



Dutch lecturers visit Toronto in conference tour

Sunday, 17 March, around 51 Dutch lecturers from 16 Universities of Applied Science in the Netherlands visit Toronto, Canada as part of a conference tour.

They visit several organisations, universities and colleges to learn from best practices and knowledge-sharing in Canada around information technology, business IT & computer science.



Why go on this conference tour?

The Dutch association of IT bachelor programs at the Universities of Applied Sciences in the Netherlands (HBO-i), is the official Dutch cooperation of public IT programmes within Higher Professional Education in the Netherlands. This conference tour is one of the activities of HBO-i and is meant to help lecturers collect new ideas and build relationships for their own educational environment.

HBO-i develops the competency-based profile 'Bachelor of ICT' which is used as a reference by Higher Professional Education in the Netherlands, in addition HBO-i offers a network and project platform for lecturers to connect & collaborate.



Dutch lecturers visit Humber College



**Toronto, Monday 18 March,
HBO-i visits Humber College**

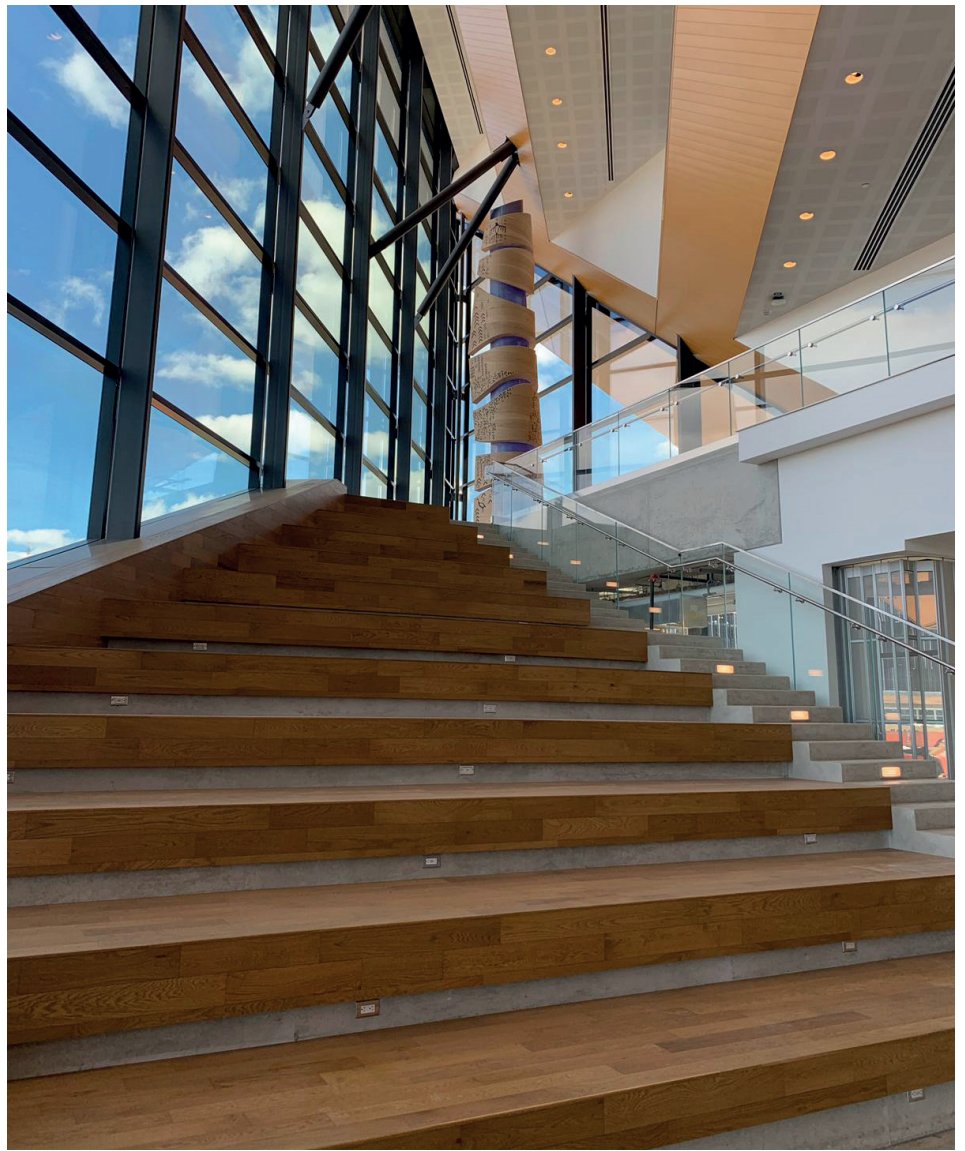
Find the champions and let them play!

After a warm welcome and a well organized reception, we received great insights through the presentations in the morning and after a wonderful lunch prepared and served by students we also got to experience why, what and how Humber College succeeds in giving the (international) students the best learning experience possible. Humber College breathes ambition, innovation and creativity. The translation of the educational vision into a data-driven strategy is one of “stop talking, start doing”.

