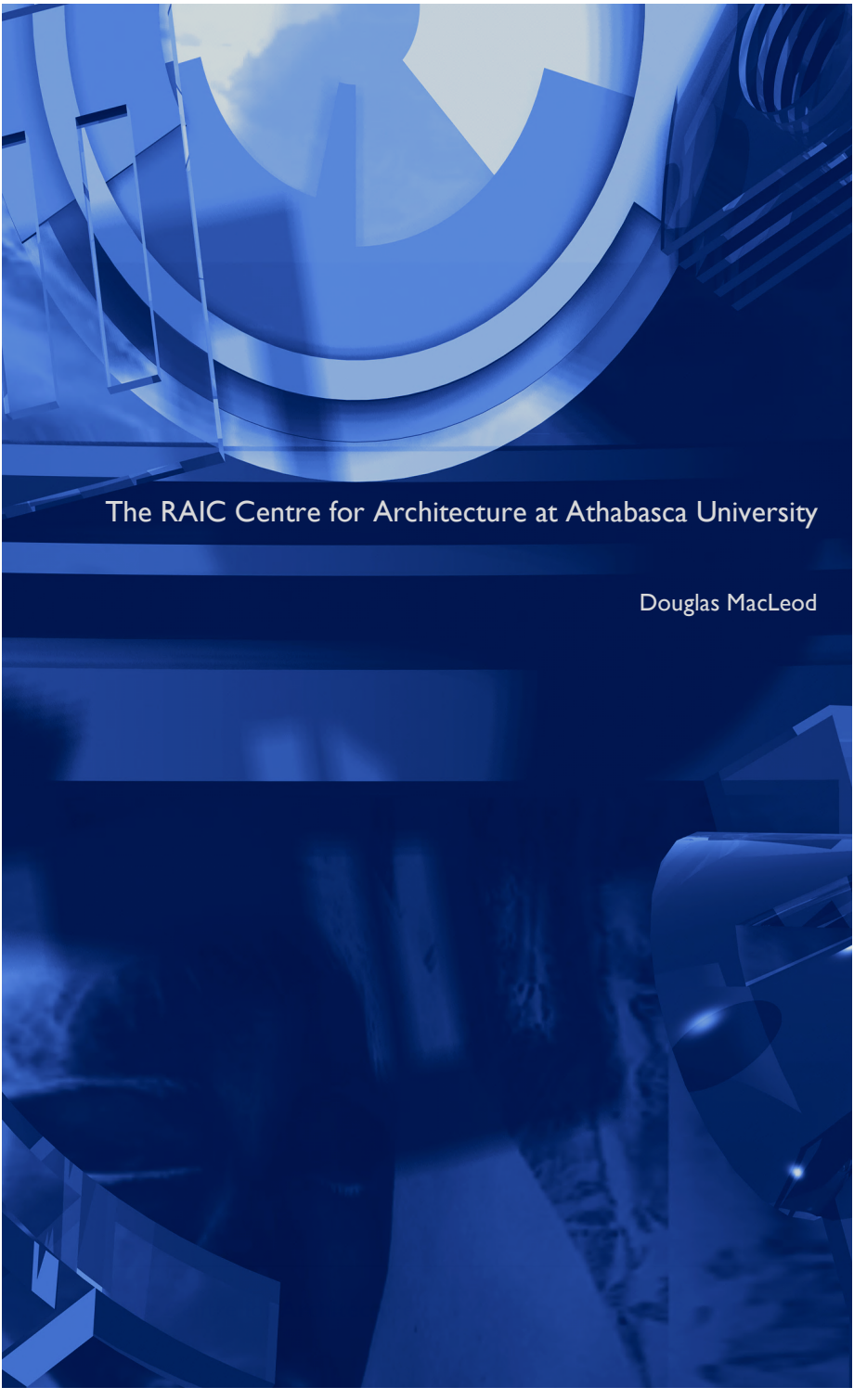

The RAIC Centre for Architecture at Athabasca University

Douglas MacLeod

Athabasca University

RAIC Centre for Architecture

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This e-booklet is freely available for downloading at
http://architecture.athabascau.ca/publications/index.php

BACKGROUND

The RAIC Centre for Architecture at Athabasca University is Canada's first online program of architectural education. The Centre was launched in 2011 and is a partnership between the Royal Architectural Institute of Canada (RAIC) and Athabasca University. It helps deliver the renewed RAIC Syllabus and has its own credentials as well.

