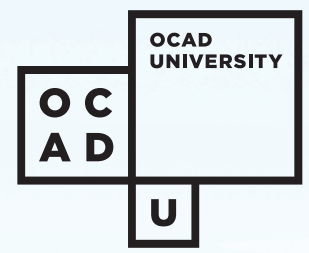# OCAD UNIVERSITY

## DIGITAL CAMPUS STRATEGY
## 2017 - 2022

OCAD UNIVERSITY

*OCAD University acknowledges the ancestral and traditional territories of the Mississaugas of the New Credit, the Haudenosaunee, the Anishinaabe and the Huron-Wendat, who are the original owners and custodians of the land on which we stand.*

Tennis and Mason Studio, *Fall of the Walled Garden*, 2014.
Photo by Sarah Mulholland.

*We seek and respond to the questions of our time to enrich our disciplines and act as transformative social, economic, environmental, and cultural agents.*

OCAD U Mission Statement

*Designers and artists working with digital media have a fundamental role to play in the data era, and OCAD U is committed to delivering a curriculum that equips our students with the knowledge, skills and critical abilities to be leaders in this constantly evolving facet of our personal and working lives.*

OCAD U Academic Plan

*Innovation* and *Service* are foundations of OCAD University's Digital Strategy. These mutually dependent and equally important components encompass an integrated technology strategy. High quality and effectively delivered service creates an environment that builds capacity to drive innovation. Innovation in turn creates new services and tools through creative exploration of new and disruptive technologies.

The OCAD U Academic Plan describes the University as a 'learning laboratory,' highlighting specialized and integrated physical and virtual environments as integral to transformative education. The university's ongoing expansion and campus revitalization will provide substantial opportunities to design and future-proof IT infrastructure to support this vision and the many traditional, new and yet to be discovered technologies that will connect to it.

OCAD U will create a flexible, innovative and inclusive studio and learning environment by resourcing, supporting and engaging a creative community that serves as a model and incubator for adoption of technology in the 21st century.



Patrick Dougherty, Nodo System, 2016.
Photo by Marina Dempster.

# INNOVATION

Relay Studio, *Stoke*, 2013.
Photo by Sarah Mulholland.

*Driven by imagination, visionary thinking and content creation art, design and technology all create a landscape of continuous innovation and disruption. For over forty years, adoption of digital technologies has accelerated evolution in OCAD U's studio-based learning and research environment. Many faculty are engaged in creative practices or research that involves digital transformation or the merger of new technologies with analog and traditional processes.*

*Throughout history, art and design have continuously kept pace or surpassed the disruptive and transformative nature of technological advances. In the 21st century, the link between creativity and technology has transformed almost all aspects of human existence. Creating and learning with technology are fundamental to OCAD U's vision and mandate.*
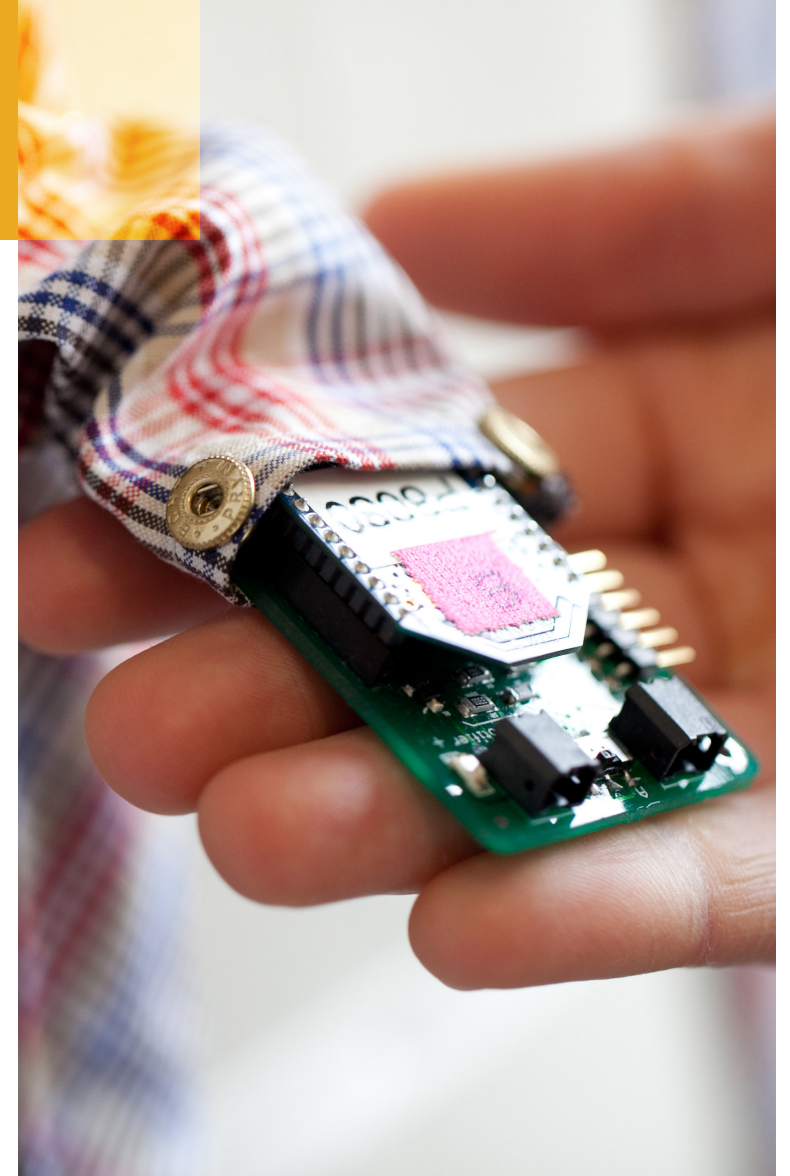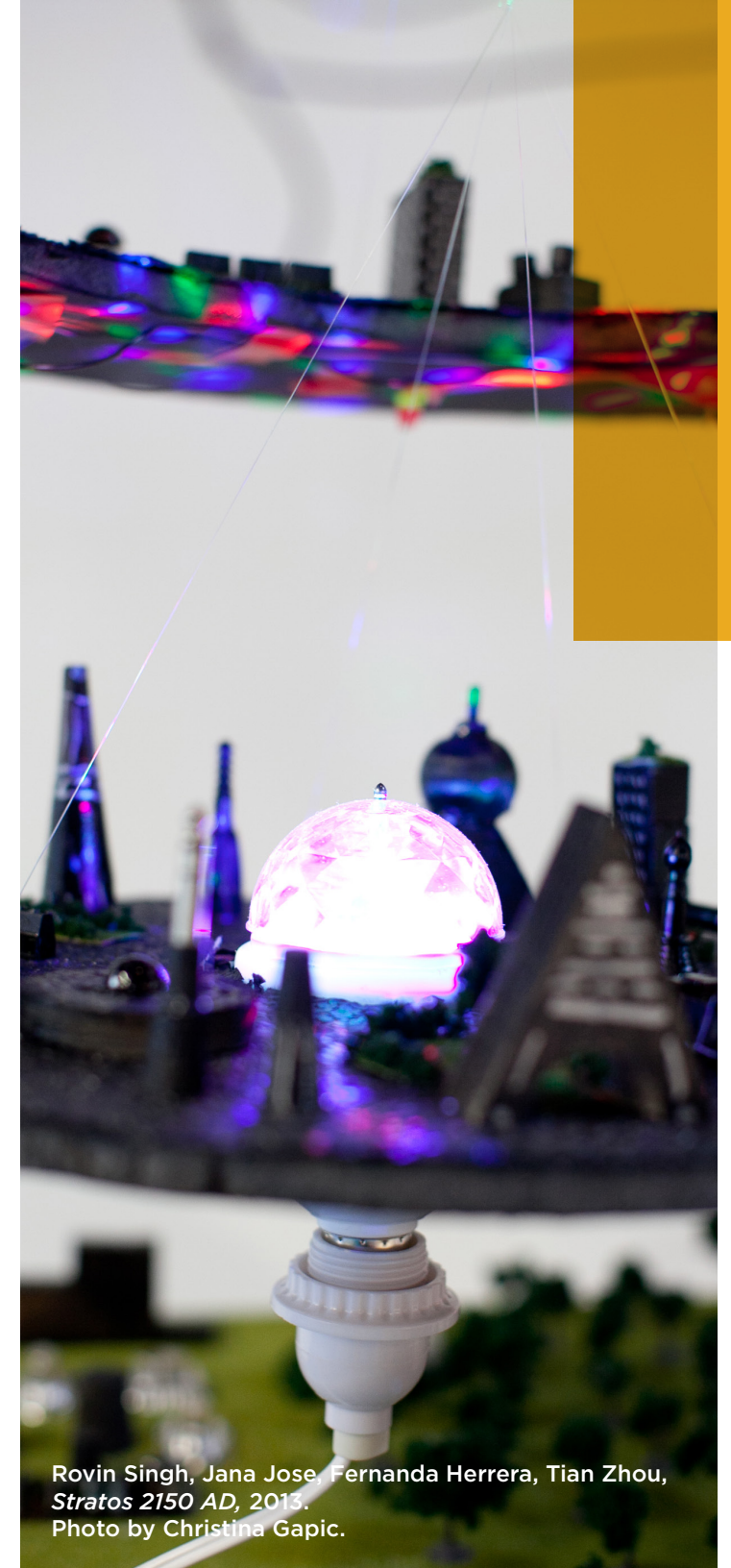
Photo by Christina Gapic.

