

Running Projects in Your Section

Anis Ben Arfi

SoutheastCon 2019, Huntsville, AL

IEEE SIGHT Southern Alberta Section 2015-2018

YP Events and Humanitarian Activities

IEEE SIGHT

Special Interest Group on
Humanitarian Technology

IEEE SIGHT
Southern Alberta
Section

@IEEESIGHT.SA



My journey in IEEE – Presentation outlines

- 1- IEEE Young Professionals
- 2- IEEE SIGHT – Events
- 3- IEEE SIGHT – Projects (boots-on-the-ground)

Positions:

IEEE Southern Alberta YP vice-chair.

IEEE Southern Alberta SIGHT chair.

IEEE MTT-S SHGHT vice president.

IEEE Internet Inclusion (3I) member.

IEEE Rising Stars Conference organizing committee member.

IEEE Young Professionals in Space organizing committee member.....

My Team

Martin Berka

Chelsa Mills

Tushar Sharma

David Garrett

Rafae Malik

Sarah Awara

Bruce Rout



IEEE SIGHT
Special Interest Group on
Humanitarian Technology

IEEE SIGHT
Special Interest Group on
Humanitarian Technology

IEEE
youngprofessionals

IEEE
MTT-S*
SAS SB CHAPTER

IEEE
PES
Power & Energy Society®

IEEE
PES
Power & Energy Society®

IEEE
Senior Member

IEEE

Myself

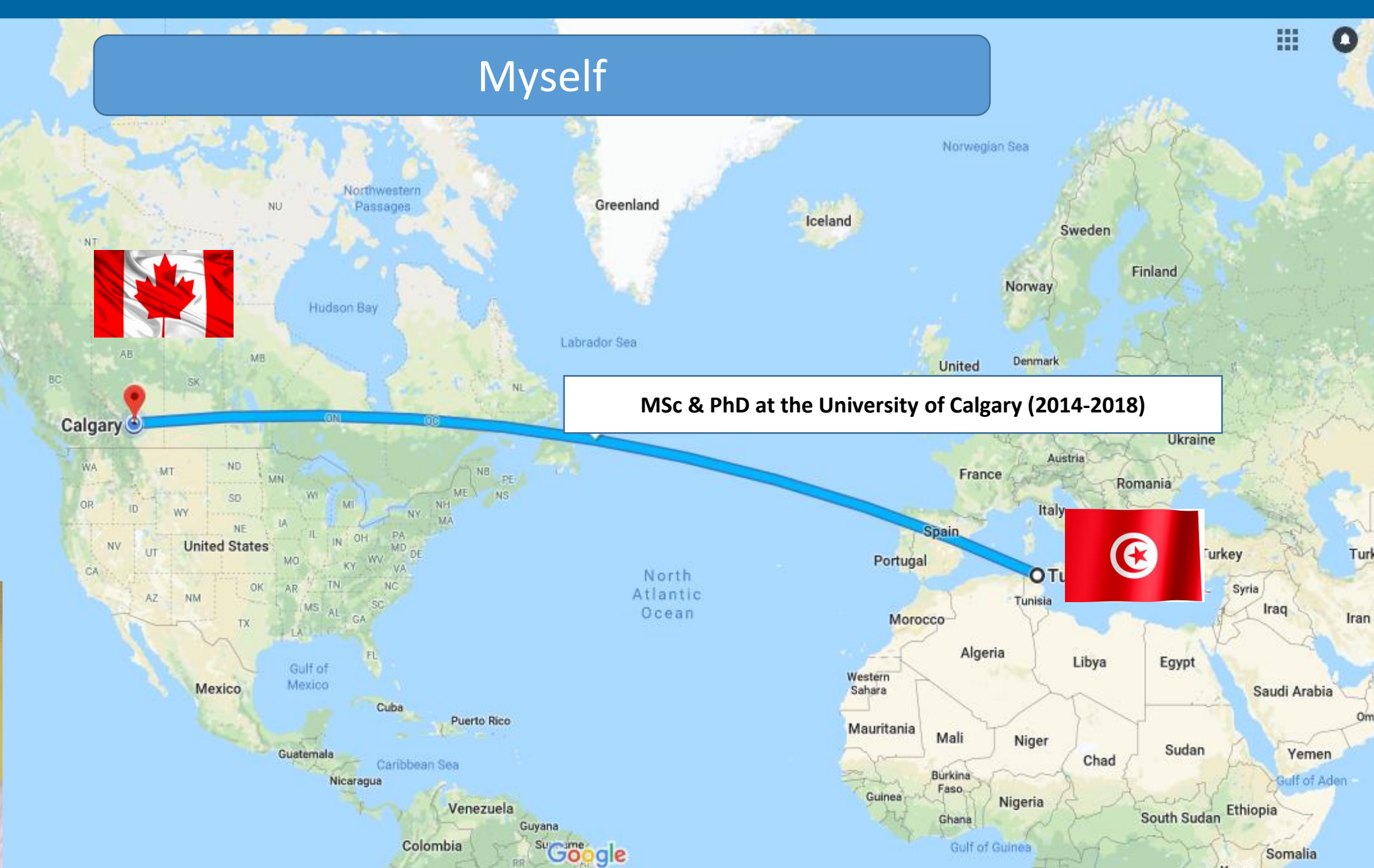


Calgary

MSc & PhD at the University of Calgary (2014-2018)



Anis Ben Arfi



IEEE Canada - Region 7



2015 IEEE Southern Alberta Section Annual General Meeting



2016 IEEE Southern Alberta Section Annual General Meeting



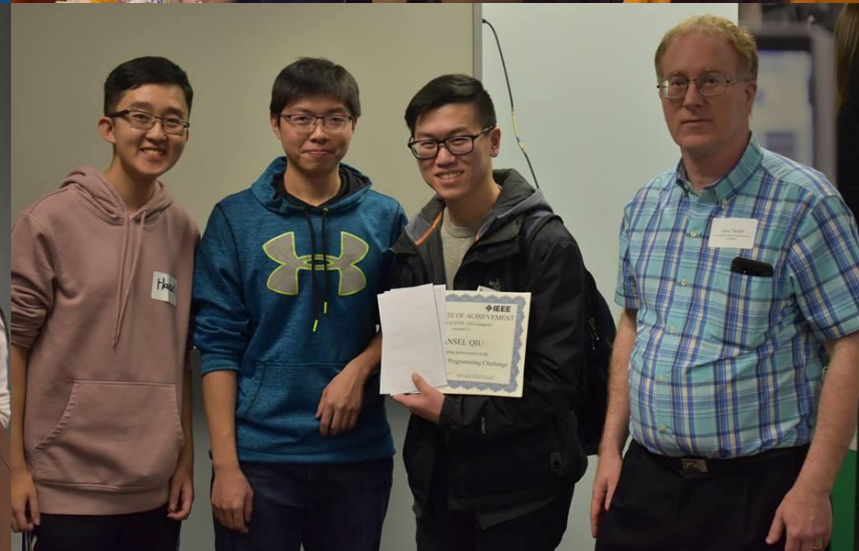
2016 IEEE Southern Alberta Section Annual General Meeting



Speed Meeting Mixer

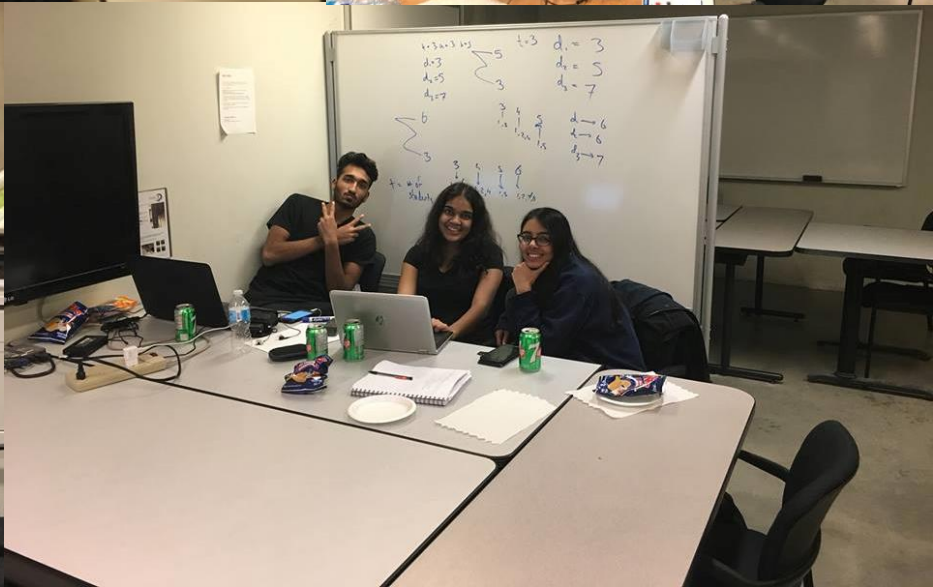
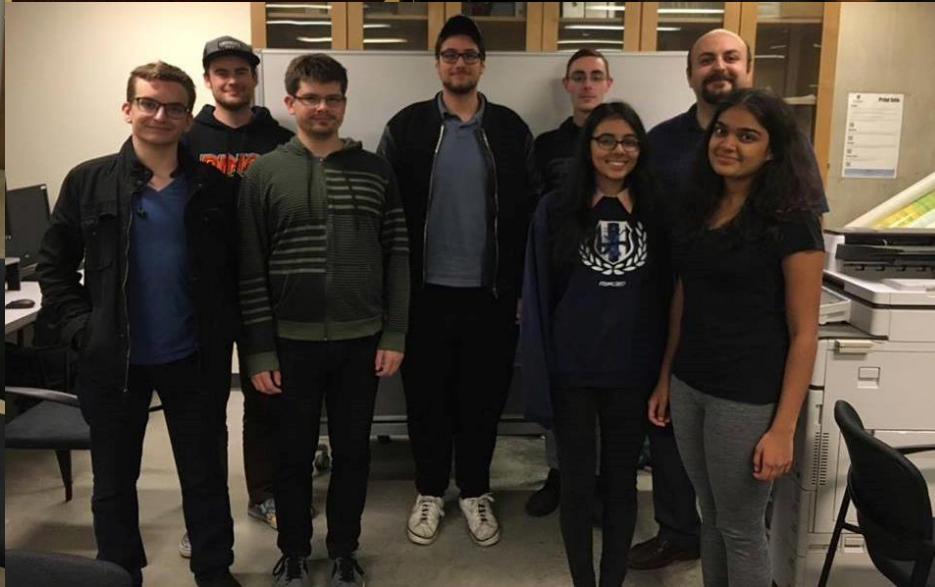
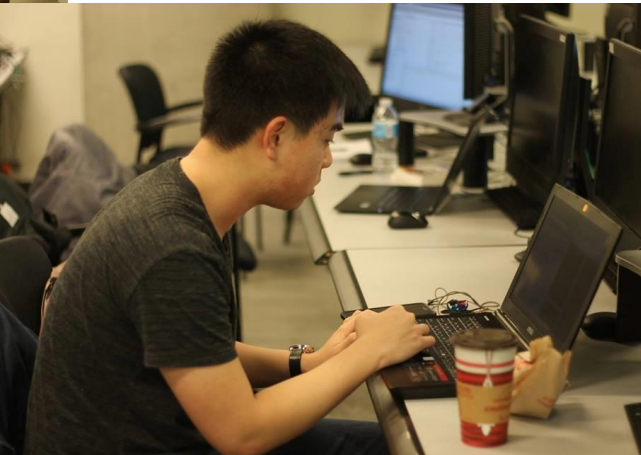
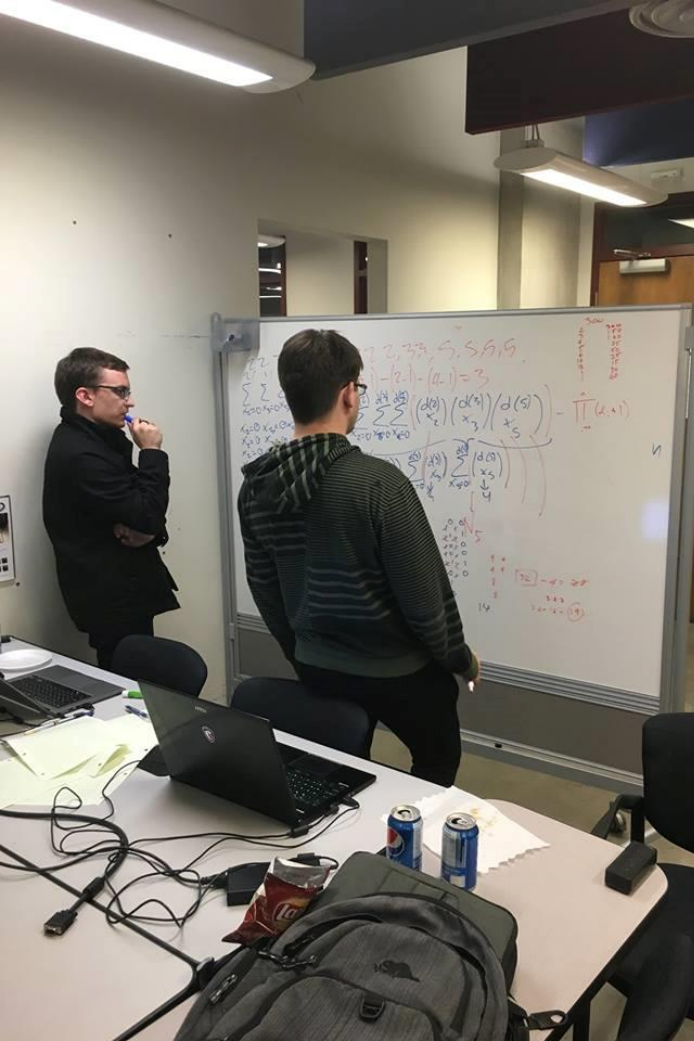