THE RAIC SYLLABUS

For the RAIC, the Centre delivers the academic components of their Syllabus Program. The Syllabus program combines 9 face-to-face studios (in major cities across Canada), 9800 hours of work experience, and 19 online courses (now delivered through the Centre). Students who complete the Syllabus program are awarded the RAIC Syllabus Professional Diploma in Architecture and can then apply to the Canadian Architecture Certification Board (CACB) for individual assessment and certification and eventual licensure by their relevant provincial/ territorial regulatory authority.

The Syllabus is highly regarded by Canadian architects. In 2013, the Canadian Architectural Licensing Authorities commissioned a Practice Survey of over 500 Canadian architecture firms. Syllabus students were ranked third among all Canadian schools of architecture by employers, in terms of their satisfaction with the skills and knowledge of the graduates.

The key features of the Syllabus are:

- An Alternative Pathway: The RAIC Syllabus constitutes an alternative path to professional licensure as an architect in Canada
- Work/Study: In the Syllabus program students can keep working while studying
- Upgrading: The Syllabus is a pathway for working students to upgrade their educational and professional credentials
- Scope: The renewed Syllabus program can serve students in any province or territory in Canada and even in other parts of the world

Students who are interested in this program should first register with the RAIC. For more information or to register for the Syllabus please visit:
http://www.raic-syllabus.ca/home

ATHABASCA'S ARCHITECTURAL DEGREES

In addition Athabasca University now offers both a Bachelor of Science of Architecture (BSc. Arch) and a Post Baccalaureate Diploma in Architecture (PBDA). The BSc. Arch consists of 7 virtual studios and 28 online courses. The PBDA consists of 3 virtual studios and 5 online courses. For more information about these credentials please visit: http://architecture.athabascau.ca/

TRANSFER CREDIT

Students who have successfully completed a diploma in an area such as Architectural Technology may be eligible for transfer credits up to:

- 12 credits towards the academic courses in the RAIC Syllabus Professional Diploma
- 42 credits towards the Bachelor of Science (Architecture)

VIRTUAL STUDIOS

Athabasca University is now pioneering the use of virtual or online design studios. These studios are offered twice a year for about 13 weeks each. Students meet with their instructors (and each other) on a weekly basis through Athabasca's videoconferencing system. The studios are taught by licensed Canadian architects and have proven both popular and successful. Some students prefer them to the face-to-face studios. For more about this innovation please see the report on the Virtual Studio Pilot Project which is available for download at: http://architecture.athabascau.ca/publications/index.php

Figure 1: Student Nina Champagne, RAIC 350 Virtual Studio, Simple Habitat

KEY FEATURES OF ATHABASCA'S COURSES

Advances in telecommunications are revolutionizing the way students learn. To keep pace with this new world of education, the Centre's courses incorporate a variety of innovative online tools, including quizzes, galleries, polls, blogs, videos and models.

Moreover at the Centre students can start an academic course in any month of the year. In effect students can work on their academic courses anytime, anywhere; and through its Learner Support Services, Athabasca University is making architectural education more accessible and inclusive.

QUALITY ASSURANCE

The programs and courses offered by the Centre have been designed to meet the standards of both the Canadian Architectural Certification Board's Conditions and Procedures for the Certification of Educational Qualifications and the Canadian Degree Qualifications Framework.

In addition, each course has been designed and checked by a team of experts that includes:

- A subject matter expert (usually a registered architect or engineer)
- An instructional designer
- An editor
- A visual designer
- Copyright experts
- A production team to transfer it to the web

PROGRAM GROWTH

The Centre has demonstrated exceptional growth in a few short years. Its various programs now serve over 600 students in 17 countries – although most of its students are in Canada. This makes it one of the largest undergraduate architecture programs in the country.