The key word here seems to be collaboration as in the quote “Our Place is Your Place”. The open invitation to work together in center’s of innovation, global summer schools, exchange students and faculty staff is very much appreciated. We definitely see a trend in problem based educational programs (CDIO-BUS structure) with a strong actively involved work field creating a real-life practical context where experimentation to fail forward is stimulated. Humber College is not only driven by curiosity and creativity but also by courage as we have seen in the beautiful future proof new buildings and facilities to challenge and support the learning experience.

Change the name can have an impact, if not for the educational program than at least renaming soft skills into essential skills. Stackable educational programs with a focus on undergraduate opens up doors for further collaboration on projects and exchange of experiences between HBO – i colleagues and Humber College. Definitely worth an experiment. We thank our Colleagues from Humber College for sharing with us their enthusiasm, energy, openness, inspiration and especially for their hospitality. We are looking forward to co-create and collaborate.

*“Find the
champions
and let them
play!”*



The visit to Strashin's 501 Alliance

Monday 18 March, the first day of our HBO-i tour in Toronto comprised of a visit to an alliance with a number of start-ups, a fully automated distribution centre.

"The greenest building is the one that already exists". Strashin's 501 Alliance is located in an old factory that has been completely renovated with a focus on functioning as a sustainable building.

"Essential Skills are more important than IT skills". The Canadian Professional Logistics Institute, a certification organization in the field of logistics and supply chain, issues certificates to practitioners based on a competence framework.

"The greenest building is the one that already exist"



The presentation was focussed on the topic of blockchain in agriculture. The goal is not to prevent fraud in this sector, but to be able to **detect fraud** in an early stage: *"the effort to commit fraud must be greater than the revenue"*. Amongst other things, a document with criteria to determine whether blockchain is a suitable technology for tackling a problem was mentioned. The DreamQii start-up presented the PlexiDrone, a modular drone, transportable in a backpack, completely constructed from self-designed components.



Photo: main area 501 Alliance building



Photo: main area Quayside

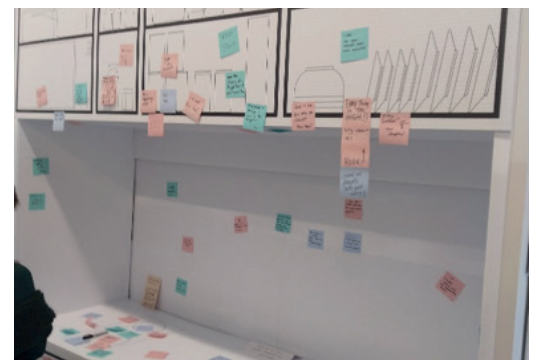
Bezoek Sobey's, Vaughan Automated Retail Support Center

Monday 18 March, HBO-i visits distribution center Sobey's.

The visit consisted of a tour of the Sobey's distribution center, an almost fully automated food distribution center (German company Witron). For more information on the organization please watch this video <https://corporate.sobeys.com/corporate-videos/>. Over 150 Witron employees work in the distribution center to keep the fully automated part up and running. It was impressive to see all this run automatically. There are no pictures of this visit (please watch the video).

Possible relationship with Sobey's and HBO-i could be made within the topic of embedded software development.

Visit to Quayside Waterfront, Toronto



Monday, 18 March, HBO-i tours around the Quayside initiative at the Waterfront in Toronto. Waterfront is an organization focused on revitalizing Toronto's waterline (Quayside area). It is strongly focused on sustainability, it even operates CO2 positive. There is a strong link with the themes that we focus on in the Netherlands as well, such as the resilient city and smart city. When you enter the remarkable area (within a rough industrial sight) you will find a hall, that is furnished with various instalments where people can give feedback (on post-its etc.), including an entire apartment for one person

A possible link between Quayside and HBO-i can be made in digital governance and robust data privacy.

University of Waterloo



Tuesday, March 19, HBO-I visits the University of Waterloo (UW).

UW, founded in 1957, is regarded Canada's best research university, as is its educational undergraduate programs. One aspect that makes the university of Waterloo stand out in its experience-rich education. Over 71% of the incoming undergraduates choose Waterloo because of its **co-op program**. In this program periods of academic training are alternated with 4-6 month periods of co-op program in which the students become employees at one of the 7000+ worldwide companies that are related to the institute.

It is a joint responsibility for student and university to make sure all students find a company. The students have to make sure they are hired and the university invests in an network of companies that have an interest in hiring students. The idea is to form:

“a virtuous cycle: classroom learning makes workplace contributions stronger. Work experience enhances learning.”

The mandatory choice of 4-5 online (inter)personal and professionals skills program supports this. Students who don't opt for the co-op program experience difficulty to find proper internships, as campus advertisement is prohibited for non co-op partners.