Schneider Electric industry mixer – awards ceremony



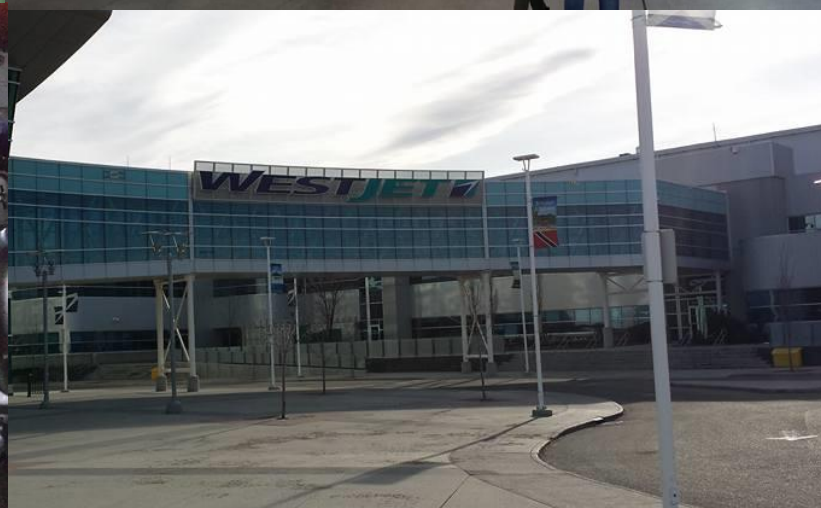
IEEE Xtreme – IEEE Coding Night

Participants 18



Westjet Hangar tour

Participants 14



TransAlta Hydro Plant Tour

Participants 11



Solar farm visit

Participants 10



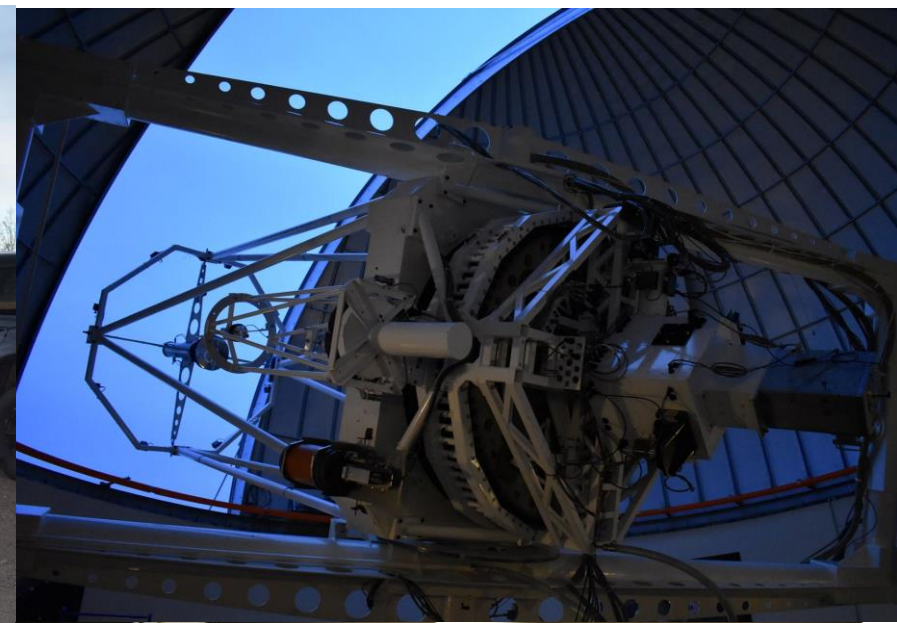
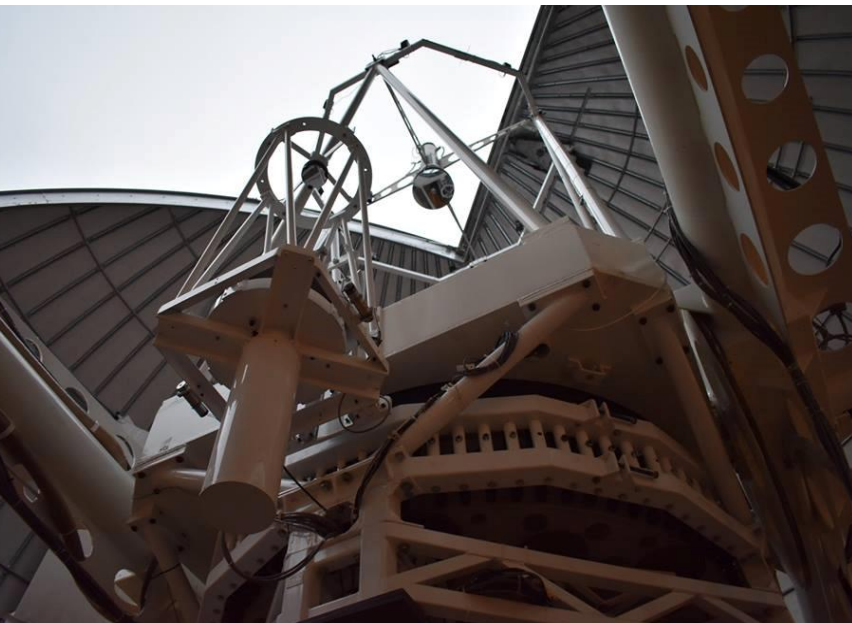
YP Panel – Computer Soc Conference – Lake Louise