*The most successful organizations in today's economy are driven by creativity and innovation.*

OCAD U Academic Plan

# TECHNOLOGY ADOPTION, INNOVATION AND CURRICULUM

*OCAD University has a strong reputation of offering highly specialized studio and classroom technologies that students and faculty access and use. The OCAD U Academic Plan commits to the institutional tradition of exploring and creating with continually emerging studio technologies. The plan emphasizes a rich first-year experience and essential skills, knowledge and literacies including using, programming and creating with a wide variety of digital or computer-aided technologies.*

*This vast range of digital tools empowered by software, processing capacity, data, content libraries and networks helps to prototype and realize the imaginations of the artists and designers at OCAD U.*



Rovin Singh, Jana Jose, Fernanda Herrera, Tian Zhou, *Stratos 2150 AD,* 2013.
Photo by Christina Gapic.

*Hands-on access and support for interdisciplinary discovery of leading-edge studio technologies will include creating and learning with:*

- Software, mobile devices and high-end graphics work stations in interdisciplinary learning environments

- Large display/LCD screens, video wall/multi-screen and multi-touch displays

- High-definition production, post-production and rendering facilities for gaming, digital video, painting, animation and audio

- Capture technologies for input, 2D and 3D output and rapid prototyping

- CNC milling machines, lathes, laser cutters, and digital looms

- Motion capture, immersive environments, augmented reality, virtual reality and related interactive environments and haptic devices

- Discrete computing including wearable technologies, virtual assistants and responsive environments

- Smart materials that integrate intelligence into media for interior design, material art and design, architecture, health and wellness, sculpture and installation

- Materials and laboratory capacity that integrate digital and biological materials

- Robotics capacity in design and production

Photo by Angie Griffith.

*OCAD U will continue to commit to learning communities and online curriculum support and delivery. Focus on collaborative, graduate, Indigenous and Continuing Studies programs provided through distance, blended and hybrid delivery methods will strengthen outreach and broader adoption of e-learning.*

# DIGITAL LITERACY

*Advancements in the use of student technology through the university's Mobile Computing Program have resulted in improved digital literacy and mastery of essential skills for studio practice, critical thinking and professional practice. Focus on students as creators and the importance of innovation and technical skills are key differentiators for OCAD U. Becoming a skilled self-learner has always been essential for creative professionals.*

Camille Jodoin-Eng, *Cosmography*, 2014.
Photo by Christina Gapic.

*Digital literacy in art and design has moved beyond screen-based technologies and incorporates prototyping, programming and basic engineering skills. Cutting-edge classrooms, studios and library resources will be open and connected to physical and digital spaces that resonate with and support our community, creating a fully integrated experiential learning environment. Students will explore innovative and evolving technologies such as 3D printing, robotics, data visualization, motion capture, immersive environments and wearable technologies and will develop skills in new materials manipulation, interface design, prototyping, usability testing, gaming, responsive environments, animation, digital curation and exhibition.*
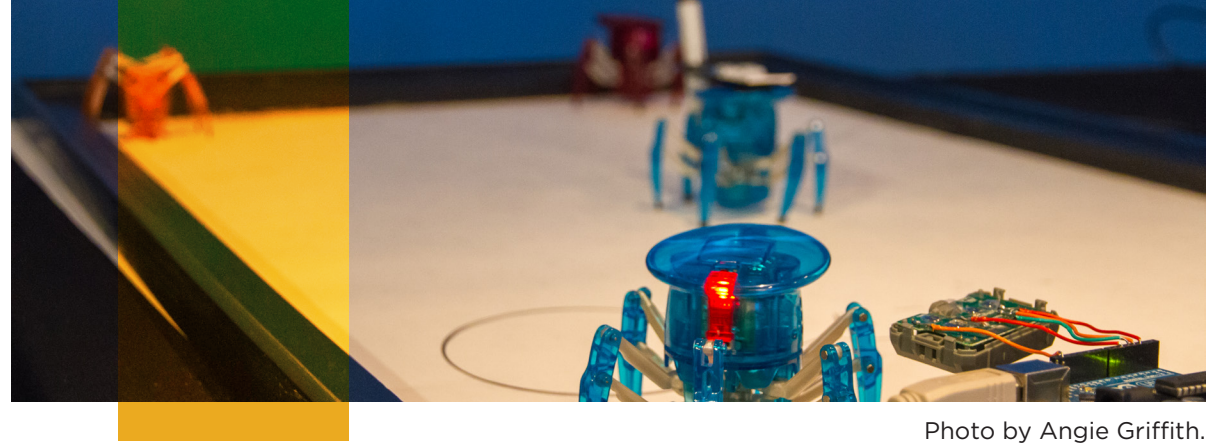
*OCAD U's Academic Plan commits to defining and developing clear digital literacy outcomes for all academic programs to:*

