inspirationally passionate, laboriously determined and out-of-the-box creative.

It is a longstanding University of Manitoba tradition to honour undergraduate leaders with the title of Senior Stick. G.M. Ritchie, BArch '35, was the first of 84 concurrent SAS office holders; BEnvD student Paula Sancho is the most recent. A specially engraved 1934 T-square stick-of-office is the symbol that marks ceremonial transfers of governance. The T-square bearing names and dates reached its stretch point in 1970, after which it was mounted on a wood plaque and an adjunct recognition plate added. The last inscription was in 1988. Thereafter the dusty archives of the John A. Russell Building became home, until rediscovered by Faculty communications officer Brandy O’Reilly in 2016.

A scheme partly inspired by Toronto architect George Kneider (1966-67 Senior Stick) led to the notion of renewing the “hand-off” tradition. Late in 2017, 40 former Sticks and the then-current SAS Council agreed. Partners’ Program – a representation of businesses employing former Sticks and many from the alumni cohort – offered to bestow cash honoraria to encourage current and former students to participate in a design competition to replace the original T-square or do an embellished refurbishment. Seven submissions were preference ranked by a keen inter-generational, geographically-dispersed, multi-disciplinary and gender-balanced mix of former Sticks. Designers included ED2 student Valentina Kolesnik (2nd runner-up), George Kneider, BArch ’67, Andrew Little, BArch ’71, ED4 student Stephanie Plouffe, ED4 student Andrew Simonson, Markian Yerenuik, MArch ’99 (1st runner-up), and Tanner Merkeley, BEnvD ’02, MArch ’07 TU Delft (winner).

The Merkeley design envisioned refurbishing the 1934-1970 T-square, fabricating a laser-inscribed names / dates / recognition plate (1934 to SAS Quasquicentennial 2059) and modifying a circa 1930s vintage Hamilton drafting table for use as a Centre Space lectern. Cash-financing was provided by the Faculty of Architecture Endowment Fund and alumni donations; fabrication was gifted by FABLab’s Jason Hare and School of Art studio technicians Keith Oliver and Shelley McCafferty.

Rededication took place during the evening of April 20, 2018, as a programmatic insert to the Year-End Exhibition – an affair that was well-attended despite a Winnipeg Jets NHL playoff distraction. Douglas Massie (1969-70), the last of the T-square’s inscribed Sticks, formally “handed-off” the refurbished stick-of-office to outgoing Stick Mackenzie Swope to, as he said, “Let the tradition continue!” To which Mackenzie replied: “Assuredly so!” Alumni recognition long over do.
The annual Ditchball Tournament is a well-known tradition within the Faculty of Architecture at the University of Manitoba. This game was established forty-one years ago and has become an event that defines the faculty’s sense of passion and spirit. In the midst of deadlines and never ending studio work, Ditchball serves as a fun escape from the students’ responsibilities, at least for one day. Ditchball consists of a student designed and constructed snow ditch that is located on the Faculty’s grounds. The game entails two ten-player teams that aim to score a goal with the legendary stuffed rhombicuboctahedron. Although Ditchball was introduced as a way for students to have fun, it quickly has proven to serve as an event that encourages the Landscape + Urbanism, Interior Design, and Architecture streams to collaborate and ultimately create a sense of unity within the Faculty. The tournament has become one in which the Faculty of Architecture acts as an entity and strengthens its identity and values. Ditchball is also an opportunity to encourage creativity and take pride in Winnipeg’s tough winters! Ultimately, it is an event that the faculty is proud to continue and pass over to the following year as a way to connect over a common passion.

For videos and more information visit umanitoba.ca/faculties/architecture/ditchball
Student ambassadors are meaningful and engaged students who play an integral role in volunteering their time to promote the faculty. Selected students become the “face” of the Faculty at various events and serve as a strong link between their academic program and prospective students as well as the community. In addition, they act as the support team for events within the Faculty.