Participants 28



Astronomy Night

Participants 12



IEEE Rising Stars – Las Vegas

Participants 23 Ucalgary
Total Participants 320



Entrepreneurship Speaker Series

Attendees 28



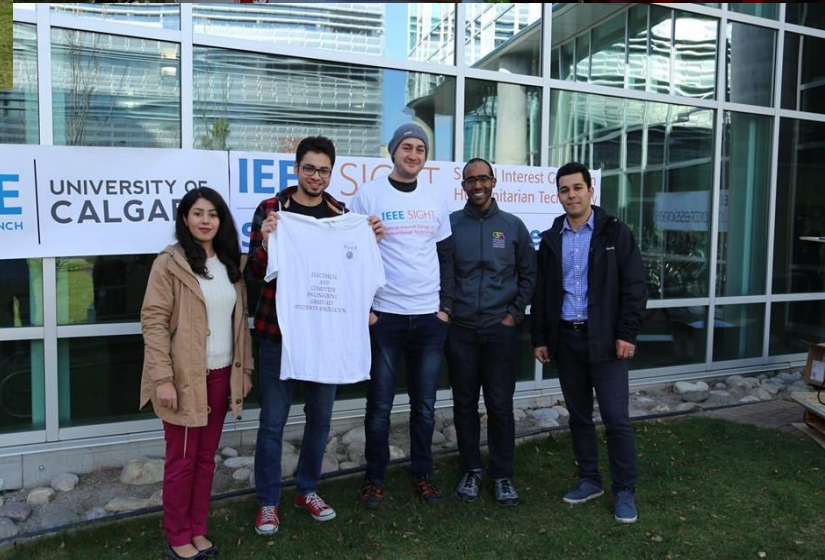
Entrepreneurship Speaker Series

Attendees 12



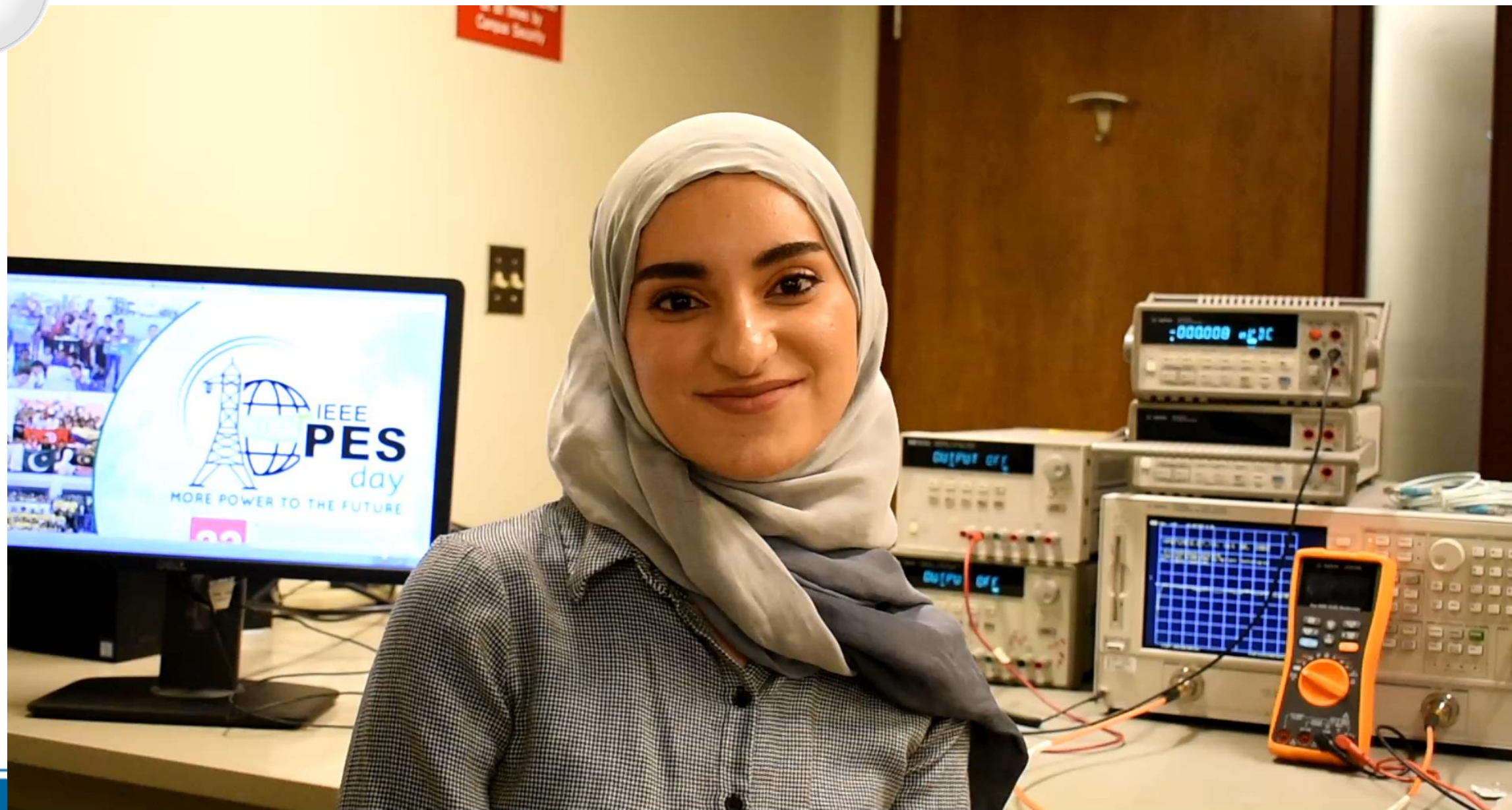
Annual BBQ – IEEE DAY Celebration

Participants: 400





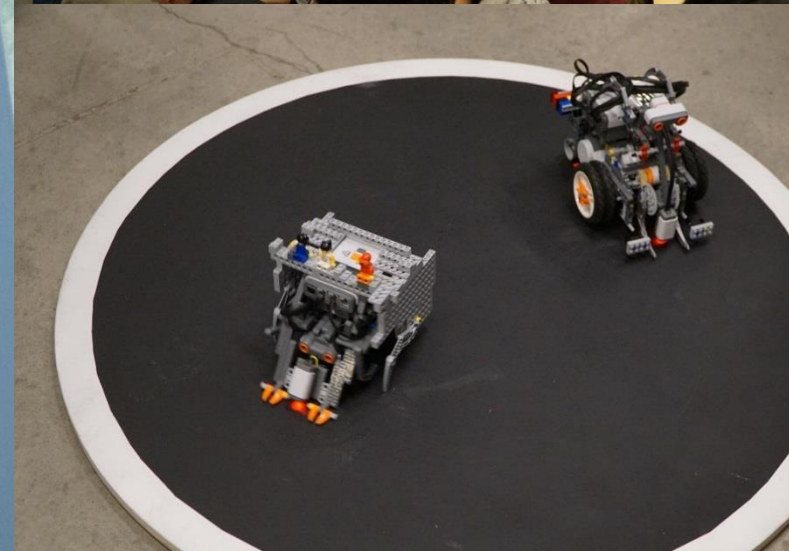
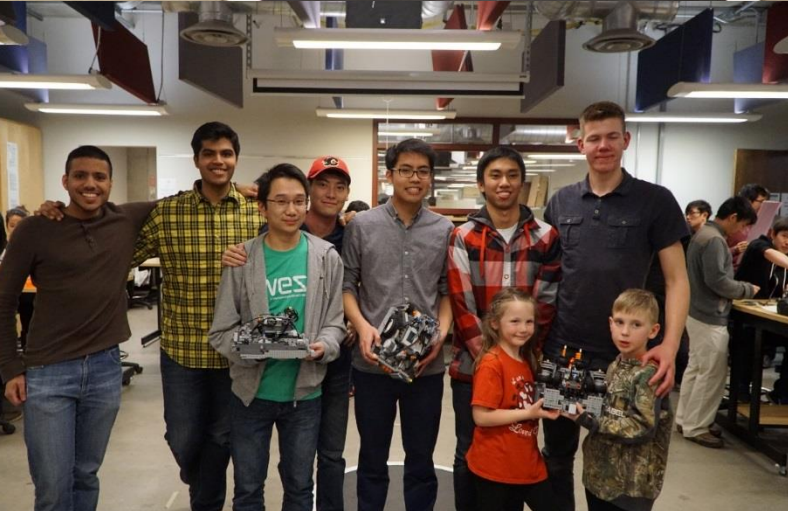
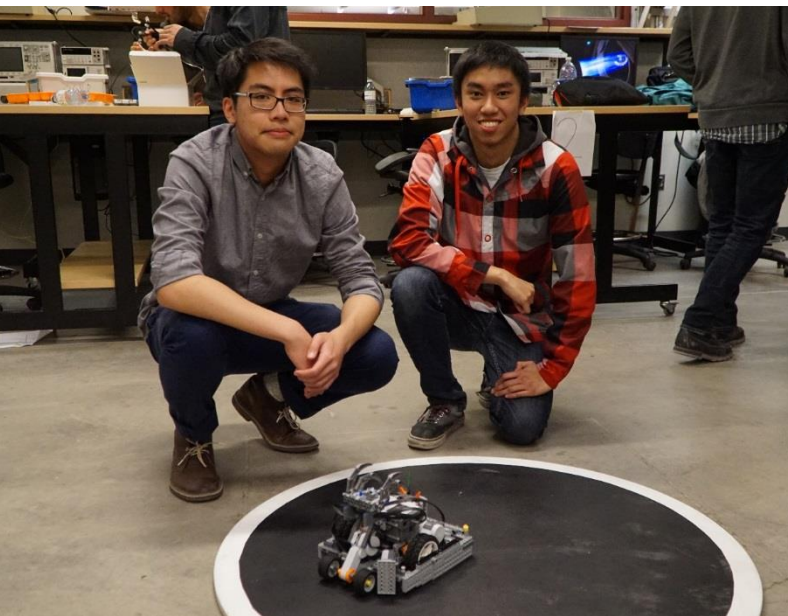
PES Day Celebration