ACCREDITATION?

Student should note that Athabasca's degrees are not accredited. Accredited means a school of architecture has been reviewed by the Canadian Architectural Certification Board (CACB) and they have approved its program of education as adequate preparation for its students to apply to become licensed architects. Accredited Masters of Architecture (M.Arch) programs are offered at a variety of universities across Canada.

On the other hand, Athabasca's BSc. Arch. has been designed as a pre-professional degree and as such may be accepted as an appropriate undergraduate degree for entry into an accredited Masters of Architecture program at another university.

For more information about becoming an architect in Canada, see our publication, *Becoming an Architect*, which is available for download at:
http://architecture.athabascau.ca/publications/index.php

RELATED CAREERS

Even without becoming a licensed architect, Athabasca's degrees and diplomas can prepare you for, and lead to, a wide variety of career opportunities in the field of design. Some of these are shown in the diagram below:

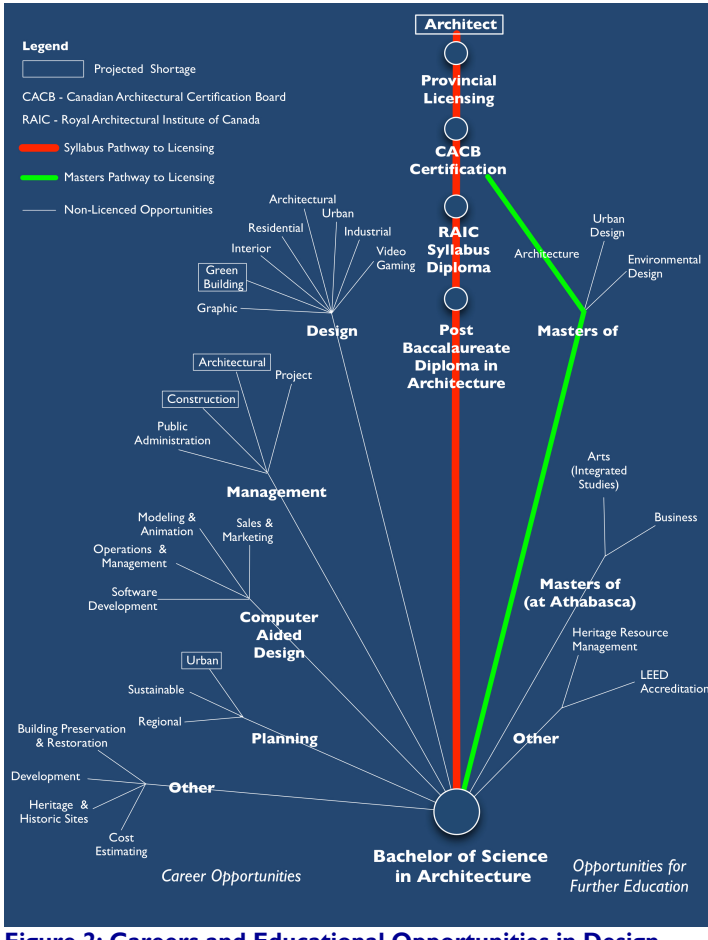

Figure 2: Careers and Educational Opportunities in Design

RESEARCH

As part of its growing research strategy, the Centre is exploring two major themes:

- Sustainable or Regenerative Design
- Virtual Design

Through three research projects:

- The Living Architecture Systems Group
- The i@home Sustainable Building Science Workshop
- Immersive Learning Environments

Each of these is described in more detail below.