The 2017-2018 ambassadors were (from top left to bottom right):
Eugenia Amoako
Kara Boboski
Madeleine Dafoe
Marina Herscovitch
Leah Kornishon
Katelynn Schutz
Rachael Teichroew

*not pictured*
Andrea Doussis
Sulah Kim
A re-introduction
C.A.S.T.

the centre for architectural structures and technology (C.A.S.T.)| For those that are not already acquainted, The Centre for Architectural Structures and Technology facility is unique in Canada, specifically designed to support a vision of architectural education and research grounded in shared acts of making. The Centre supports researchers who are interested in investigating structures and building technologies using a wide range of fabrication processes. Since its inception, C.A.S.T. has sought to explore new boundaries for creative thought, design, and building technology at a variety of scales. Projects have included physical explorations of materials, tools and building methods, as well as the free play of imagination.

Recently, the Centre has seen some exciting changes. A C.A.S.T. Committee was formally established to engage and further activate the facility. As part of this reactivating agenda, Architect Liane Veness (MAA, RAIC, LEEDAP) was hired as C.A.S.T. Coordinator / Technician to oversee the operations of the facility and to facilitate new and ongoing material and technological research projects and teaching activities.

Building upon the reputation and potential of the facility to promote new research directions from the best researchers in the field, the C.A.S.T Researcher in Residence program was also reestablished in January 2017.

Inaugurating the reestablishment with Emanuel Jannasch, a Senior Instructor from the School of Architecture of Dalhousie University, whose research of non-funicular masonry structures defied physics. Building prototypes of non-funicular antidomes that have been identified as “possible” but that have yet to be realized and tested until now.

Financed in part by the Faculty of Architecture Endowment Fund and in part by the Partners Program, the C.A.S.T. Researcher in Residence initiative continued this past term, offering two fully funded positions for both the fall and winter terms. Inviting Myung Duk Chung, a recent graduate from the Massachusetts Institute of Technology Graduate School of Architecture and Dustin Wiebe, who has his Ph.D. in Ethnomusicology.

All three researchers in residence have brought unique skills and outstanding expertise to C.A.S.T. offering lectures and participatory workshops to the faculty as well as the professional community.

This initiative continues to invite high quality research and teaching talent who benefit from the use of the facility and who would bring world-class perspectives to our university to benefit both faculty members and students.

Further to the Researcher in Residence initiative, C.A.S.T. has expanded its presence with the completion of an updated website; umanitoba.ca/faculties/architecture/facilities/cast.

C.A.S.T. coordinator Liane Veness was the co-chair for the Atmosphere 10 symposium this year, which took place last February. Aligning with the C.A.S.T.’s mandate; Atmosphere 10 explored the theme of Fabrications. This manifold theme successfully attracted researchers from diverse disciplines into an open but topically oriented exchange. Promoting the C.A.S.T. facility to an audience of both academics and professionals alike.

A C.A.S.T. stakeholders committee, comprised of industry professionals and practitioners was also formulated this past year. This goal of this initiative was to attract and encourage collaborations with practitioners as well as the construction industry interested in researching new and advanced construction methods centering on sustainable modes of fabrication.

Moving forward into the 2018 / 19 academic year, with the support of the Faulty, and the Partners Program, C.A.S.T. will continue to provide a space for cross-disciplinary and public / private collaborations between researchers in the Faculty of Architecture and others. Building local, regional, national, and international networks of scholars and industry professional doing building-based research that aim to better serve our students, researchers, industries, the public and our planet.
2017 C.A.S.T. research in residence, senior instructor from the school of architecture of Dalhousie University | During his appointment at C.A.S.T. in the winter of 2017, Emanuel Jannasch was able to execute several non-funicular forms. The principals of which, defy the catenary hanging chain paradigm that begins with Hooke and Poleni and that underlies the computer-aided funicular form-finding which has governed structural thinking for centuries. Furthermore, they explain some of the pre-enlightenment, non-European, and vernacular precedents that in the words of John Ochsendorf “defy the known laws of structural mechanics”.

The prototypes that were built in C.A.S.T. resulted in forms that Jannasch had already envisioned, however presented some totally unexpected forms which led to very thought-provoking quantitative results that would be of interest to practitioners and researchers in both Architecture and Engineering fields. Following his research term at C.A.S.T., Jannasch has presented the observations from his research at the international 13th Canadian Masonry Symposium. An event of considerable scope and stature, and is only one in a cycle of four international masonry conferences.