- Prepare students for professional practice and studio environments that integrate current and emerging technologies

- Enhance basic data training, management, numeracy, analysis, coding, and visualization skills

- Foster the ability to find, evaluate, create and manage digital information

- Build skills and resources for faculty and students to help navigate the complexities of issues related to intellectual property, permission, appropriation, fair dealing and international copyright law

- Provide appropriate professional development for faculty to enable effective integration of these outcomes into the curriculum.

# RESEARCH

*As OCAD University develops its research, innovation and incubation capacity, it must do so in the context of digitizing the campus. This extends beyond the university to include advanced networking and high performance and grid computing capacity; data repositories and libraries; and shared platforms and software that enable and support a wide range of collaborative art, design and related fields of research.*

*Increasingly, complex digital technologies support less technical disciplines. Expertise built through engagement with internal and external Highly Qualified Personal (HQP) will help address research goals and funding, technology selection, procurement and deployment. Building an HQP network will help OCAD U adopt and participate in building the larger digital ecosystem supporting Canadian and international research.*
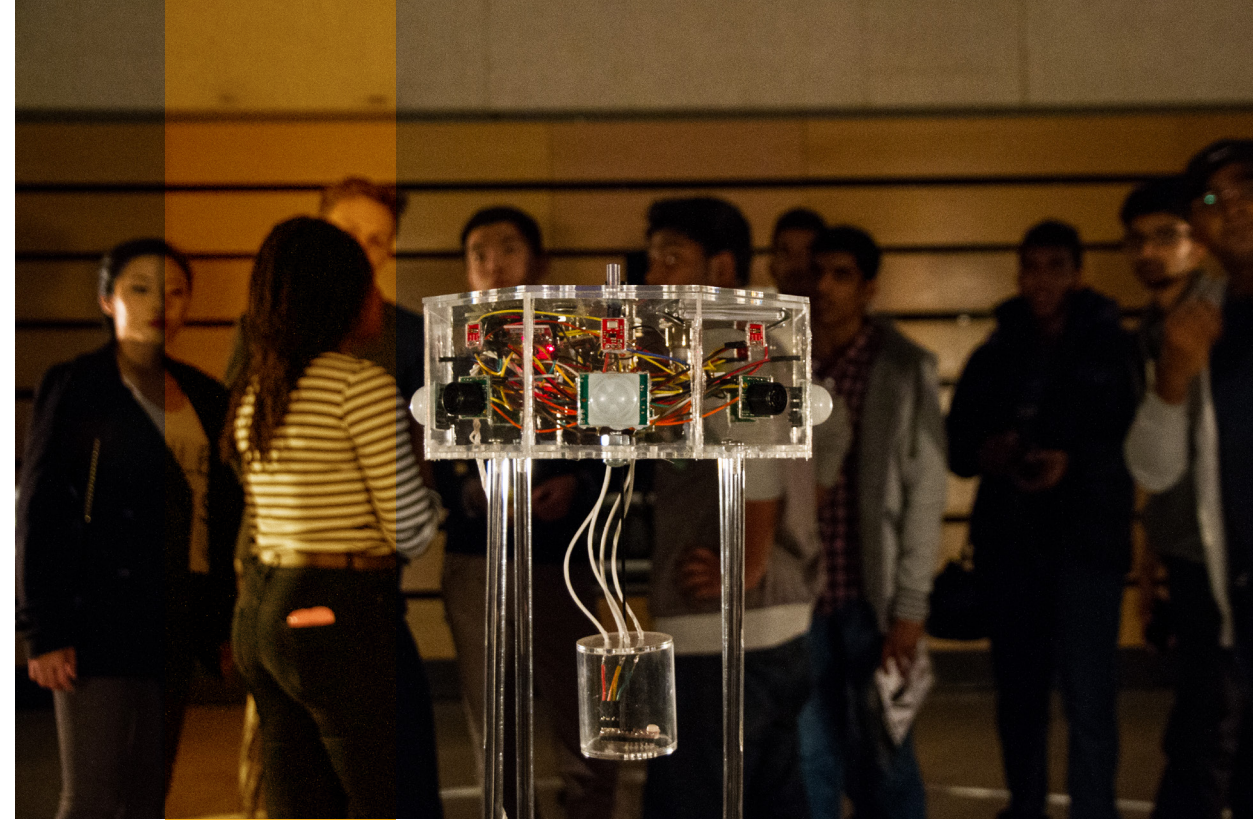
Photo by Martin Iskander.

Photo by Angie Griffith.

*The OCAD U Academic Plan highlights the need to provide technical support to graduate students for use of research labs, the gallery system, studios and classrooms. It will allow them to explore collaborations and research creation in the visual arts, design, science, engineering, humanities and the social sciences. The plan also recommends building our research culture by connecting with students and professors at research-intensive organizations and universities to share knowledge, practices, institutional data and outputs through a global network of open digital platforms, tools and services.*

## OCAD U will support technology-enabled research by:

- Connecting highly specialized studios, maker spaces and research labs that support leading-edge technology and innovation

- Building the OCAD U Library's capacity for open access repositories

- Supporting digital curation and exhibition using leading-edge technologies and networks

- Integrating large-scale data sets, data capture, analytics and visualization

- Leveraging shared commercial and R&E infrastructure and platforms

- Supporting active participation in Canada's R&E strategy for digital infrastructure

- Accessing shared research data, platforms and services using the Canadian Access Federation and Eduroam



Marc De Pape, *The Chime*, 2013.
Photo by Angie Griffith.