Sumo Robotics Tournament

Participants 60







Young Professionals in Space – Bangalore India

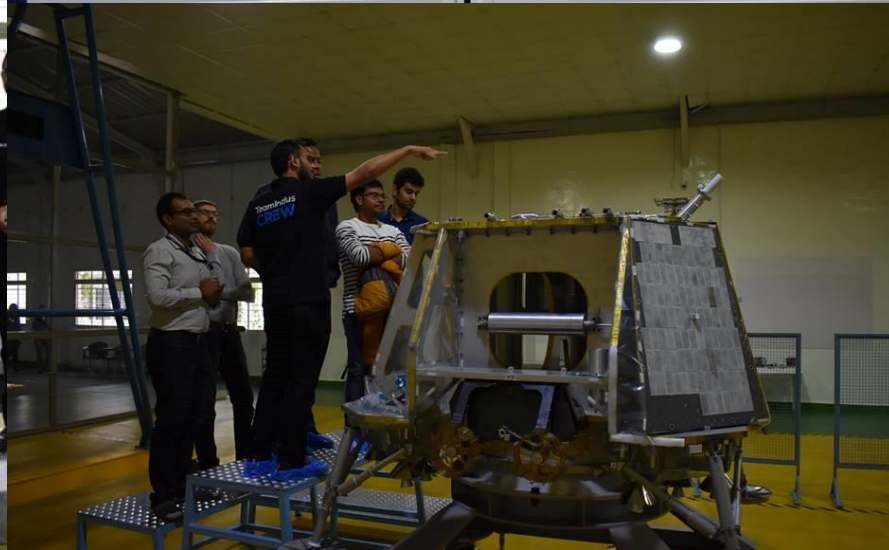
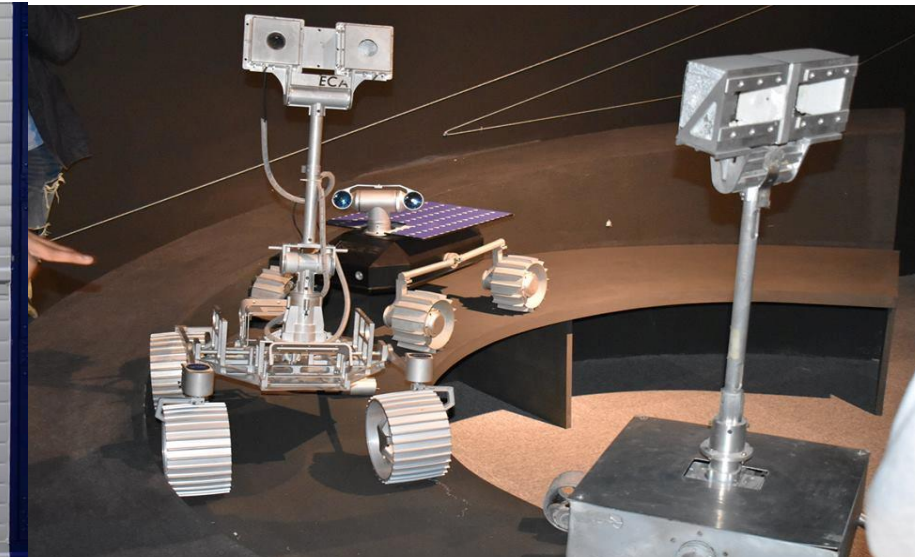
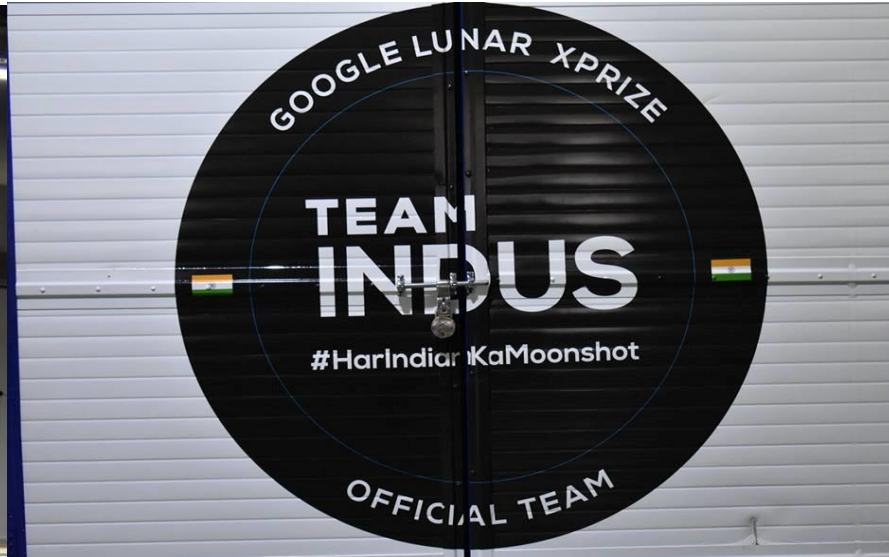
Attendees 250





Vising Team indus– Bangalore India

Participants 12



Humanitarian Activities

SIGHT EVENTS



RFID Innovation and Applications in the Spotlight in Southern Alberta



Radio frequency identification tags are putting products in emerging markets online, enhancing fields such as emergency services livestock, oil and gas, construction, and manufacturing, healthcare, and non-profit logistics, according to Glen Kathler, director of the Southern Alberta Institute of Technology's RFID Application Development Lab.

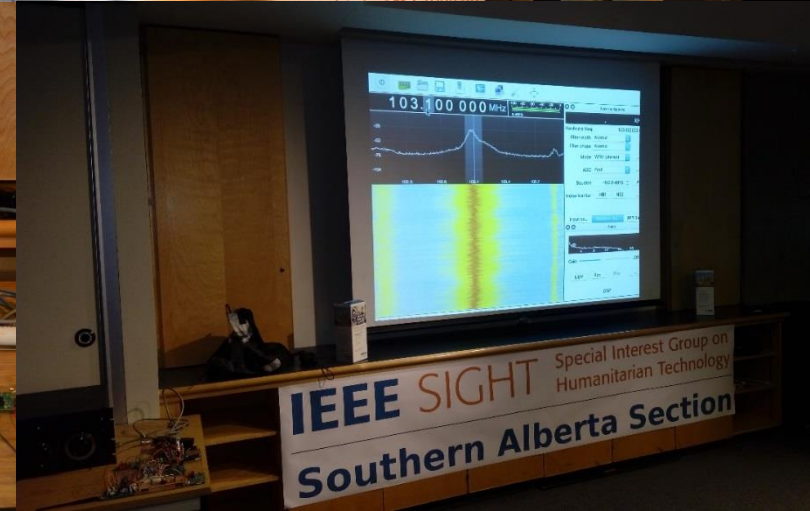
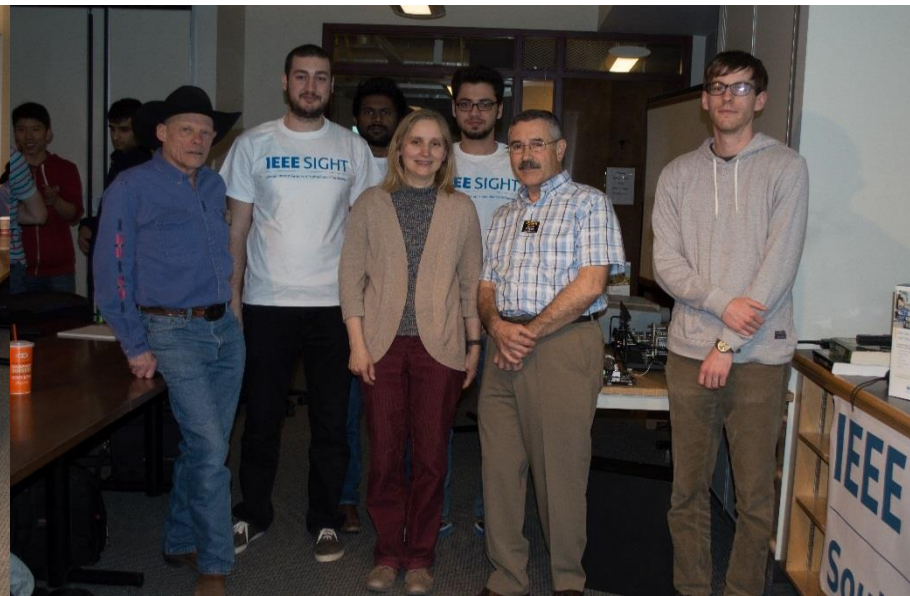
RFID tags improve processes and track assets, including clothing and medical devices, Kathler says. Kathler made the remarks in a talk called Radio Frequency Identification: Innovation and Applications at an event hosted by IEEE SIGHT Southern Alberta.

- Anis Ben Arfi and Martin Berka, IEEE SIGHT Southern Alberta



Amateur radio training

Participants 30



Amateur radio training

Participants 29

Get inspired & make your own content

Download free content to broadcast

Listen LIVE on February 13

WORLD RADIO DAY
13 FEBRUARY 2016

#RadioSavesLives
IN TIMES OF
EMERGENCY AND DISASTER

#WorldRadioDay
worldradioday.org

United Nations
Educational, Scientific and
Cultural Organization



RAC HQ Retweeted

Anis Ben Arfi @AnisBenArfi · Jun 21
Jerry Spring talked about basics of Hamradio at the University of Calgary Amateur Radio Club @CARA_club

Reverse Beacon Network

Big Control and Call Computer Applications



Disaster Alley National Day

Participants 2500



Perspectives from above: Robert Thirsk

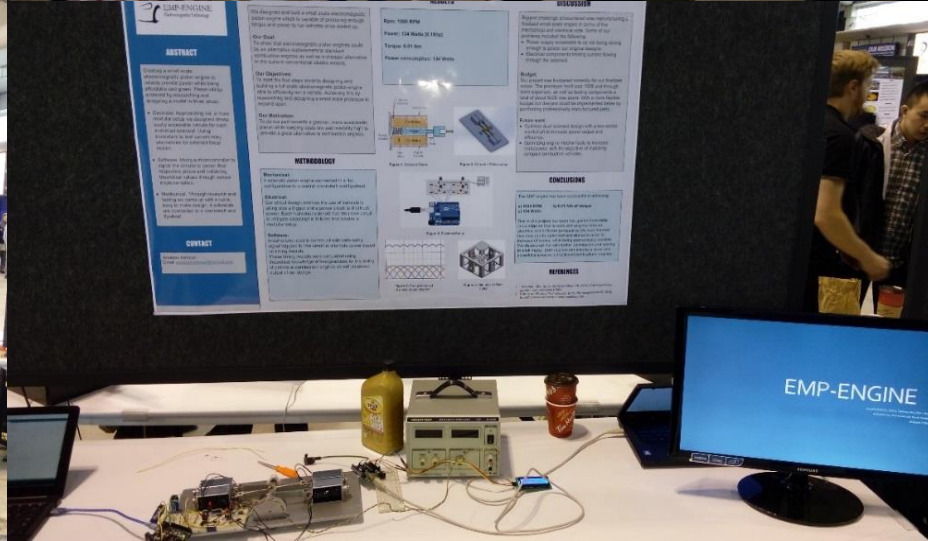
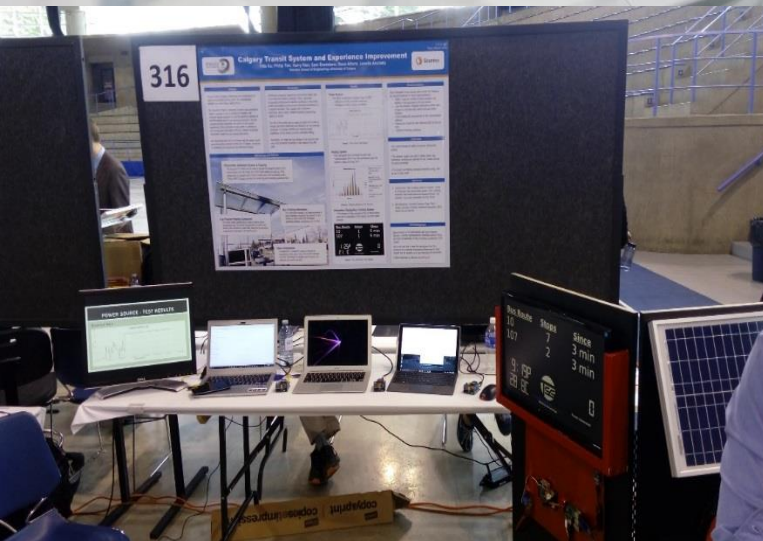