Jannasch is also preparing to publish the results in the Journal of the International Association of Shell and Spatial Structures as well as present a lecture at the ICSA 2019 this coming July.

emanuel jannasch
myung duk chung

2018 C.A.S.T. visiting researcher, humanscape: malleable interface, | Human scape is a collective project with students participating in C.A.S.T workshop series. It focuses on the design of meaningful interactions between human and materials by exploring interactive architecture through cross-disciplinary research and making. Malleable and flexible spatial interfaces have the potential to enable new forms of interaction and expressiveness through flexible materials and computational sensors. By taking materials of architecture, students explore how the behavior of users can interact with spatial recognition. This project is specifically developed by Architecture, Environmental, Art, and Computer Science students with different discipline and development of new kinds of interdisciplinary practices. Integrating in sensing technology of computer vision library, processing computer programming, and architectural space as well as materiality, students research the relationship between space and performance of audience, thereby providing the users with a thoroughly immersive experience.

Facing a challenge to new prototypes of architecture, user experience, and technology, it exposes us to a unique design inquiry.
During the 2018 winter semester I was pleased to be a Researcher in Residence at C.A.S.T. My research can be broken down into two parts, each dealing with the potential of musical instruments to resonate or transmit information. The first explores the spatial, physical, and sonic properties of material culture, specifically the metalophones that comprise a core component of many Balinese gamelan ensembles. My second research objective is to explore the social potential of instruments to communicate (and possibly miscommunicate) ideas and information within and between social groups / networks.

Since the 1960s, groups and individuals throughout the world have modeled “homemade” Indonesian gamelan instruments to suit particular social and visual / aural aesthetic contexts. The instruments constructed at C.A.S.T. are firmly embedded in this tradition. I referred to the Harrison / Colvig treatise on gamelan construction (1983) in the early stages of research. Choosing to craft the instrument keys from aluminum was based on my experience performing on a set of well-crafted Harrison / Colvig instruments in 2015. I fabricated keys from 6061, flat-bar aluminum and with the assistance of the FABLab’s CNC router. I then fine-tuned them with an angle grinder and hand files. All eight instruments comprising the final set will be tuned according to the Balinese musical mode selisir.

I began the building component of this project understanding that its completion would only be the beginning of a new (second) phase of inquiry, one with a much longer and broader scope. In particular, I was interested in documenting the varieties of social interactions that may be catalyzed and sustained by the presence of a musically active Balinese gamelan ensemble in Winnipeg. The opportunity to foster this sort of cross-cultural musical dialogue has, since the beginning of the residency, been bolstered by the support of a Canada Arts Council grant. This funding will support the cost of bringing eight Balinese musicians and dancers to Winnipeg during the fall semester (2018) for a series of concerts and workshops, including a multi-media event at C.A.S.T. exploring the theme of “light and shadows.”

1. the term gamelan applies to a family of instrumental ensembles found throughout Indonesia and Malaysia, most of which are comprised of some combination of gongs, metalophones, drums, and bamboo flutes.
warming huts

chad connery & eduardo aquino,
future memory of a bridge |

Pontagon is a collaboration by the Environmental Design and Architecture Masters Preparation programs, facilitated by the instructors Eduardo Aquino, Chad Connery, Terri Fuglem, and Liane Veness, representing the Faculty of Architecture at the 2018 Warming Huts Art & Architecture festival at The Forks in Winnipeg, Manitoba. The team is comprised of the 4 foundation year architecture studios including 40 students. In past iterations of the project, teams have endeavored to explore an immense range of imaginative possibilities for notions of “warming hut” on the frozen surface of the Red River. The 2018 design team was provided with a unique opportunity to collaborate with the City of Winnipeg. The design team was given the task of generating a hut that could act as a public provocation of the future Osborne to Downtown Walk Bike Bridge, which is currently in its public consultation and engagement phase.