The soft skills program for this group just started recently (March 2017) and relate to volunteer of student job experience (as the academic program is very traditional). A shared opinion in the HBO-i group is that the co-op program is interesting and radically differs from the way we work, yet aiming for similar goals of contemporary higher education. WU invests in **teacher quality** as part of their strategy. There are many (online) courses provided by the Center for Learning & Teaching, amongst other things.

WU takes an interesting position on **IP: the rights remain with the individuals** that have come up with an idea. This in contrast with most universities that will put a claim on the IP developed by their students and staff.

WU experiences pressure from national funding bodies that demand publications to be openly shared.

The 50% government funded Communitech initiative we visited in the afternoon showed the same attitude towards IP and stimulation of Open Innovation. However, in the end, many co-op students and startups are recruited by big tech companies from outside the Ontario region.



Communitech

Tuesday, 19 March, HBO-i visits Communitech, an organisation that is put in place to help realise (data-driven) innovation in the region.

“The Toronto-Waterloo corridor is ranked as one of the top 20 tech ecosystems in the world. But top 20 is one thing, and top 5 is another.”

Communitech supports start-ups, scale-ups and large companies to stimulate open innovation. An interesting format is the organization of the so called ‘**Collusions**’, a program in which problems of large companies are articulated and eight start-ups are invited to pitch their ideas to address these issues. In this way, the **natural barriers** between these types of companies are bridged. The datahub location (there are two) has **two test-beds** available for Ontario-based firms, a 5G test-bed to experiment with new business ideas for this new data network and a next generation network. From this future network, the characteristics can be changed to augment the performance of specific applications.

Second location of Communitech (in Kitchener), housed in an old tannery, focuses on acceleration programs. It houses the incubator Velocity with a **three-stage program for start-ups**. The first phase is dedicated to write a business plan that is scrutinized after three months by a jury. Only about 50% of the start-ups continues to the second phase. This phase of prototyping of the product takes 6 to 12 months. Afterwards, a panel awaits that makes sure only 50% passes to the third and final phase focussing on manufacturing, marketing and finding the right sales channels. In Kitchner special attention is given to maintain **support of the local community** by addressing challenges of a **local charities** in order to prevent inequality, like dealing with the influx of refugees or providing toys for poor kids at x-mas.



Fanshawe College

Tuesday, 19 March, HBO-i visits Fanshawe College.

Genuine warmth and openness are keywords for Fanshawe College. At the end of the day no question was left unanswered. We exchanged challenges and struggles. The open way of engaging with us gave us the feeling that **cooperating in the near future is a real option**. The remainder of the morning session was used to explain the unique 3D model of competences and qualifications of Dutch Higher Education in IT. Lunch was excellent and provided by student catering! The first part of the afternoon was used for a walk on campus and later the group was divided in parallel break-out sessions on co-op education, networking systems, cyber security and research. In the cyber security session, we became part of a very passionate vision on the need for **separate programmes for security experts**. Key quote in that session was:

“I don’t Tool-Teach”

by the leading professor of the programme Mrs. Karen MacIntyre. She wants to educate students in the profession of cyber security by teaching them to analyse programming, networking etc. to find possible security breaches. Not to teach the tool or language. The co-op model seems to be a very interesting, although slightly mystifying element of several degree programmes.



Students do terms of work experience for which they do not get credits but do get a proper payment. In the end it leads to an extra and much sought-after mark on your diploma. Most impressive is the system Fanshawe has in place to cater for students doing a co-op work experience. They **find places, build and maintain relations with companies, prepare students for co-op**, visit companies during co-op and help students whenever needed. A system that works alongside the academic programmes is run by a separate department. We can learn a lot of how Fanshawe runs this process.

There seems to be ample opportunities for our universities and programmes to collaborate with Fanshawe on exchanges of students and staff. **It might be best to this as HBO-I on a group level and not as individual universities.**

Check out this video for an impression of the day:

<https://youtu.be/cq41Z1DG9YI>





McMaster University in Hamilton

Wednesday, 20 March, HBO-i was welcomed at the McMaster University.

The event took place in the campus church where we learned the vision of McMaster:

“Aspires to make global engagement in education and knowledge generation an integral part of its identity and presence in Canada and the World”

Internationalization is an important issue for McMaster: **international and intercultural dimension is a part of the education context.** Global Awareness and citizenship are much needed and this reflects in the diversity of the population of the students, 24 nationalities. The university is known for its research programmes.

In the department of Computing and Software, 900 undergraduates follow the programmes for **Computer Science** and **Software engineering** and **Mechatronics** engineering. The school of Engineering offers undergraduate programs, graduate programs and project-based masters. The university supports the industry with solving complex issues.

Even within the engineering domain, **25-30%** of courses are management or **business related.** Students that don't have work experience will not be employed. The other success factor is national and **international cooperation.**

The university hopes that our visit is not just a visit, but a starting point for concrete cooperation.