*With a commitment to institutional accountability associated with use of large and/or sensitive data required for research in Design for Health, Advanced Visualization, Inclusive Design and other areas, OCAD U will develop a comprehensive Institutional Research Data Management plan. Formalized security, storage, backup practices and applicable open-data objectives will be incorporated into research lab reports and will comply with the requirements of the Research Ethics Board (REB) and the Open Access and data security strategies of funding agencies.*

# INNOVATION & PARTNERSHIPS

*Canada's cultural industries provide a direct impact of $61.7 billion or 3.3 per cent on the country's GDP. In 2015, the Canadian tech sector was directly responsible for $117 billion or 7.1 per cent of Canada's economic output. Combined, these two sectors employ over a million people. The tech sector is by far the largest private investor in research and development. Canadian Information and Communications Technology (ICT) Labour Market Forecasts for 2015 – 2019 highlight that:*

- ICT and STEM students are graduating from the education system with a much better labour market prospect.

- Over 170,000 ICT positions will need to be filled over the next five years with more than 45,000 directly related to graphic design, illustration, web design, interactive media and computer programming.
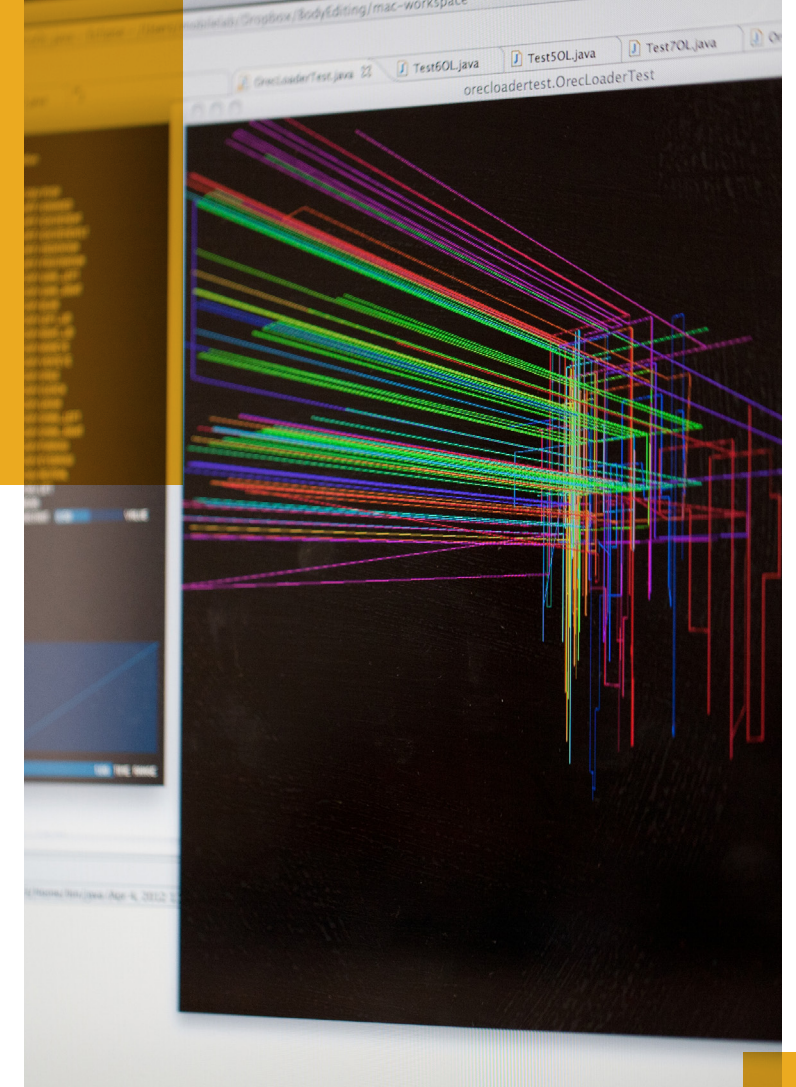


Photo by Christina Gapic.

- *The exponential speed of technological change – from advances in 3D printing, mobile devices, cloud computing, materials science, robotics to the Internet of Things – means talent is now a critical differentiator.*

**OCAD U Academic Plan**

*The OCAD U Academic Plan makes extensive reference to international, industry, not-for-profit, post-secondary and government collaborations that create a network of partnerships, including alumni, scholars, curators, designers, makers and artists. Through these networks, OCAD U will:*

- Develop business, innovation and STEM curricula and integrate methodologies from art, craft and design, science, medicine, engineering and the social sciences to help promote interdisciplinary collaboration and STEAM+D as an innovation engine

- Create opportunities and internships that provide professional and career development through student experience with communities of practice

- Provide access to leading edge information, innovations and technologies for faculty, researchers and students

- Leverage shared services and infrastructure to position OCAD U as a globally connected hub for creativity, innovation and collaboration

*OCAD U is well-positioned to build on established and emerging relationships. OCAD U's agile and ongoing investments in digital innovation position the institution at the vanguard of the maker movement. Through capital projects, institutional research, entrepreneurship and investment in studios, labs and learning technologies, the university will remain at the forefront of technological discovery. As a unique hub for creativity in the centre of Canada's largest city, OCAD U provides strategic foresight for adoption of new technologies. The "living laboratory" of the digital campus, functioning as a user-centred, open-innovation ecosystem, will invite a global community to participate in imagining and championing the future of creativity and innovation.*

# BRAND & DIGITAL PROFILE OF OCAD U

*For the University of the Imagination–committed to advancing a culture of innovation and creativity, our digital brand must embrace the synergies shared by art, design and technology. The majority of information and content is consumed and published digitally, through an ever-expanding range of delivery platforms. Overnight, the university's digital profile can magnify exponentially, going viral, through positive or negative user experience or events.*

- With different media outlets and more brands than ever available, building a strong brand in all that we do digitally will help inspire loyalty and raise brand awareness, integrity and reputation for our institution.

- Canadian mobile penetration rates are increasing at a rapid rate. This is especially true for potential and current undergraduate and graduate students.

- Canadians on average, check their smartphone 9x/day for social media, 8x/day for videos and pictures, 3x/day for search and 3x/day for web browsing.

- All interactions on any platform is a reflection of the OCAD University brand.



Sean Procyk, *Night Kitchen Under the Tabletop*, 2012. Photo by Angie Griffith.