Pontagon is a hybridism generated from the words pentagon (five-side polygon; gon as in angle) and pont (bridge in French), to designate a five-part bridge conceived in angles. A more specific program and site provided a sharp departure from the usual modular format and warmth specific program of the International Warming Huts competition. Instead, the team was engaged in a dialog of connection, conversation, and multiplicity. The design team’s process was a focused discussion of fire, light and auditory or visual stimulus as phenomena that might act as connective agencies. The idyllic gathering place of a fire pit, the image of warmth, and the legibility of that image at a distance motivated studies of reflection, projection and color as possible design tools. Through a research process and iterative modeling, the design was proposed as a distillate of the following phenomenal criteria:

1. Dichroic reflective / projective surfaces / Using laminated with dichroic film, Pontagon’s surfaces both reflect the changing image of the visitors that surrounds it and project a range of chromatic emanations across the surface of the ice. Through the day it both reads its context and alters that reading by projecting itself from shore to shore.

2. Fragmentary geometry / The huts exemplify a kind of fragmentary geometric condition. Partly wind walls, partly ice forms, they evoke notions of incompleteness, improvisation, and ruin. The ambiguous identity of the resultant group of huts is simultaneously anonymous and iconic; a curiosity.

3. Multiplicity of form / Pontagon is not a singular unit, but a collection of shelters. It is intended to read as both village and a plaza, acting as a node of activity along an otherwise linear skating trail. The plaza offers temporary respite and the opportunity for play and dialogue.

“In the modern city, phenomenal and experiential complexities develop only partially by intent. More frequently, they result accidentally from the semi-ordered, yet unpredictable, overlapping of individual intentions.”

- Steven Holl, Questions of Perception
Pontagon does not behave as a simulacrum for a bridge, but rather as a catalyst for connections. Phenomenal provocations, causal relationships, and a modular arrangement mirror the complexity and richness that acts of bridging are capable of. Competition organizer and local architect, Peter Hargreaves cleverly suggested to the design team at the outset of this project that our hut might function as a “future memory for a bridge.” This clever, if slightly paradoxical, suggestion provided a surprisingly apt impetus for the work in retrospect. If one could confirm that there is a strategy to achieve a design intention, that intention is not fully attained until one goes through the actual experience of the space. Geometric shapes and the use of light affect the environment and the perception of passers-by; however, its intangible qualities produce unanticipated experiences for each individual. This is absolutely the case with Pontagon. If Pontagon intended to make the screen structures “disappear” emphasizing the spatial qualities of the projected colours against the ice it was the dream-like phenomenon of dichroic light and colour being simultaneously filtered and reflected that created a virtual and ephemeral space of the bridge, and the intimate connections to the visitors. This virtual or ephemeral phantasm bridge is what becomes such a surprisingly effective “future memory.”

“Every situation has qualities. Essentially, we quantify them and that’s the practical side of our lives, so the involvement with perception and in acquiring the perception is our ability to understand qualities. They exist only as long as a human being keeps them in play. Therefore they are akin to energy... Whenever you look at light, basically it’s just air. It has no tactileness to it. It’s totally without density.”

-Robert Irwin
First year success for Cooperative Education

Lisa Landrum | The Faculty of Architecture’s Cooperative Education / Integrated Work Program option (Co-op / I) is now in full swing. Sixteen students earned job placements in summer 2018 with employers in Winnipeg, Selkirk, Toronto, Edmonton, Victoria, and China.

Thanks to the collaboration of employers and competence of students, these work terms are helping to cultivate the next generation of design professionals. Returning students will invigorate life and learning in the Faculty of Architecture.

Designed to complement and enrich academic study with work experience, the Co-op / I Program was developed in response to alumni and student comments, including feedback from a 2017 Architecture Alumni Survey and a 2016-2017 Undergraduate Student Experience Working Group. The program also responds to the University of Manitoba’s strategic planning priority of “Inspiring Minds” by increasing opportunities for experiential learning.

By many measures this pilot year has been a great success, as the testimonials from students and employers illustrate. During mid-summer meetings, we repeatedly heard how impressed employers were with the caliber of applications and portfolios, and with the hard work, strong skills and versatility of students.

While every keen and able student who applied to the Co-op / I Program did not secure a summer placement, everyone gained greater awareness of opportunities and participated in career-development workshops. We exceeded our goal of 12 student placements and, through dialogue with employers and students, are strategizing improvements for the coming year.