Attendees 120



Participation in Capstone projects

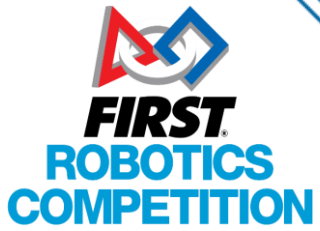
3 Teams



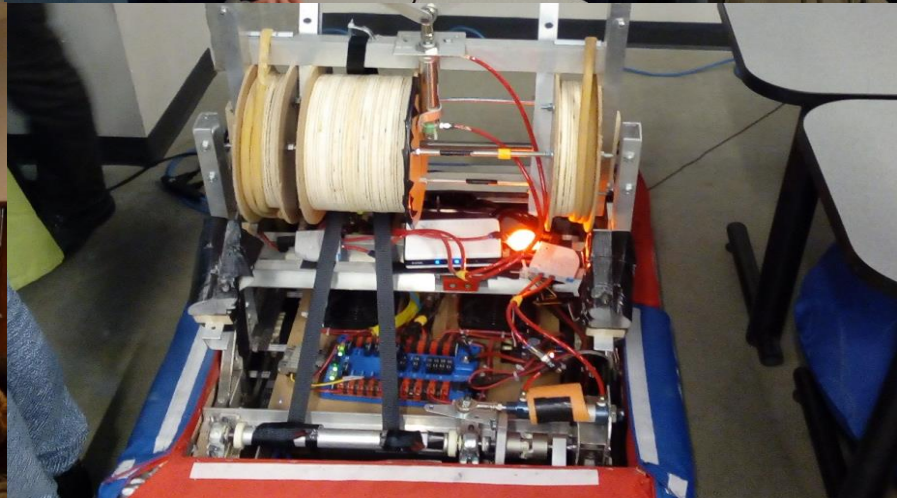
IEEE SIGHT

Special Interest Group on
Humanitarian Technology

Meet My Robot Exhibition



Attendees 110



Meet My Robot

www.science.gc.ca/eic/site/063.nsf/eng/h_03E9C1FB.html

Calgary

Meet my Robot

Room: 116 - ICT
building -
University of
CalgaryMay 13th from
4PM to 6:30PMIEEE
Southern
Alberta
(SIGHT, SB,
YP, MTT)
University Of
Calgary

A makerspace for robots enthusiasts. University of Calgary students and guests will present completed, ongoing and upcoming robotics projects. Bring your robot and join us during this event. Different applications of robotics will be discussed: Robots for humanitarian applications, entertainment and other purposes. Get inspired to start your own robotics project, come meet people and ask them to join your project. <https://www.facebook.com/events/1720939434821390/>

f Search



29 Events

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- Past

Meet my robot

+ Create Event

MAY
13

Meet my robot

Public · Hosted by IEEE SIGHT Southern Alberta Section

✓ Going

www.sciod.ca/partners/**University of Calgary, Faculty of Science****University of Calgary- Schulich School of Engineering**

Canadian Youth SDG training

Attendees 300



All the events I presented are good!
I call them the “One-Day events”
I enjoy organizing these events and will
keep organizing them

Now, Let’s start more impactful work?
targeted to a specific community,
With a sustainable goal.

“BOOTS-ON-THE-GROUND PROJECTS”

Community engagement workshop

24 Participants



Statistics, the need, the aim

92, 000 Calgarians live with a disability.

Solutions are either too expensive, or simply do not exist.

Engineering students, young professionals, technicians, faculty members want to use their skills to make a difference in the community.



Tikkun Olam Makers
: **Calgary**
Aug. 25 - 27, 2017



UNIVERSITY OF CALGARY
Biomedical Engineering Graduate Program

INNOVATE CALGARY

soul of the city | **calgary** economic development
be part of the energy

RBC Foundation | **CALGARY FOUNDATION**
ICE CONNECTIONS: 404.938.1111

ADIMA DYNAMICS | **IEEE SIGHT**
Special Interest Group on Humanitarian Technology

CALGARY JEWISH FEDERATION



YOUR SKILLS CAN MAKE A DIFFERENCE



design **innovative** assistive tech



work on a **multidisciplinary** team



restore someone's **independence**



Tikkun Olam Makers

Sign up:
tomcalgary.com

IEEE SIGHT
Special Interest Group on Humanitarian Technology

Calgary Area Makeathon Aug 26-28



CALGARY JEWISH FEDERATION | **CALGARY FOUNDATION** Neighbour Grants | Google.org | **EGB Manufacturing** | **Javelin** aim high

TOM Makeathon 2016 Preparation



TOM Makeathon 2016



Tikkun Olam Makers

Participants 78

<https://youtu.be/sIU7NhqL6YA?t=24s>

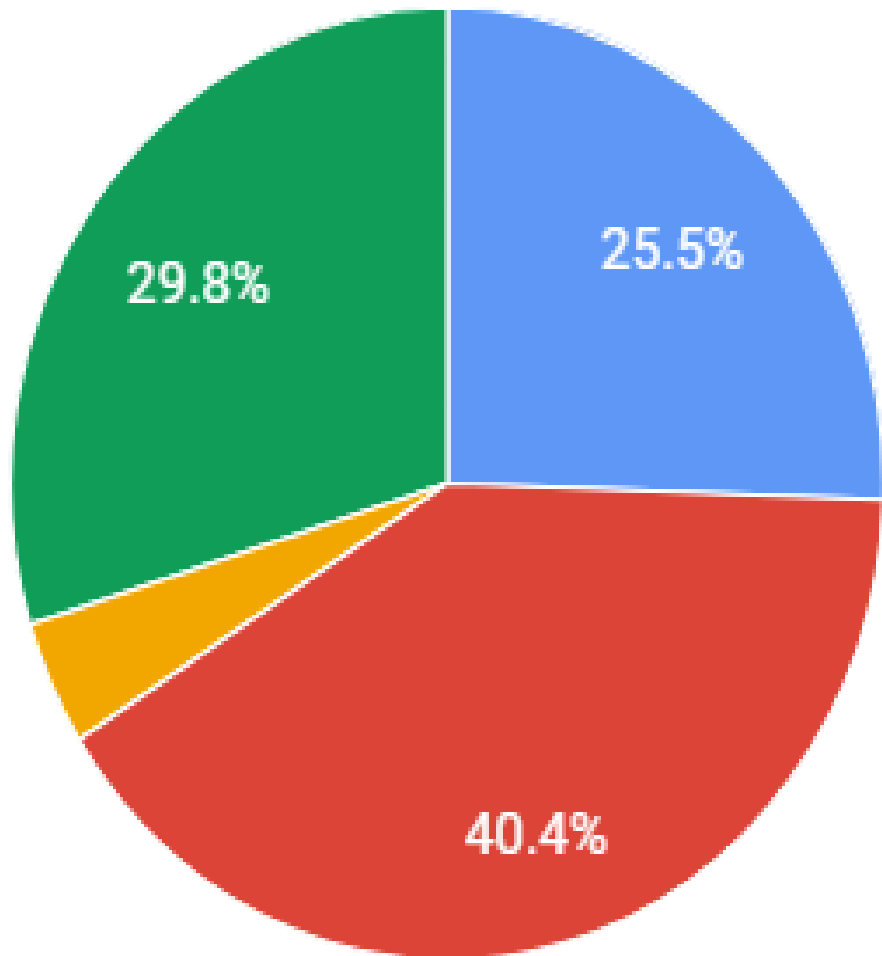
<https://youtu.be/ejWOOoW4Gts?t=47s>



TOM Makeathon: Project Lyft



TOM:Alberta Community



- SSE Undergraduates
- SSE/BMEG Graduate Students
- UofC Faculty
- Calgary Makers

IEEE SIGHT

Special Interest Group on
Humanitarian Technology

Partners



RBC Foundation



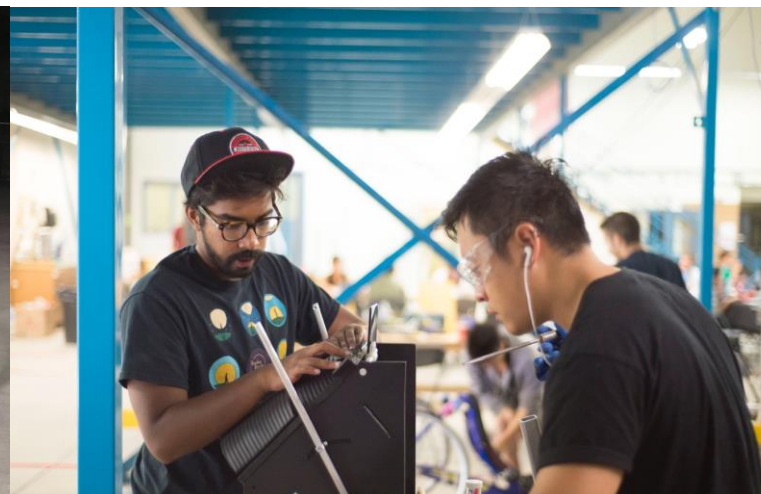
CALGARY
FOUNDATION
FOR COMMUNITY, FOREVER



UNIVERSITY OF CALGARY

Biomedical Engineering Graduate Program

TOM Makeathon 2017



TOM Makeathon 2017 Preparation



IEEE SIGHT BLOG

IEEE SIGHT SOUTHERN ALBERTA HELD A 72-HOUR MAKE-A-THON FOR ASSISTIVE TECH

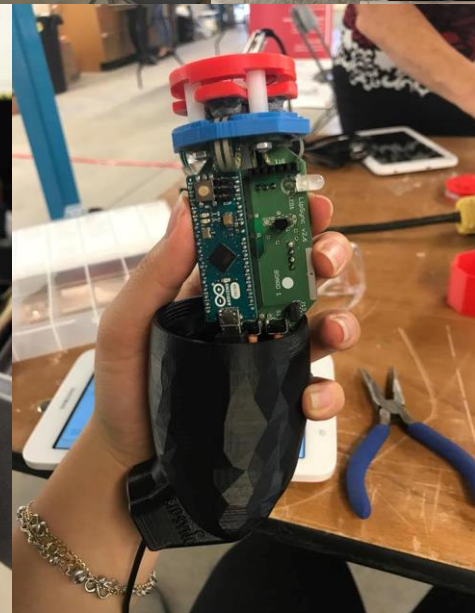
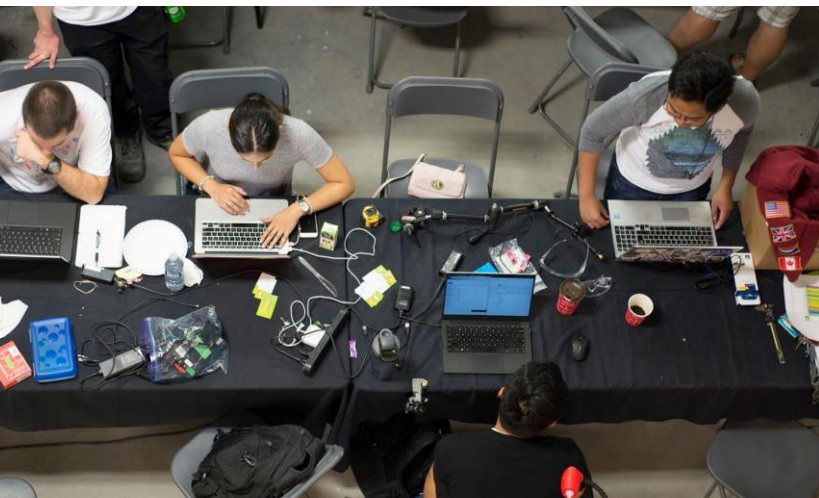
28 Sep, 2017

Cutting edge technology and innovation begins with devoted people, simple ideas and noble purpose. Because some people will need a solution to make their daily life better, IEEE SIGHT Southern Alberta Section is partnering with Tikkun Olam Makers (TOM) makers movement for the second year to develop solutions for people with special needs.