*It is estimated that 50 billion devices will be connected to the Internet by 2020. Artificial Intelligence, the Internet of Things, immersive technologies and hyper-accelerated social media driven by Big Data and wearables will change the world's concept of the Internet. OCAD U can play an important role in designing, creating and shaping this future and our brand needs to reflect an understanding of the disruptive and transformative trends that will continue to change our society. OCAD U will discern what digital platforms will best engage our prospective and expanding community, measuring, monitoring and understanding platform-specific metrics to create the most positive outcomes and experience possible.*
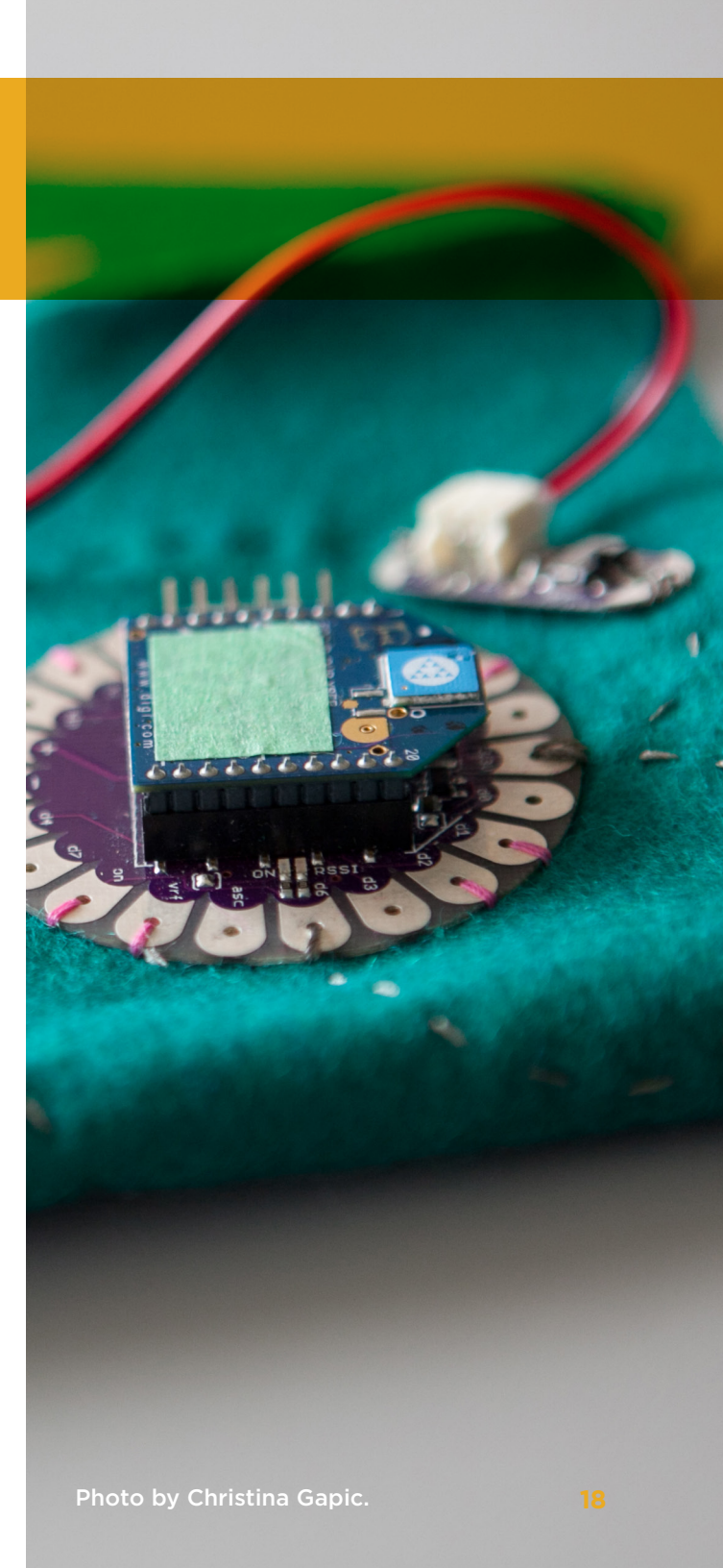


Robert Tu, *MeU: Open Source Wearable LED Display*, 2014.
Photo by Robert Tu.

## OCAD U's Academic Plan speaks to the need to:

- Extend our reach through global networks and a strong international reputation while bringing value to collaborators and/or partner's brands

- Develop a strategy of "Internationalization-at-home" engaging with the global art and design community to internationalize our curriculum

- Partner with and share programming with Indigenous supported/focused organizations and connect Indigenous students to their home communities

- Advance equity and build communities of inclusion to achieve diversity

- Extend the global reach and profile of OCAD U's scholarly communications program, interdisciplinary research and publishing initiatives

- Leverage OCAD U's gallery system to establish experiential curatorial platforms and learning opportunities

*Championing institutional values should inform decisions related to adoption of new technological methods of content delivery and communication. A clear alignment will strengthen the university's reputation as a cultural change agent addressing the questions and challenges of the 21st century. Through methods that include the following, our digital presence and profile will welcome creative minds to engage with the university:*

- As Canada's pre-eminent art and design university our online presence must be content rich, showcasing and broadcasting the creativity of our community, as well as the exceptional resources and curatorial capacity of our gallery system, libraries and digital publications.

- Invite our community to participate and ask questions through accessible online experiential events including digital exhibition and curation, lectures, symposiums, design jams, collaboration and social spaces.

- Provide opportunities for our community to influence the brand-building process, leveraging alumni, collaborators and partners to increase our digital and social media presence to tell OCAD U's story and expand our profile.

- Using Customer Relationship Management systems, create lifelong connections based on user interest and analysis of OCAD U websites, social networks and apps users engage with, including where, when and with which devices and languages.

- Provide open, safe, inclusive and accessible online collaboration and social spaces that help educate our students to effectively and thoughtfully engage with social media and create and manage digital profiles and e-portfolios.

- Ongoing analysis of the digital presence and networks of organizations OCAD U considers comparators or partners.

# SERVICE

Photo by Christina Gapic.

Photo by Claudia Hung.

*The OCAD U Academic Plan highlights the need to address barriers to equity and the health of our students, staff and faculty through a supportive and inclusive learning, teaching and making environment. It also speaks to building digital, mobile, learning and support services for the OCAD University community. OCAD U will build digital service delivery focused on an inclusive individualized user experience that addresses the unique needs and goals of our community, curriculum and research.*

Most of our students, born digital natives, justifiably arrive on campus with expectations regarding use and integration of personal devices. Despite familiarity with consumer-based technologies, many of our students are still new to specialized software, hardware and platforms used in learning environments or art and design studios. To be effective in their future careers, students require sophisticated support during their time at the university.

Academic support areas, including the Faculty Curriculum Development Centre, the Library and the IT Services Help Desk, will serve as an interconnected hub that helps to develop adoption of new models of curriculum delivery, studio-based creativity and innovation. These areas will be trained, customer-focused and more effectively integrated to help build expertise through local and centralized support for a highly reliable technology-enabled environment that addresses ease of use, inclusivity, accessibility and collaboration in the classroom, studio and online.