The IT programs at McMaster have focus on Artificial intelligence / Machine Learning, IoT or better IIoT (Industrial Internet of Things (Smart Manufacturing / Industry 4.0) and finally Augmented and Virtual Reality. The **Learning Factory** concept is used for practical application trains students to obtain and **integrate** knowledge from both software and hardware!

Within software engineering they focus on AI / Data analytics / data mining, Arts and Multimedia and Smart Systems / Automation Engineering Technology/ Machine Learning. The programmes are online.

Classes are given live, late in the afternoon. Most student have a daytime job and are able to follow these classes.

Especially during the summer period, between May and end of August, interesting summer research internships are available.

Another topic of interest is access to data and building large databases combining these data.



The associate dean and director of the Digital Transformation Research Centre and the DeGroote School of business introduces his department. His first and most important statement is that:

“Technology is nice, but useless without business and application domains.”

The school of business offers MBA's and executive programs. Research is focussed on the **behavioural side** of information systems. They are very open for collaboration.

In Canada, it's difficult to attract College students for a degree program, as the demand for technically skilled people is huge. It's attractive for them to start working after college immediately. McMaster University focusses on topics and skills that College students lack. The good thing is that they have the flexibility to make fast changes in their programs, typically within one year. During the year, several meetings with industry representatives take place, in which the contents of the program are discussed and adapted to the business needs. Beside undergraduate programs, also graduate programs / project-based masters are offered. Two interesting possibilities for exchange are MyTechs, technical agreements between Canada and EU and the very interesting Erasmus Plus Programs.

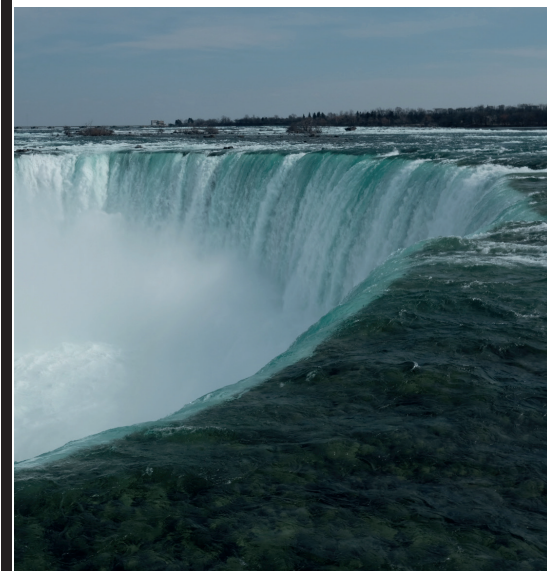


Students are involved in data exchange platforms for mobile crowd sensing. The focus lies on master and PhD students. Undergraduates are involved in prototyping projects. The business school offers students the possibility to get a Business Technology Management Certificate, on top of their regular diploma.





Niagara Falls



True Blue Expo @ MaRS Discovery District

Thursday, 21 March, True Blue Expo in the building of MaRS Discovery District.

Based on individual conversations at the True Blue Expo, we have found some common characteristics of the Canadian student.

We are pleasantly surprised by the true spirit of Canadian students to become an entrepreneur. The Canadian governments as well as the universities offer great support for students who want to start up. It's not an easy job but, observing their endurance, we are confident that they will be successful.

Michael Katchen (CEO and founder of WealthSimple) gave an enthusiastic insight view of his career from startup to successful entrepreneur. One of his advices for Canadian entrepreneurs was to abandon their love to be humble and embrace a desire to win.

Other critical success factors are: launch your product quickly, find people you love to work with, and do things that don't scale. Hire people that are smarter than you.





University of Ontario Institute of Technology

Thursday 21 March, the lecturers visit the University of Ontario Institute of Technology. The university is relatively young, it is open to students since 2003. There is still much room for expansion on the campus. Alison Burgess, manager research partnership, invited Jim Sheehan, of the North Line Canada company. They do research together with the university. An example is the development of an app for truck drivers to see where it is safe to sleep at night. Biggest challenge for the researchers is the conflict between the interests of the university and those of the company.

Another project is presented: Companion robot research. As Japan has a long history in the field of robotics, America is just now catching up. The research evolves around how people react to and deal with robots. A student demonstrates the “Zenbo”.

In the afternoon the lecturers visited the Automotive Center of Excellence and experienced some videos of wind tunnels and vibration tables. The wind tunnels also have climate provisions. Offering test facilities is a way to bring universities and companies together. What stands out is the large library. In the ‘Collabatory lab’ the visitors learn about the services that are offered to faculty members (for video-making), in a video conferencing installation. In a demo the programme of ‘Kaltura, among other things. Examples are shown of recently made films.