This summer, Tikkun Olam Makers: Calgary held a 72-hour Make-A-Thon competition – an entire weekend of planning, collaborating and prototyping.

Diana Dang, an electrical engineering student in the University of Calgary and Vice-Chair of the IEEE

LipSync Building Workshop



Siksika Nation Reserve Location



Siksika Nation Reserve visit



IEEE Canadian Review
La revue canadienne de l'IEEE
December / décembre 2016 | No. 77

*Alberta celebrates
Higher Education
Milestones*

Contribute to
Bob Alden
Part II

**McNaughton
Plaque**
dedication

**The Siksika Nation:
Future is
Looking
up**

Canada Post—Canadian Publications Mail Sales
Product Agreement # 40592512

 **IEEE Canada** 
The Institute of Electrical and Electronic Engineers, Inc.

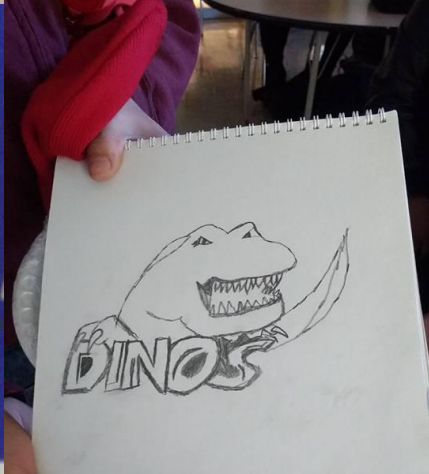
Getting Started – Preparing for educational activities



Started the STEM program



Not just STEM, Arts too



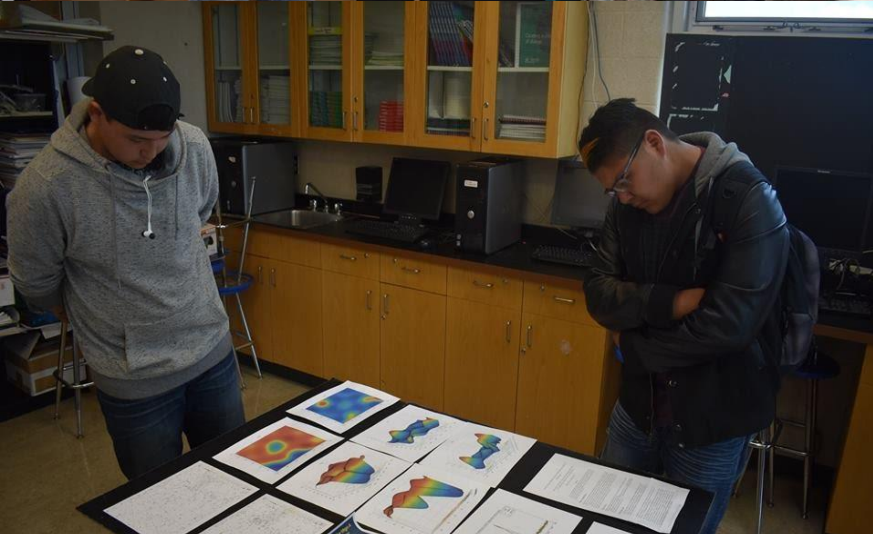
Got access to new facilities



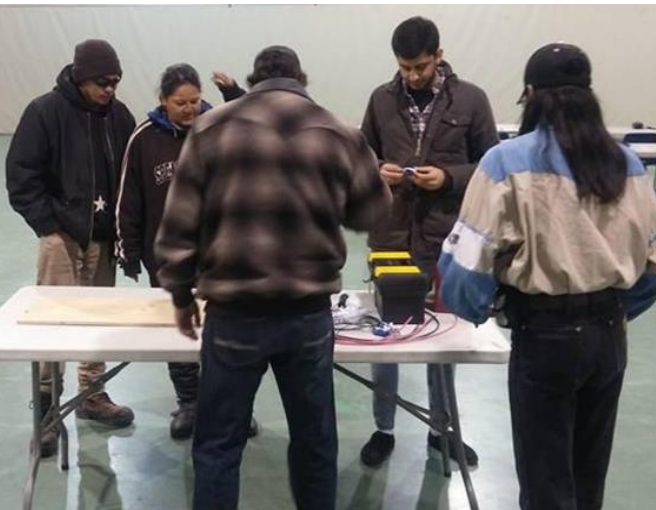
New Location + Machine Shop



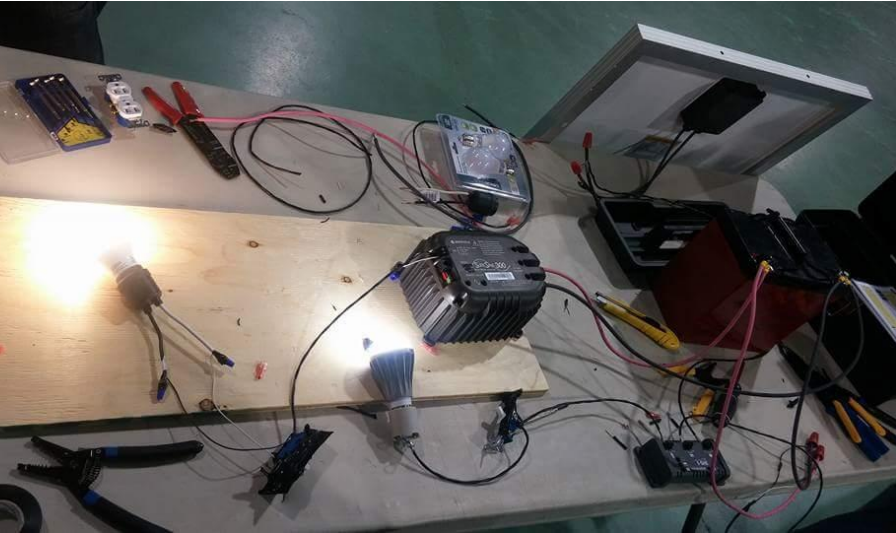
Radio Astronomy + Student Poster



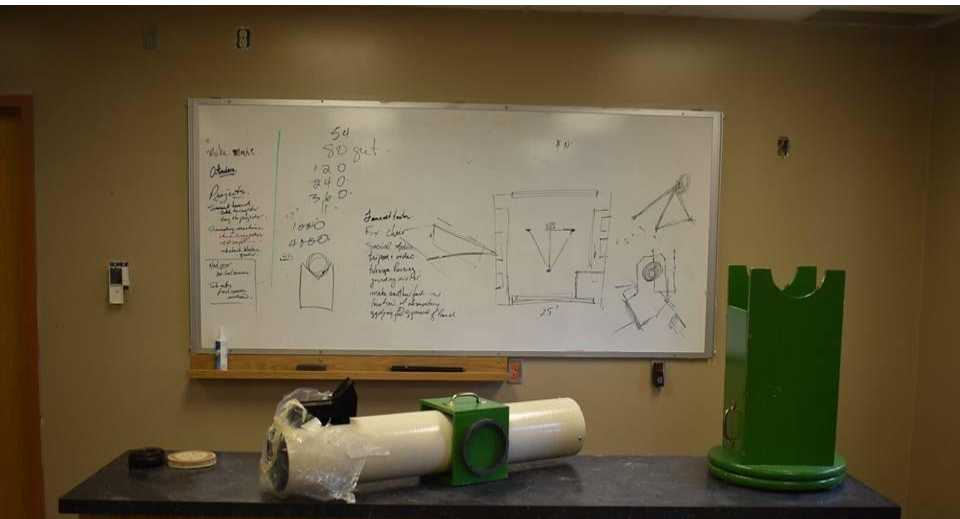
Training by Light Up The World – Day 1



Training by Light Up The World – Day 2



Rebuilding an optical telescope



Solar Kit Project

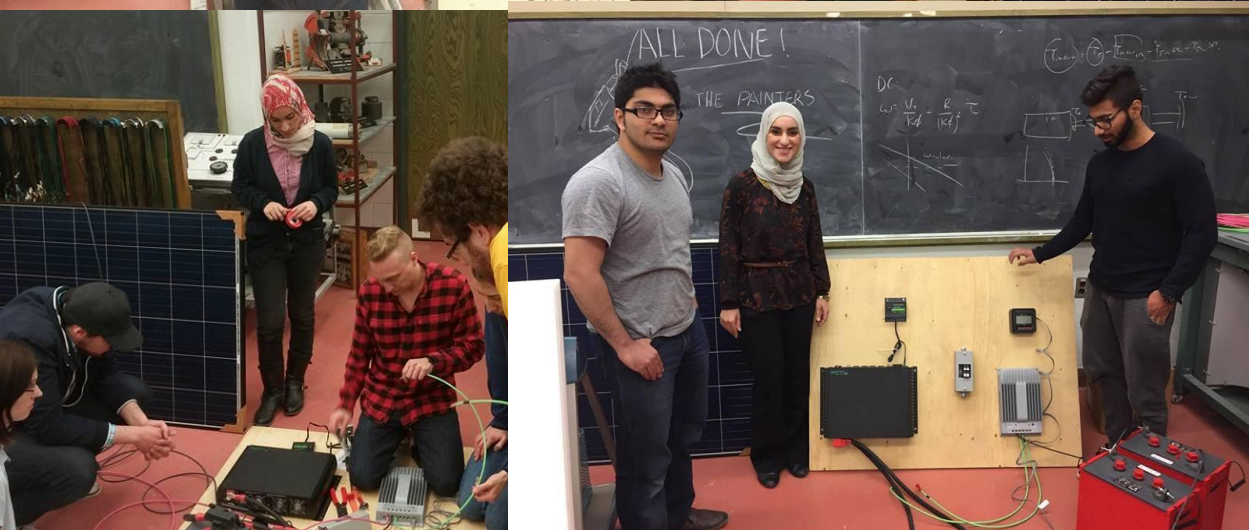


Solar Kit Project introduction

Participants 22



Building the solar kit on campus



Siksika Nation – The future is looking up

For tens of thousands of years, the Siksika-itsitapi have studied and recorded the motions of celestial bodies. Today, this knowledge is emerging from the past to reveal a vision of the future — one that reaches the planets and beyond!