Photo by Angie Griffith.

*A fundamental principle of design is the effective delivery of a service or experience, from an individual level to a massive scale. Service delivery, in terms of technology or design, is not simply a transactional relationship. For studio or learning technologies it is the delivery of an environment or platform, virtually or physically, that realizes constant improvements, providing a jumping off point for users to learn, explore, create, collaborate and communicate. OCAD U will focus on the design of service delivery that empowers our community through the integration of technology throughout the campus. Constantly evolving technologies will be integrated, responsive and*

*provisioned at a level of quality that stimulates and invites creativity and learning. If a service cannot be delivered effectively, the value of the service should be assessed, reconsidered, and prioritized for redesign, replacement, outsourcing or decommissioning.*

*On average, 75 per cent of IT resources, at most universities are required to run IT Services with 15 per cent focused on growth and 10 per cent on transformation. OCAD U will strategically prioritize efficiency, integration and service delivery models that allow the institution to increase focus on growth and transformation.*

Photo by Martin Iskander.

# FOCUS ON FACULTY

*The OCAD U Academic Plan states that success as an institution depends upon the excellence of our faculty. A supportive environment in which faculty thrive will create transformative education and student success.*

*Faculty make changes to their teaching practices when they see a benefit for their students. A vision and goals that inspire faculty to explore powerful tools for learning and creativity and realize successful outcomes for engaging students in the classroom and studio will be essential.*



Photo by Martin Iskander.

Photo by Angie Griffith.

*Implicit in support for faculty is the provisioning of and access to standardized hardware, software, services and specialized end-point technologies. OCAD U will continue to invest in digitally enabled learning and innovation so that technology is available, fully functional and, in the case of standardized classroom technology, easy to use.*

*Digitally-enabled support for faculty includes the Faculty Curriculum Development Centre (FCDC) and Library, Student and Faculty Mobile Computing Program, Learning Management Systems and other collaboration and content delivery platforms, technology-enabled learning spaces, data analytics and digital output and capture. Consistent consultation between faculties and academic support units, including participation in curriculum planning and committees will strengthen technology support for faculty and programs.*

*To further support and advance faculty engagement with technology OCAD U will:*

- Support the Library and FCDC to assist faculty with the adoption and integration of digital tools

- Promote and resource the Library and studios to research and support faculty investigation and adoption of new technologies, learning platforms and materials

- Promote recognition, awards, showcases and colloquia focused on faculty teaching or creating with new technologies as digital leaders

- Resource and support faculty mentoring one another, exploring and sharing best practices in art, design and teaching – including the use of technology in the classroom

- Use Learning Analytics to inform areas for faculty and curriculum development and to track satisfaction with training and resources

- Provide greater assistance to faculty to support compliance with accessibility, privacy and copyright legislation

- Promote research, use of OCAD U research labs and the collection of open access research outcomes and data facilitated through Library resources

- Engage learning communities and host workshops by internal and external experts, including industry and strategic partners, on next generation digital tools, High Performance Computing (HPC) and high-speed networks



Photo by Christina Gapic.

*Understanding the range/profile of our faculty in terms of their adoption of new technology and celebrating expertise in the rich history of analog and digital technologies will inform how the campus digital ecosystem evolves. An essential part of this journey will be the exploration of the ethical application of digital platforms and technologies. Digital Humanities, directly relating to research, programs and studio practice at OCAD U, are integral to this ongoing conversation.*

# LEARNING TECHNOLOGIES

Students continue to demand online and blended curriculum delivery and support that provides a highly personalized and mobile learning and mentoring experience. Online learning will be a critical component of our ability to recruit and retain international students, as well as realize our potential in non-credit learning. Library resources will continue to move to the online world, and must be accessible, although specialized art and design resources will still require material and print libraries unique to our fields.

Recognizing that students, faculty, librarians, and staff share knowledge any time and anywhere, the Academic Plan commits to investment in personalized learning networks and platforms that maximize student's time spent engaged in active learning. Mobile-enabled hybrid and online courses and resources will support student learning options, international mobility and preferences related to language skills, culture and gender.

OCAD U will assess, adopt, integrate and build next generation Learning Platforms that facilitate innovative teaching, studio practice and research. We will provide a unique user-based collaborative learning experience that fosters creativity, critical thinking, and connectivity by developing mobile, accessible, inclusive and scalable content and delivery platforms using rich media, data analytics and federated shared resources.
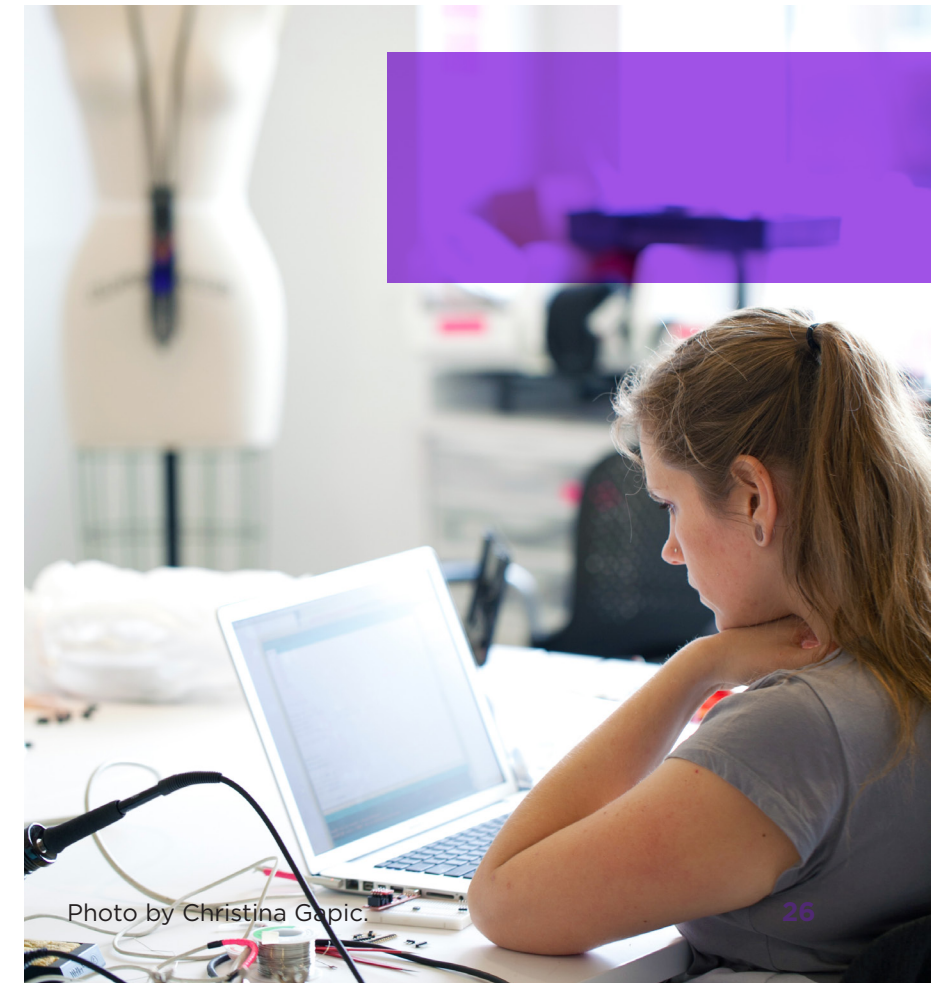


Photo by Christina Gapic.