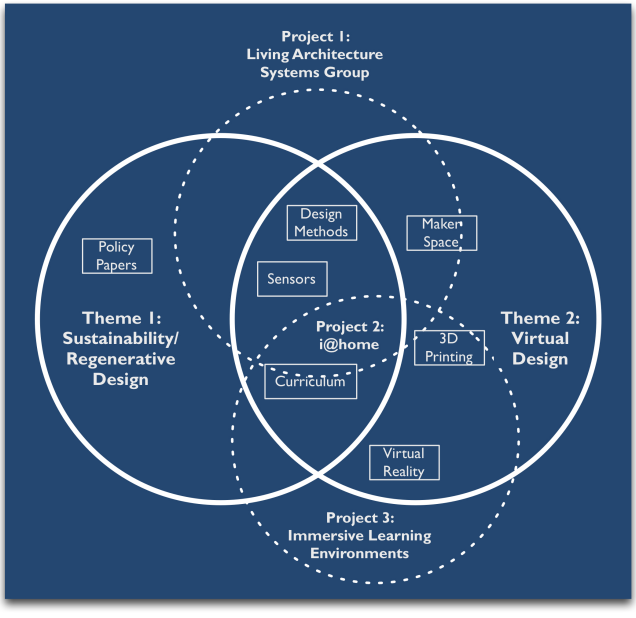

Figure 3: The Centre's Research Plan

RESEARCH THEME 1: SUSTAINABLE OR REGENERATIVE DESIGN

Regenerative Design is the idea that our buildings can make a positive contribution to the environment by, for example, generating more energy than they consume and purifying more water than they use.

To inform this work, in March of 2014, the Centre co-led (with Simon Fraser University) an industry-focused working on Building a Research Agenda for Next Generation Green Buildings. The workshop participants identified 5 research needs or themes that should be addressed as part of a Canadian strategy towards leadership in green and sustainable buildings and as a means of reducing greenhouse gas emissions. These were:

1. The development of innovative products and materials for healthier, safer and more sustainable buildings
2. New information and communications technologies for green buildings for metering and monitoring building performance and occupant behaviour
3. Retrofitting, managing and operating existing building
4. Policy Development
5. Sustainable Northern Housing

In particular, the Centre is exploring information technologies such as sensors to monitor the performance of buildings and has an ongoing project of wired and wireless sensors in the Ethel Lane House in Kelowna, British Columbia.

RESEARCH THEME 2: VIRTUAL DESIGN

Today, design can take place anywhere at anytime and as such design has become virtual. Countries that embrace the concept of virtual design will have a competitive advantage in the global marketplace. To enhance Canadian productivity and innovation, this project will develop a platform for the virtual design studio.

As shown in the diagram below, the opportunities to be explored for this platform include (but are not limited to):

- Cloud Computing
- Online Repositories
- Mobile Devices
- Building Information Modeling
- 3D Printing
- 3D Scanners
- Wireless Sensors
- Apps
- Immersive and large scale displays

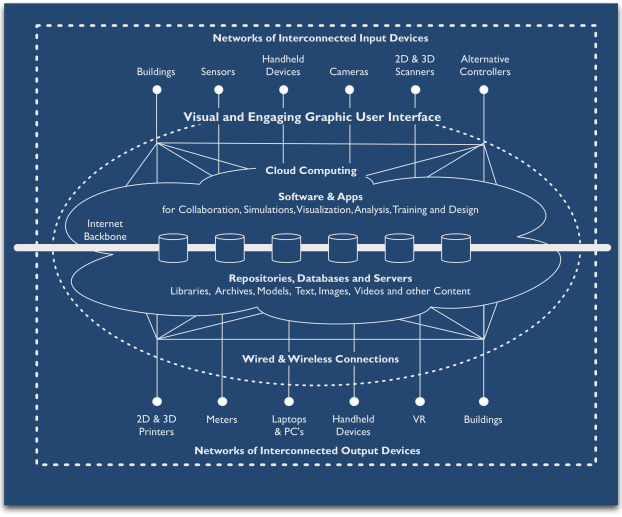

Figure 4: The Components of Virtual Design

RESEARCH PROJECT 1: LIVING ARCHITECTURE SYSTEMS GROUP

The Living Architecture System Group (LASG), of which the Centre is a part, received $2.4 million from SSHRC in September 2016. The LASG is a multidisciplinary research cluster that is developing environments that can move, respond and learn.

Over the course of this 6 year project, the Centre's work will focus on developing conceptual paradigms, curriculum models and design methods that will equip new generations of students with innovative approaches and concepts to analyze and design complex systems.