The Cooperative Education / Integrated Work Program option is open to any Faculty of Architecture student in good standing who has completed 85 credit hours of University studies. This includes ED3 and ED4 students in the last two years of the undergraduate Environmental Design program in any option – Architecture, Interior Environments, or Landscape + Urbanism; and students in the Architecture Master’s Preparation stream (AMP1 and AMP2). Graduate students in all four professional programs – Architecture, City Planning, Interior Design, and Landscape Architecture – may also participate in work terms.

The Faculty of Architecture’s Co-op / I Program meets the province of Manitoba’s definition of Co-op, making employers eligible for the Manitoba Paid Work Experience Tax Credits.

Hire a student for summer 2019? To find out more about the Cooperative Education / Integrated Work Program, visit the Faculty website or email us at faumcoop@umanitoba.ca.

“The Co-op program is a great opportunity for the university and the profession to connect. Grounding students with real-world scenarios can be a huge eye-opener and by no means does this diminish the exploration offered through their academic experience. Similarly, it’s a great opportunity for practitioners to be reminded about where they came from and that architecture is most fruitful when ideas and exploration are integral to the practice.”

— Glen Gross, Architect 1x1 Architecture Inc.
Thank you to the participating employers (and students) in this pilot year:

**In Manitoba**
- 1x1 Architecture Inc.
  - Jason Wall
- BLDG Architecture Office Inc.
  - David Lang
- Brown & Sons Construction, Selkirk
  - Jesse Dueck
- EQ3 Ltd.
  - Connery Friesen
- Kindret Landscaping Inc.
  - Henry Chukwu Amogu
- Number TEN Architectural Group
  - Jessica Leon D’Toste and Lissi Ranta
- University of Manitoba, Collaborative Research Program / Lancelot Coar
  - Violet Zhiyu Jiang
- University of Manitoba, Faculty of Architecture Partners Program
  - Madeleine Dafoe

**Elsewhere in Canada**
- D’Ambrosio Architecture + Urbanism, Victoria
  - Elmira Sanati Nia
- Alberta Infrastructure, Technical Services Branch, Edmonton
  - Bianca Dahlman
- Stantec Architecture Ltd., Edmonton
  - Katelynn Schutz
- Urban Strategies Inc., Toronto
  - Jessica Miranda

**China**
- Beijing Institute of Architectural Design / Zhuxiaodi Architects
  - Siyuan Li and Chenqu Zhao
- HPP Architects, Shanghai
  - Yang Peng

“The Co-op program has given me the opportunity to build relationships with architects and designers outside of Winnipeg. Being a member of Stantec in Edmonton this summer has been essential to my education and has changed the way I approach design…”

— Katelynn Schutz
Stantec Architecture
Edmonton
Warehouse is a non-profit journal established in 1992 that showcases the yearly work of students and staff from the University of Manitoba's Faculty of Architecture. The publication is devoted to the critical pursuit of design discourse and the greater application to various collective communities.

"Do we publish to exist, or do we exist to publish? Has architecture's affinity for the printed media directed the current discourse, or has it proven solely as a mechanism to validate our uncertain existence?"

- Foreword from Warehouse 01

The journal reflects, engages and extends ideas from within the various departments that fall within the interdisciplinary vision of our Faculty. For more information, and to read past editions, visit: www.warehousejournal.org
The Warehouse Journal began in 1992 when a small group of students had the desire to represent the developing student perspective within the University of Manitoba’s Faculty of Architecture. This endeavor began as a simple curation of work from multiple departments within the faculty with a focus on creative visions and the desire to explore, learn and play.

Now in its 27th year the Warehouse Journal is a highly regarded publication not only within the faculty but throughout the design community. Warehouse continues to exhibit and celebrate the accomplishments of both theory and practice and in a professional learning environment.

Warehouse Journal has been recognized in the design community in many capacities, including recognition from The Manitoba Book Awards and The Alcuin Society Awards. The Warehouse Journal can be found at McNally Robinson, Forth, MAKE Coffee + Stuff and more.