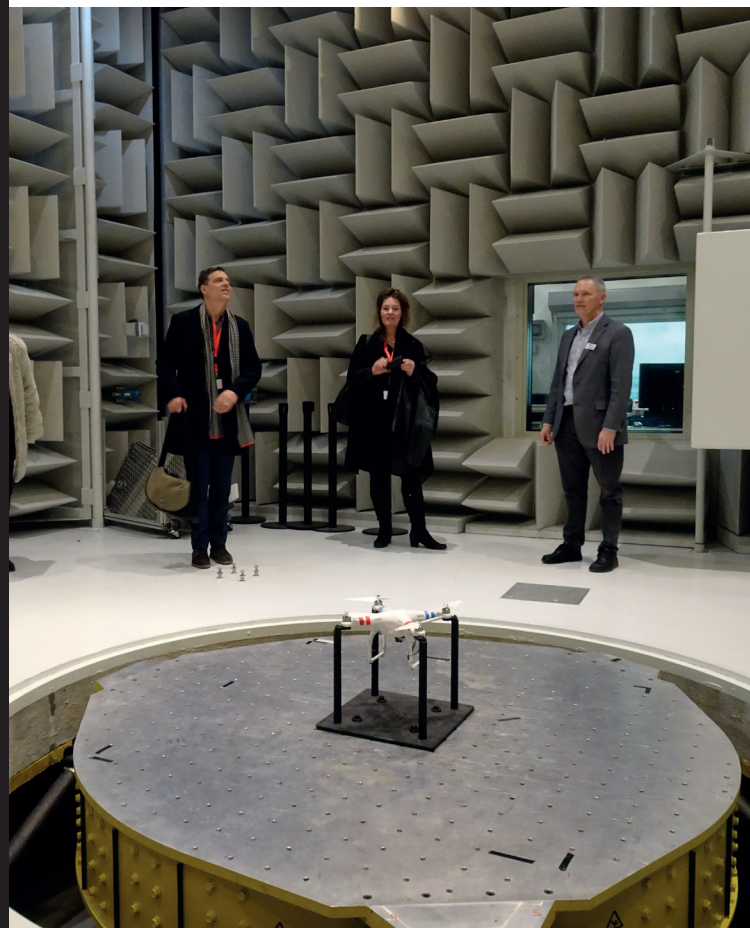


How can we collaborate?

The best way to cooperate is at faculty level. If researchers meet at conferences and share each other's interests; joint programs can be initiated. This would lead to exchange of students at the final years of their under-graduate program and faculty to work on the applicable research projects.

There are possibilities for student exchange for periods of about 6 months which could be partly funded by institutions such as Erasmus. The best way to proceed is through the international advisors. HBO-I could help the advisors from UOIT find the proper connections.

It is interesting to find that UOIT shares HBO-i's focus on preparing students for the job-market by working on (research) projects for and with small and medium sized enterprises. This has also led UOIT to spread the IT program over various faculties which makes for promising cross-over programs. How this may inspire UOIT and HBO-i to find other ways to cooperate is something that needs more thought.





Augmented World Expo

Ideaboosting with pizza & beer

In the evening of this same day the group visited the Augmented World Expo, where a pizza & beer-ish startup event took place with a forum discussion about Augmented Reality in retail.

University of Toronto Scarborough Campus

Friday 22 March, the group visits the University of Toronto, Scarborough Campus (UofT Scarborough, in short: UTSC).

Student Brian explained the Hack the Valley project, an extracurricular hackaton. During this hackaton, students work on an idea or a product. In addition, they are given the opportunity to use new hardware and APIs from different sponsors. Teachers give short-term enrichment workshops during the hackaton. Student finalize with 36-hour challenge giving a pitch and the winning teams receives credits for their work.

Just like the other universities, the UTSC works with co-ops. Dallas Boyer explained that co-op students obtain an Honors Bachelor of Science degree. Students can take 4 to 5 years and they use Blended Learning didactics in the preparatory co-op modules. The “work-term” for students can be carried out anywhere, including abroad.

For student exchanges, agreements have already been made with TU Delft and the University of Amsterdam. There are usually semester-based exchanges, but students can also conduct a summer research project. In addition to co-ops, the UTSC also offers other work-integrated learning experiences. Examples of this are “The Bridge”, which mainly operates in the context of business administration and finance, and “The Hub”, an incubator that facilitates students (and alumni) with startups. Steve Joordens focused on the work-integrated learning experience tool Riipen.