For more information please visit:
http://livingarchitecturesystems.com/

RESEARCH PROJECT 2: I@HOME, THE SUSTAINABLE BUILDING SCIENCE WORKSHOP

Buildings make a significant contribution to greenhouse gas emissions yet the means exist to dramatically reduce their energy consumption and these emissions. This international workshop brought together students and faculty in Mexico, South Africa, Tanzania, the United Kingdom and Canada to explore best practices in this field.

Students met virtually three times during the period from September to December 2016 using the teleconference and videoconferencing facilities provided by Athabasca University. The workshop also used Trello (free social media networking software) to allow students to interact between sessions; and it used MatchBox Energy software to allow them to compare the energy efficiency of their projects.

Funding for this project has been provided by the government of the province of Alberta in Canada through their i@home (or Internationalization At Home in Science Education) program.

Participants

The following institutions were partners in this project:

- Tecnológico de Monterrey, Mexico
- Cardiff School of Art & Design
- Department of Architecture and Planning, Faculty of Engineering and the Built Environment, at the University of the Witwatersrand
- RAIC Centre for Architecture at Athabasca University

The following map shows the location of the participants. Note that one of the teams from Tecnológico de Monterrey participated from Dar es Salaam, Tanzania.

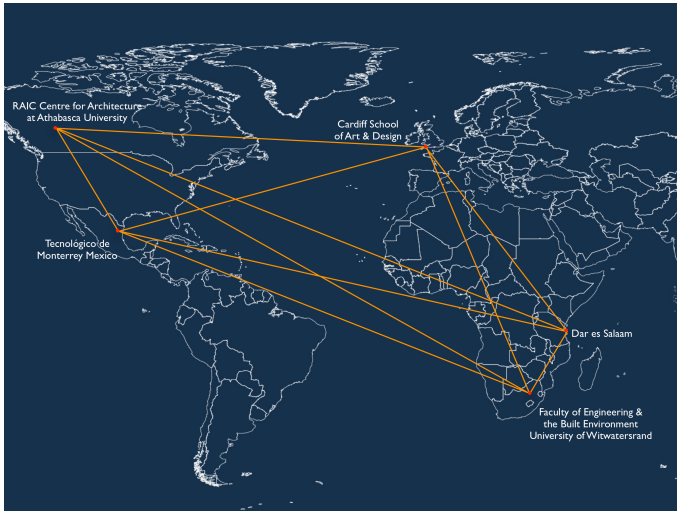

Figure 5: Global Participants

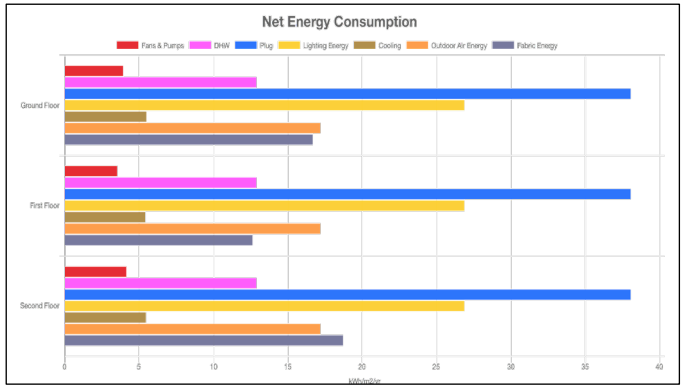

Figure 6: Matchbox Output (James Foxhall, Cardiff School of Art and Design)

RESEARCH PROJECT 3: IMMERSIVE LEARNING ENVIRONMENTS

Immersive Learning Environments (ILE) are three dimensional, interactive spaces for education. An ILE surrounds the learner and allows them to interact with the "physics" or behaviours of the lab, building, city, or world they are visiting.

The main elements of this initiative are to establish an interdisciplinary research and commercialization network that provides researchers and private sector partners with the tools and resources to create a platform for creating virtual learning environments.

To this end, the Centre is collaborating with Dr. Robert Heller of the Centre for Social Sciences on a SSHRC Insight proposal called "Pedagogical agents, virtual worlds, and on-line learning." The Centre for Architecture will assist with the modeling of the virtual environments.

FOR MORE INFORMATION

For more information please feel free to contact:

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