By Tusha Sharma, Bruce Rout, David Garrett and Anis Ben Arfi

video: building the solar observatory by local people



Using the solar panels kit built by students to power the observatory

Powering a Solar Observatory Paper

Solar Powered Observatory for Educational Activities

Sarah Awara, Rafae Malik, David C. Garrett, Anis Ben Arfi (IEEE Graduate Student members)
Department of Electrical and Computer Engineering, University of Calgary, Calgary, Canada.
(saawara; arafae; dgarrett; abenarfi)@ucalgary.ca

Abstract— In the summer of 2013, Alberta experienced significant flooding. According to the government of Alberta, this flood was “the largest and most expensive natural disaster in Alberta’s history” [1]. Siksika Nation was severely impacted, with almost 170 homes devastated by the flood [2]. Recovery was slow, with many families left in temporary housing or without power for several years. A community engagement program developed by the IEEE southern Alberta section has been taking place on the Siksika First Nation reservation. A student team from the University of Calgary with the IEEE Special Interest Group on Humanitarian Technology (SIGHT) affinity is leading these activities. The IEEE volunteers are currently working with the reservation’s community members to build an astronomical observatory located in a dark area as part of the educational program. The team worked on installing an off-the-grid solar kit to power the observatory. The solar kit was assembled and tested by the students at the university and then installed at the observatory. After the installation of the solar kit, the community members will be trained to maintain the solar kit system while using the telescopes for observation.

increasing interest in STEM topics; and iii) preparing the inhabitants of the reservation in case of future natural disaster through solar electrification. In this paper, we first outline technical details of the implemented solar energy system. Next, we describe activities to train both students and community members in applying solar energy to the observatory. Finally, we discuss results from this initiative and outlook to future activities.

II. BACKGROUND

After allocation of funding for this project from IEEE SIGHT, students focused on planning and organization for the project. A study was performed on the specifications and components of the required system, and the power budget. The solar kit components were then purchased from local suppliers offering sustainable support through 25-year warranty on the panels and other parts, maintenance service, and spare parts.

A. Sizing the Solar Energy System



GHTC 2017

IEEE Global Humanitarian Technology Conference
DoubleTree By Hilton San Jose, California, USA — October 19 – 22, 2017
Organized by IEEE Region 6 & IEEE Santa Clara Valley Section

Congratulations - we are pleased to inform you that your paper 1570361604 ('Solar Powered Observatory For Educational Activities') for 2017 IEEE Global Humanitarian Technology Conference (GHTC 2017) has been accepted.

***** Comments to Author *****

This paper is description of an IEEE SIGHT activity.

We would like to see similar activities reported in our conference.



Participation in SIGHT reception at GHTC



Types of SIGHT Groups

<h3>Professional SIGHT Groups</h3> <ul style="list-style-type: none">• Sponsored by a society, section, council or region• Engage in long-term projects with the community	<h3>University SIGHT Groups</h3> <ul style="list-style-type: none">• Sponsored by a student branch• Require a faculty lead• Engage in a "feet on the ground" project with the community
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IEEE Advancing Technology for Humanity



Bridging the digital divide - Maskwacis



Maskwacis Cree
Samson Cree Nation

Bruce Buffalo documentary



Search (Broadband Bruce)



Al Jazeera English

Published on Jun 18, 2017

Broadband Bruce: Fighting Canada's Digital Divide - Witness

Maskwacis is an impoverished Canadian community grappling with addiction, unemployment and suicide. Like many other indigenous reserves, it's a place cut off from the world. There are no landlines, patchy cell service and no affordable ways to get online.

Enter Bruce Buffalo, a local young man who grew up bouncing around foster homes and in and out of jail. Having turned his own life around, he wants to give the First Nations community something millions of other Canadians take for granted: the internet.

Convinced that connectivity will open up new job and education opportunities, Bruce sets about building Maskwacis its own high-speed internet network. But with no backing, piling debt and huge technical obstacles, will Bruce succeed in bringing Maskwacis into the digital age?

More from Witness on:

YouTube - <http://aje.io/witnessYT>Facebook - <https://facebook.com/AJWitness>Twitter - <https://twitter.com/AJWitness>Instagram - <https://instagram.com/ajwitness/>Website - <http://aljazeera.com/witness>

Category

News & Politics

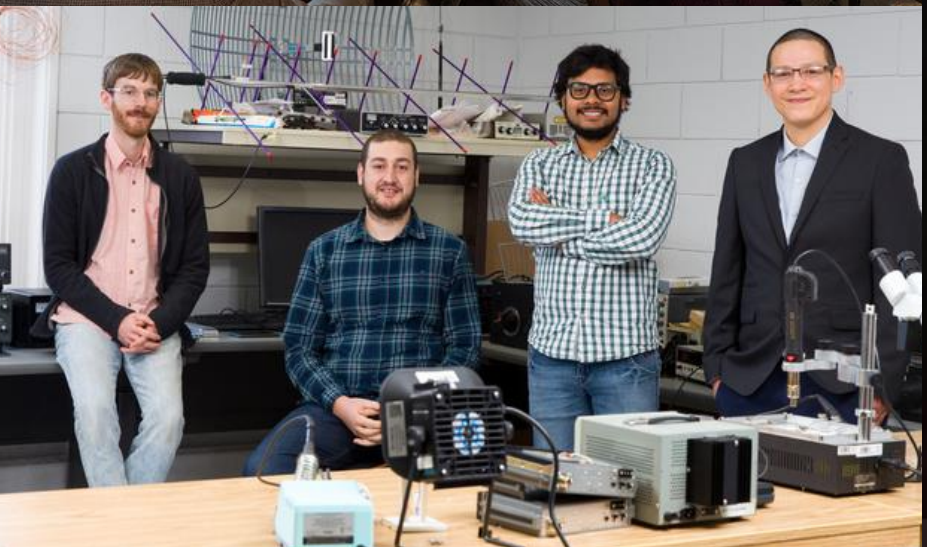


Broadband Bruce: Fighting Canada's Digital Divide - Witness

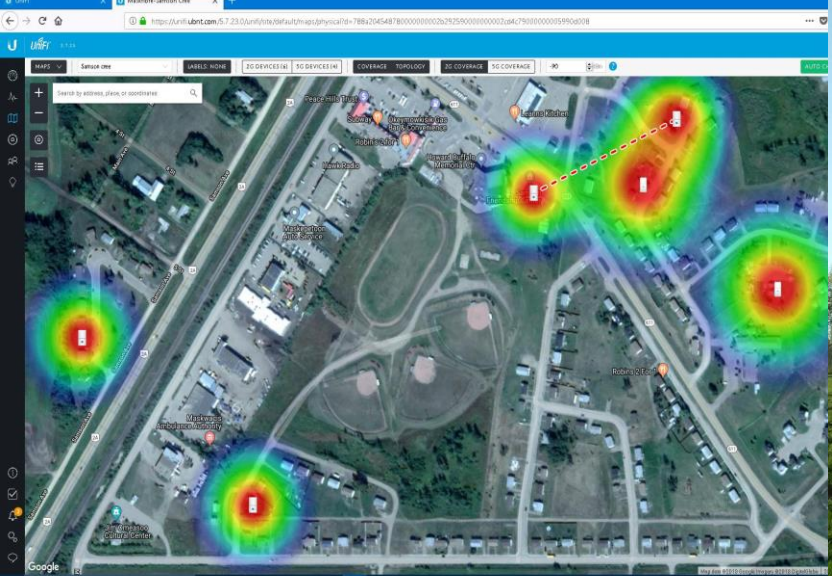
9,374 views

181 3 SHARE ...