← Tweeten



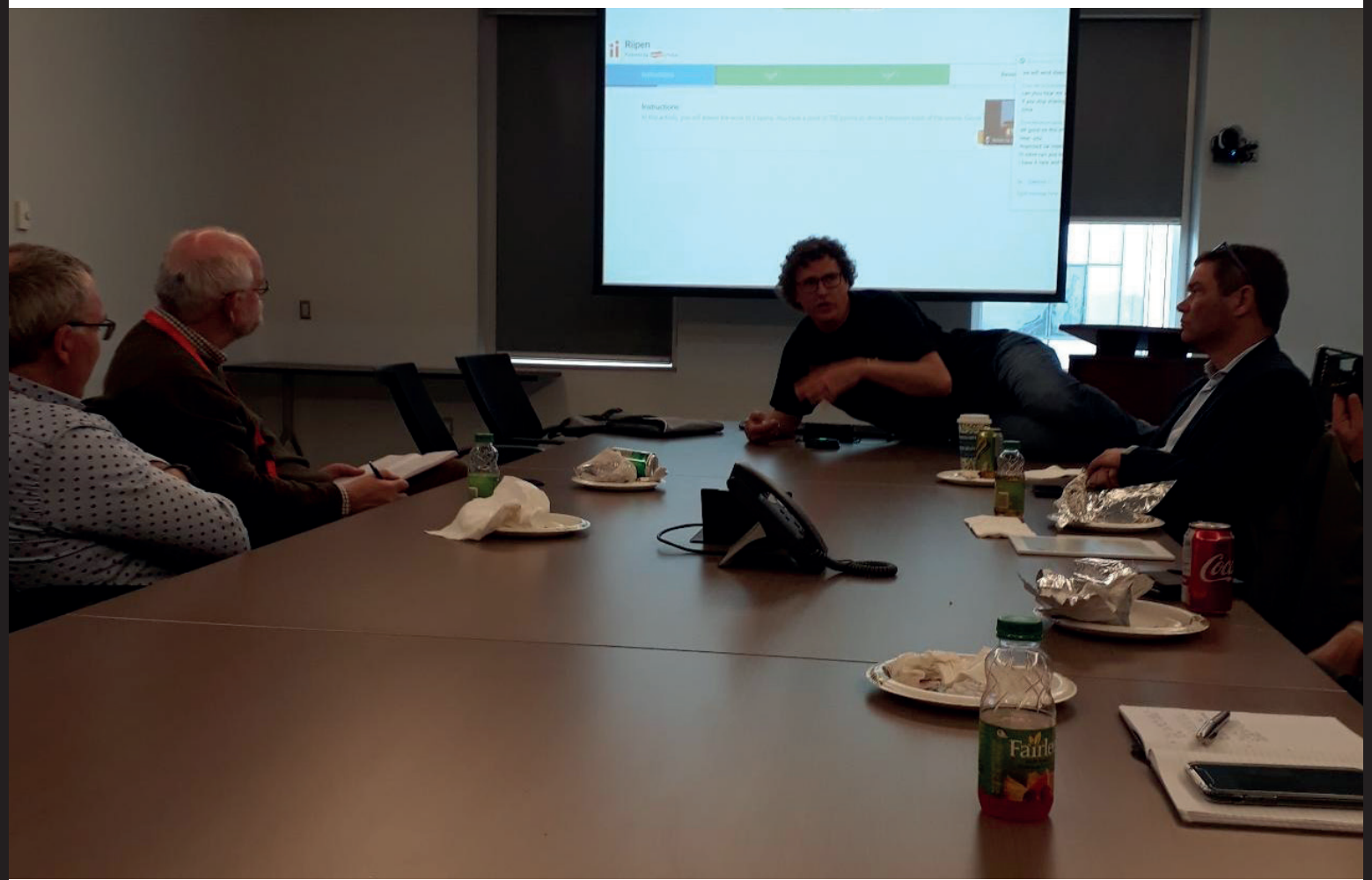
Dorine Tamis
@DorineTamis

Meetup AR [#hboiintoronto](#)
[#AWENiteTO](#)

Emily Smith @emilyrose780

Full house for [#AWENITETO](#) - [#AugmentedReality](#) and [#Retail](#) !







Ryerson University

Friday 22 March, Ryerson University (RU).

The RU is a university that, partly because it is located in downtown Toronto, is closely connected to the city and has also formulated its ambition to be **'engaged'**. The university tries to engage both students and teachers in the university's community. Another focus lies in city-building, research excellence and offer zone learning within one of their 10 incubators! When new ideas are developed into products, the university does not claim the IP rights. The research areas in which the RU are active are: Communication & Design, Engineering & Architectural Science and Science.

At the beginning of this year, the RU and the municipality established a Future Skills Center (<https://fsc-ccf.ca/>) with the aim of helping Canadians acquire the skills they need to adapt to the changing society by giving citizens access to education. In addition, results and best practices from all sectors are shared to support investments and (21st) skills that are needed to become more resilient now and in the future. The provincial government recently decided to reduce tuition fees by 10%, which gives more financial challenge for RU.