# THE OCAD U NETWORK

*OCAD U will continue to invest in secure network and compute infrastructure, purpose-built to support creativity, innovation and collaboration. Extending the university's digital footprint and outreach, the OCAD U network will continuously expand to provide:*

- Highly connected IT infrastructure that is open and secure delivering network enabled services that support mobile learners, instruction and studio practice.

- Converged infrastructure, using the IP-based network as the "fourth utility" to enable exploration and adoption of the Internet of Things, sustainable building systems, operational efficiencies and responsive and ambient environments.

- Use of the GTAnet, ORION and CANARIE advanced R&E networks to connect communities supporting research, collaboration, Indigenous and other specialized programs.

Terreform ONE, *Bio City Map*, 2013.
Photo by Melissa Jean Clark.

# COMPUTE & ENTERPRISE APPLICATIONS

*OCAD U's data centre hosts applications and middleware that enable access to a wide range of information and services essential for institutional operations. These critical systems align with the needs of students, faculty and the extended OCAD U community. Empowered by an integrated and mobile-enabled suite of enterprise and departmental software, current and prospective participants access a catalogue of continually improving services. The profile of OCAD U as a highly specialized commuter campus in a large urban centre with a diverse and growing international student population will benefit from planning, based on data-driven institutional reporting and analysis.*

Public Visualization Studio, *Chthuluscene*, 2015.
Photo by Robert Deleskie.

*Robust, secure and integrated enterprise platforms will continue to evolve, enhancing and scaling services that support:*

- Student experience and retention
- Academic administration
- Online learning, collaboration and analytics
- Institutional reporting and strategic and financial planning
- Research and partnerships
- Data management, governance and "Privacy by Design"
- Identity Management enabling access to OCAD U services and shared resources
- Disaster Recovery and Business Continuity Planning

*Compute capacity, on premise at OCAD U or through advanced research computing organizations such as Compute Ontario, SOSCIP (Southern Ontario Smart Computing Innovation Platform) or OLRC (Ontario Library Research Cloud), will further enable OCAD U to leverage and conduct research using:*

- Large-scale data sets and analytics
- Advanced visualization and rendering capacity
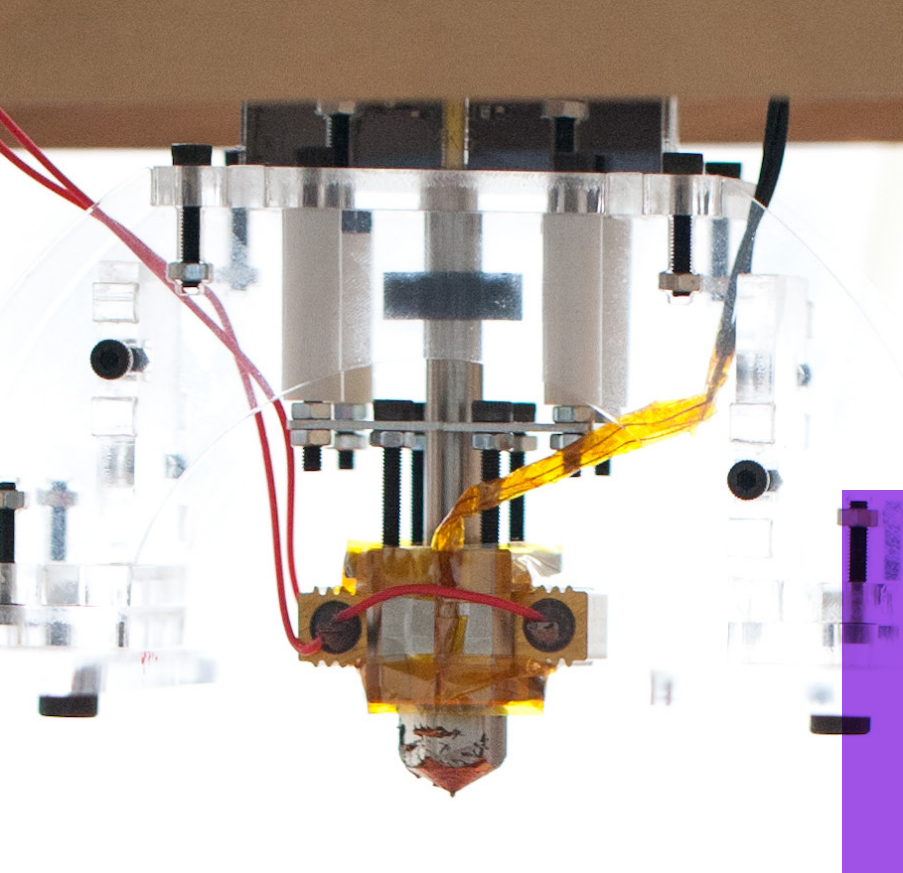- Open access repositories and data capture