Hosting Talks, raising awareness



Installing new access points



DEEP PACKET INSPECTION



- Web
- Streaming Media
- Games
- Social Network
- Network Protocols
- Other

Devices

	WLAN	8
	LAN	1
	WAN	1



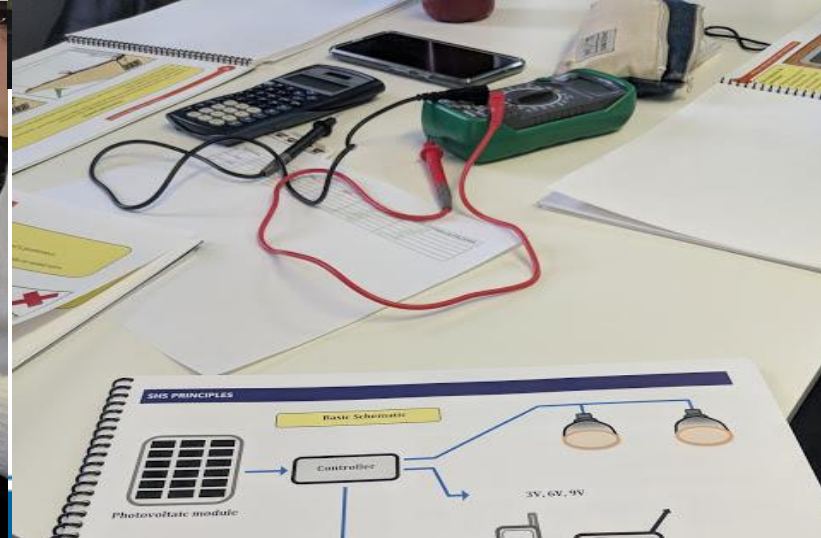
Clients

	Wireless	104
	Wired	26

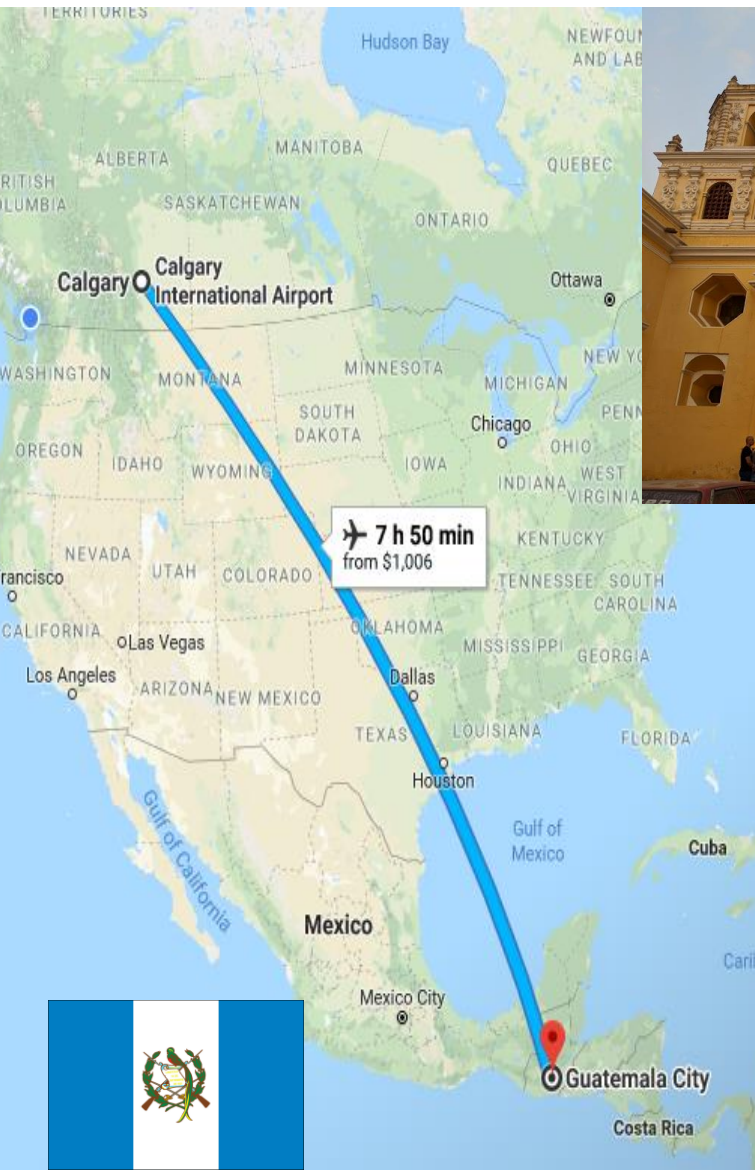


Workshop: Preparing for Guatemala

Participants 12



First Day in Guatemala



Drive to Todos Santos



Inspecting old installations Day 1



Inspecting old installations Day 2



Inspecting old installations Day 3





Solar panels installation for the School



Solar panels installation for the School - Day 4

40 lightbulbs, 12 AC power outlets, 23 switches





Installing a Signal Booster at the school



Solar electrification for the Community Centre



Cultural exchange



Meet the man



Education *for* Change
Public Schools



Celebrating the light: Gracis Dios por la luz



Southern Albertans powered up schools in Guatemala using Solar PV

Linda Zhao, IEEE Southern Alberta SB chair, Rafae Malik Southern Alberta PES SB Chair and Anis Ben Arfi IEEE Southern Alberta SIGHT chair.



In 2017, IEEE Canadian Foundation awarded a one-time Special Grant to the University of Calgary IEEE Student Branch for partially funding of a Solar Energy Project in Guatemala. In February 2018, a group of 12 University of Calgary students and one faculty member traveled to the western highlands of that country as technical volunteers to install photovoltaic (PV) systems for a rural indigenous Mayan community.



*Some of the participants (left to right): Ruo Huang, Linda Zhao, Wasiq Mahmood, William Ho, Justin Park, Kalvin Wu, Meiting Lei, *Myriam Zareipour, *Hamid Zareipour and Anis Ben Arfi.*



Recognitions and Awards

- Southern Alberta Section:
- Region 7 best large section award 2015
- MGA Outstanding PES Chapter 2015
- Region 7 best medium Section award 2016
- Region 7 best medium Section award 2017
- MTT Best student branch 2017
- MGA best medium section award 2017
- My team and I:
- SIGHT-APS best design competition
- Scholarship in achievement in leadership 2016
- Young Professionals Hall of Fame 2015
- Graduate representatives council: Outstanding Student Initiative 2017
- MGA YP achievement 2017
- Government of Alberta Graduate Citizenship Award
- Schulich Engineering School Leadership Award 2018
- The University of Calgary Sustainability award
- VOLT program graduate



What we have learned?

- ▶ Taking full benefit from your IEEE membership
- ▶ Managing resources (human, financial, time...)
- ▶ Learned a lot of new technical Skills
- ▶ Meeting and working with great people
- ▶ Giving back to my community and to the world through IEEE!
- ▶ Enjoying the engineering discipline and using it for humanitarian purposes

What I have learned?

- ▶ Expertise in catering (Specialized in ordering pizza, soda, coffee, donuts,)
- ▶ Designing good posters and promoting events on social media
- ▶ Installing Audiovisual equipment and troubleshooting it
- ▶ Booking rooms and select good venues for events
- ▶ Send Invitation emails (but not spamming)
- ▶ Pay the parking for the guest speakers
- ▶ Fill a claim expenses form correctly (and include all the receipts)
- ▶ Call for a motion at the section meeting (ideally, vote 'in favour!' for all the motions)

Future Events: IEEE Rising Stars

IEEE Rising Stars Conference

<http://sites.ieee.org/risingstars/>



Future Events: IEEE Rising Stars



2019 IEEE Rising Stars Conference
January 4-6, 2019 - Tropicana Hotel, Las Vegas NV

Networking sessions Students' competition
Professional development Panel discussions
Industry Speakers Humanitarian technology
And more...

REGISTER NOW
Early Bird price until 15 Nov

The Rising Stars logo is positioned in the top right corner of the banner image.

IEEE Rising Stars Conference
@IEEERisingStars

- Home
- Posts
- Reviews

Like Follow Share ...

Send Message



Future Events: LUTW installation in Peru - April 2019

Electrical and Computer Engineering

Hamidreza Zareipour

Position:

Professor

Phone:

(403) 210-9516

Address:

ICT 444

E-mail:

h.zareipour@ucalgary.ca

Website:

<http://www.ucalgary.ca/hzareipo/>

Biography:

Dr. Zareipour received his Ph.D. degree in electrical and computer engineering from the University of Waterloo, Ontario, Canada, in 2006. He joined the University of Calgary in January 2007 where he is now a Professor of Electrical and Computer Engineering. Dr. Zareipour is a Senior Member of IEEE.

Teaching:

Dr. Zareipour has taught the following courses:

- ENEL 500 - Fourth Year Team Design Project
- ENEL 587 – Power Systems
- ENEL 597 – Power System Operation and Markets
- ENEL 693 – Restructured Energy Markets
- ENEL 601 – Power Systems Analysis (Advanced)



Certifications:

BSc, Electrical Engineering, K.N. Toosi University of Technology, 1995
MSc, Electrical Engineering, University of Tabriz, 1997
PhD, Electrical and Computer Engineering, University of Waterloo, 2006

P.Eng.

Graduate Program Affiliations:

Calgary Electric Power and Energy Systems (CaPES)
Sustainable Power Systems Research

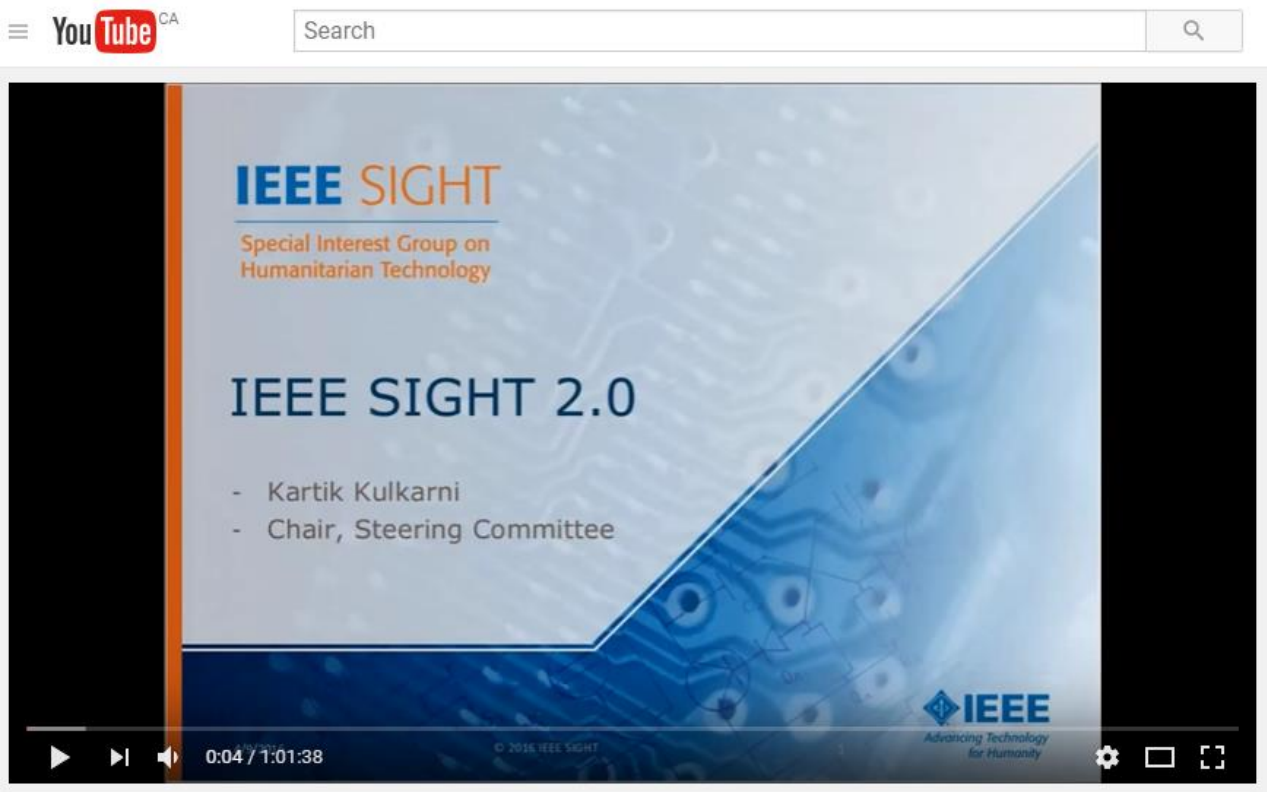


Future Events: YP in Space

<https://www.ypinspace.com>



For more info: SIGHT in Bytes webinars



IEEE SIGHT | SIGHT in Bytes Webinar



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Thank you!