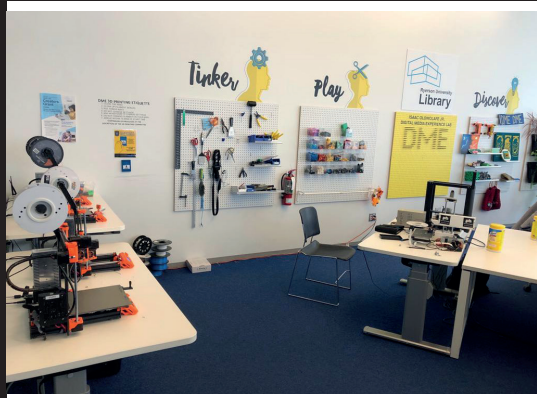
The RU has a strong focus on their international relations and is continuously building their network abroad. The collaboration with the Netherlands is strong. Students feel a cultural connection with Canada, more than with the UK, for example. There are four universities with which RU has a partnership in the Netherlands for research (including Wageningen and TU-Delft). The RU wants its own students to be more **'internationally engaged'**. Currently, about 5% of the students go and study abroad. This is also the reason why the university is so engaged in collaborating with other foreign universities. In Canada they do not have a comparable program such as Erasmus, but use a somewhat smaller system called 'Mitacs globalink': <https://www.mitacs.ca/en/programs/globalink>. RU focuses on **'the resilient city'**, they have developed an initiative called **'Center for Smart and Future City'**, of the faculty of Engineering and Applied Science (FEAS). Toronto is a fast-growing city and has a number of major challenges in areas such as energy, transport and traffic and in particular to influence people's behaviour (for example, carpooling is not common).

And because it is such a hot topic in Toronto, there are many initiatives, companies and research institutions that want to collaborate on it across all disciplines.

The aim is to achieve a reduction of 50% green-house gas by 2030 and although the "smart city" is a priority of the university and the city of Toronto, courses and professors are not obliged to focus education and research on that theme because of academic freedom.

They have various state-of-the-art labs in which "ideation" is central and innovative creative thinking is stimulated by offering good facilities (<https://www.ryerson.ca/fcad/>). In addition, they also have an incubator facility in which around 35 teams and 130 members (<https://dmz.ryerson.ca/about/>), after being admitted via a pitch, work on the realization of an idea are supported to make it ready to market. Non-students are also invited to use this facility.