# IT GOVERNANCE

*Central to both service and innovation for the digital campus is institutional IT governance. Oversight and prioritization of the OCAD U Digital Strategy will be key to ongoing success.*
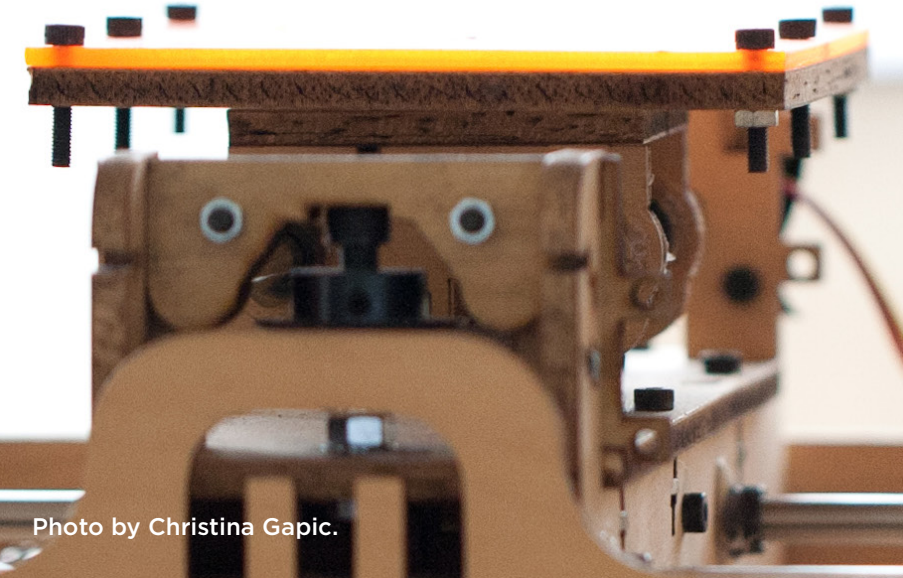
*Since being established in 2008, the OCAD U Information & Communication Technology Governance (ICTG) Steering Committee has played a significant role in advancing recent major technology-related milestones, including Project Chroma, the ERP replacement project, and the campus-wide Student & Faculty Mobile Computing Program.*

*The ICTG Steering Committee will undertake an environmental scan of innovative technological trends in studio practice and education, including focus on digital technologies in fabrication and classroom, library and learning spaces of the future.*
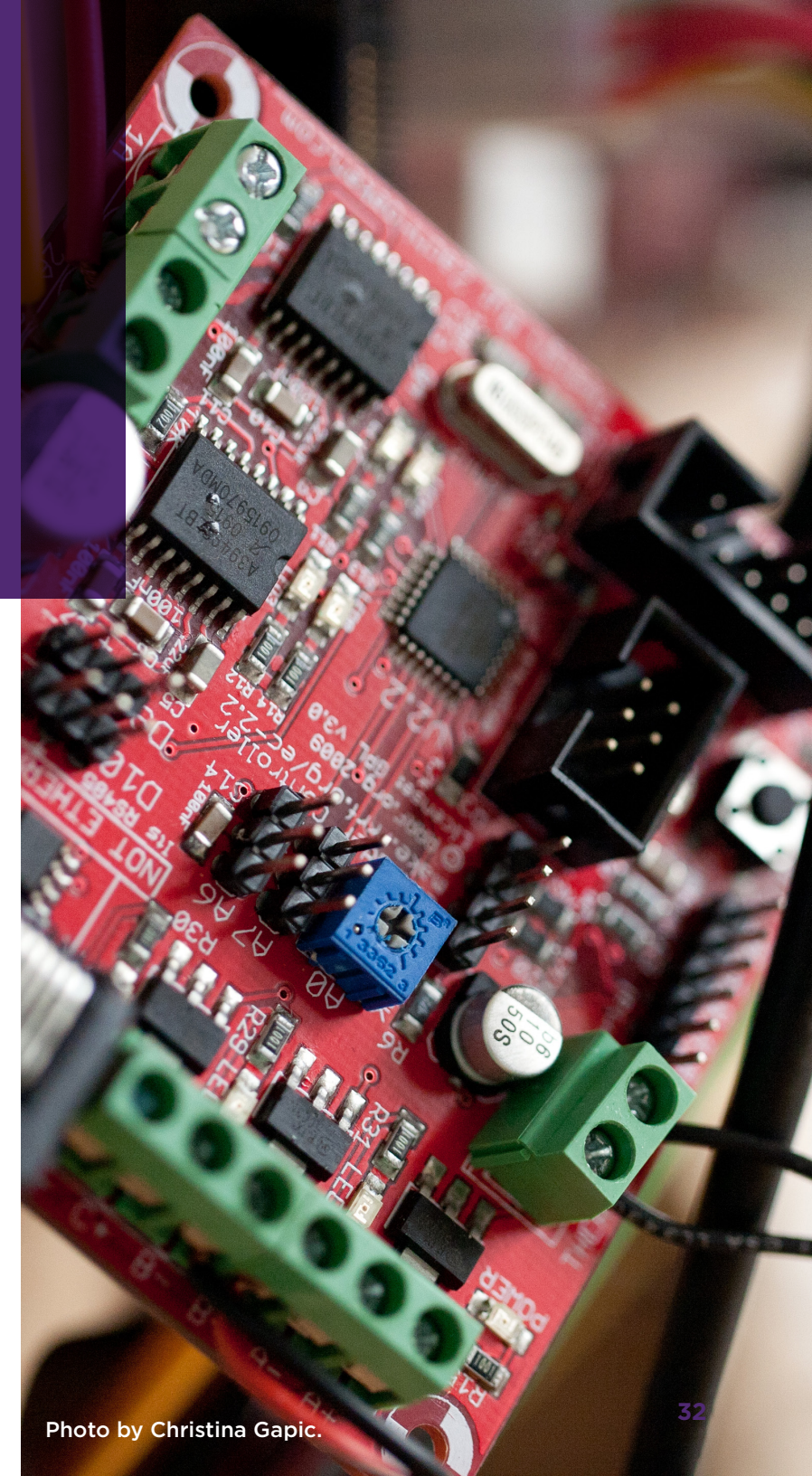
Photo by Lorella Zanetti.

*The timeline for adoption of new technologies is often much earlier for art and design schools. For example, 3D printing was in use by art and design schools much sooner than other types of universities or colleges. OCAD U's ICTG Steering Committee will actively participate in the development of recurring "Top Ten Lists" of emerging technologies that could then be assessed for adoption by specific programs.*

*Formalized technology selection based on an engaged consensus and "ownership" of the process will prioritize strategic alignment, compatibility, cost, licensing, procurement and refresh, as well as skills development for use by faculty and students. The use of technology across the entire university will be developed and prioritized to achieve institutional strategic objectives, communication and community engagement.*

Photo by Christina Gapic.

*The Steering Committee will provide oversight and recommendations that continually improve technical support and service delivery for a consistently reliable and secure experience for students, faculty and staff. Effective governance identifies leading edge technology and strategies for change management. It also assesses the life cycle and maturity of current technologies and platforms, creating a roadmap for a living Digital Strategy based on constant renewal.*

*The ICTG Steering Committee will provide oversight for development of the technology-related policies and guidelines to meet legislative compliance and align with other institutional policies—including the requirements of research ethics, reporting and funding. Whether it is information and data management, cyber-security, safety and privacy, service provisioning and de-provisioning, adoption and assessment of cloud or third-party services or ethical and sustainable use of technology, the university will develop and formalize applicable policies and guidelines. The foundation of these policies and guidelines will be the goal of clearly, consistently and safely supporting a community that recognizes innovation and efficient service delivery and relies on defined standards of practice and compliance.*

Photo by Christina Gapic.

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