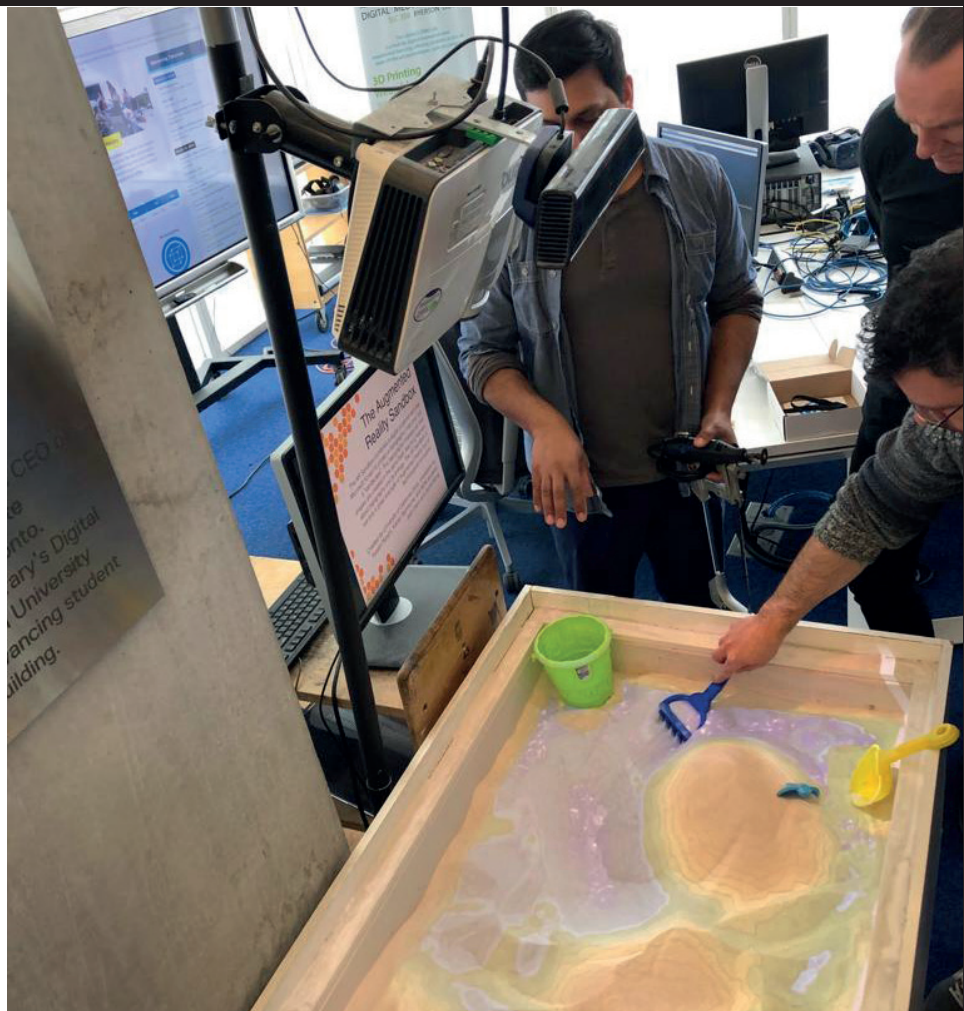


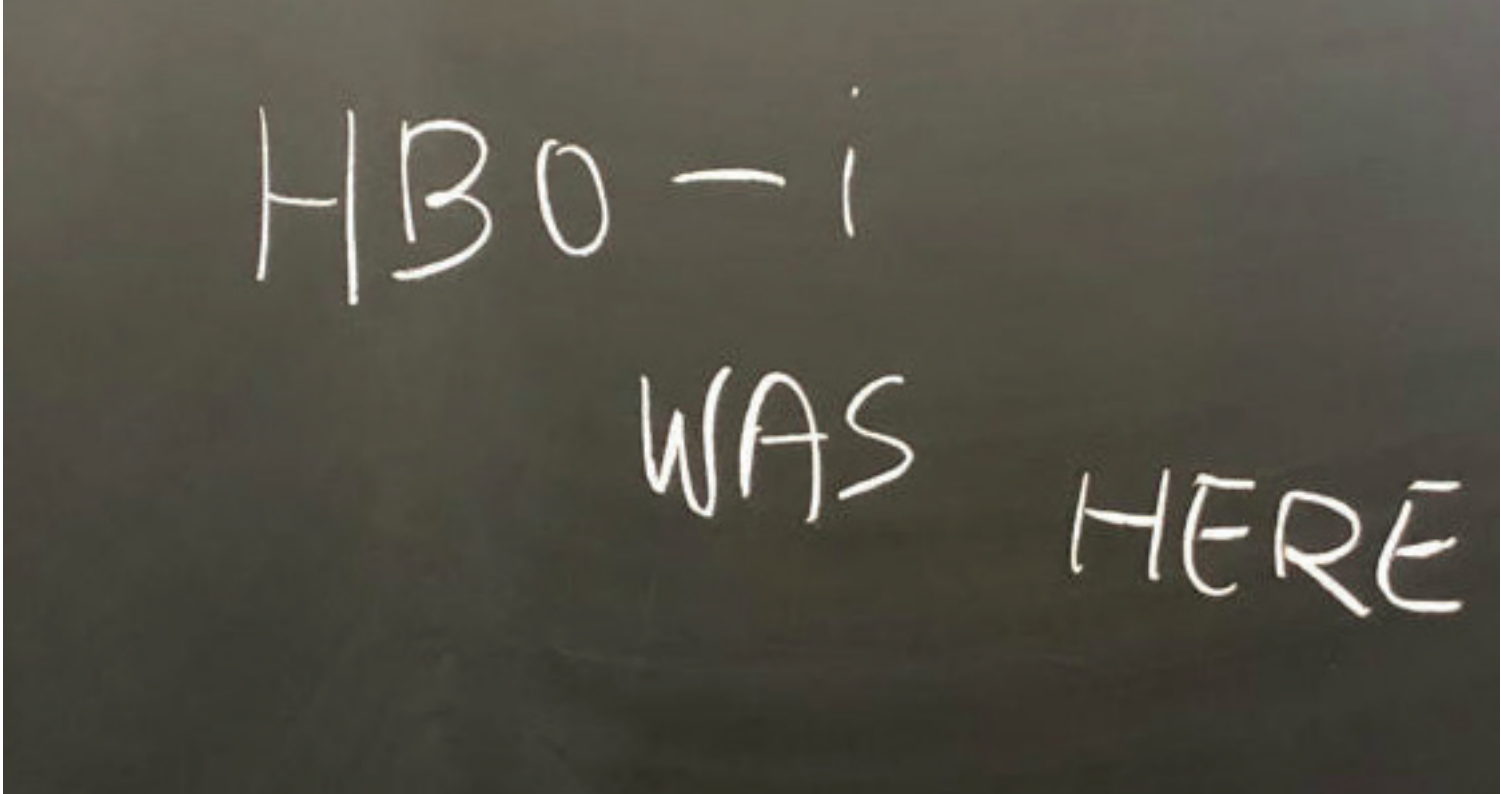


Global Campus Studio

We then moved from DMZ to the Global Campus Studio. A virtual hub for trans-disciplinary projects for international partners. They help students on the “triangle” of technology, creativity and business. Here too, various labs are available for AR / VR and game design, among other things.

RU gives us the overall impression that a great deal has been invested in facilities (labs and studios). As we have seen at many universities this week.





HBO-i
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HBO-i wants to thank all our hosts for a warm welcome and all lecturers for joining the conference tour and for co-writing this newspaper.

Together we collected a lot of ideas for collaboration and created a stronger connection with each other and with several partners in and around Toronto. Let's make the HBO-i community valuable by taking the next steps and keep each other informed on LinkedIn or any other form of contact. Please inform the HBO-i team if you wish to connect with an (international) partners.

We would very much appreciate any suggestion for future improvement of this conference tour. If there are any questions please don't hesitate to contact HBO-i. Visit our website www.hbo-i.nl for more info.