Sean Victor Hum – Curriculum Vitae

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RANK

PROFESSOR, tenured, full-time
Eugene V. Polistuk Chair in Electromagnetic Design (2020-current)
Cross-appointed with the University of Toronto Institute for Aerospace Studies (UTIAS)
Date of original appointment as assistant professor: September 1, 2006
Date of promotion to associate professor with tenure: July 1, 2012
Date of promotion to full professor: July 1, 2018

EDUCATION

UNIVERSITY OF CALGARY — *Ph.D. Elec. Comp. Engineering*
Calgary, Alberta — **Jan. 2002 - Jul. 2006**
Thesis title: Reconfigurable Antennas Based on Electronically Tunable Reflectarrays

UNIVERSITY OF CALGARY — *M.Sc. Elec. Comp. Engineering*
Calgary, Alberta — **May 1999 - Dec. 2001**
Thesis title: Electro-optic modulators for radio-on-fiber applications

UNIVERSITY OF CALGARY — *B.Sc. Elec. Comp. Engineering*
(with distinction, internship)
Calgary, Alberta — **Sept. 1994 - Apr. 1999**

RELATED EXPERIENCE

University of Toronto — *Associate Chair, Graduate Studies, ECE*
Toronto, Ontario — **Jul. 2018 - Jun. 2021**

- Administered three degree programs (Ph.D., M.A.Sc., and M.Eng.) for the department, which comprises over 700 graduate students

- Major achievements: streamlining oral exam procedures for the research stream; expansion of the M.Eng. program; development of a departmental graduate information database; managing numerous relief and operational measures associated with the COVID-19 pandemic

Universidad Politécnica de Madrid — *Visiting Professor*
Madrid, Spain — **May 2014 - Jul. 2014**

- Collaborating on multibeam reflectarrays for satellite applications (with ESA)

European Space Agency - ESTEC — *Visiting Scientist*
Noordwijk, The Netherlands — **Jan. 2014 - May 2014**

- Collaborating with researchers in antenna and millimetre-wave section on reconfigurable telecom antennas for satellite applications

TRLabs   *Research associate*
Calgary, Alberta   **Apr. 1999 - Jul. 2006**

- Conducted research on reconfigurable antennas and RF systems
- Designed microwave structures for improving the performance of electro-optic modulators in radio-on-fibre systems
- Supervised TRLabs internship and research students

TRLabs   *Research intern*
Calgary, Alberta   **May 1997 - Aug. 1998**

- Researched experimental optical modulation techniques for combating optical fibre dispersion in radio-on-fibre applications
- Performed radio channel measurements to determine the impact of the channel on the performance on digital modulation techniques

HONOURS AND AWARDS	Mar. 2025	Wighton Fellowship (nominated; decision pending)
	Apr. 2024	University of Toronto Northrop Frye Award
	Jan. 2023	Exceptional Reviewer award for IEEE Journal of Microwaves
	Jan. 2020	Eugene V. Polistuk Chair in Electromagnetic Design (5 year term)
	Jul. 2017	IEEE AP-S R. W. P. King paper award (*shared with Tony Liang*)
	May 2017	Departmental Teaching Award
	Jul. 2015	IEEE AP-S R. W. P. King paper award (*shared with Tony Liang*)
	Apr. 2012	Ontario MEDI Early Researcher Award
	Sep. 2011	Elevated to IEEE Senior Member
	May 2011	Gordon R. Slemon Award for the Teaching of Design
	April 2011	FASE Early Career Teaching Award
	August 2010	Appointed Associate Editor, IEEE Transactions on Antennas & Propagation
	July 2010	Exceptional Reviewer award for IEEE Trans. Antennas & Propagation
	Spring 2010	Departmental Teaching Award
	Fall 2009	Departmental Teaching Award
	Fall 2007	Departmental Teaching Award
	Nov. 2006	Alberta Science and Technology Foundation (ASTech) Leaders of Tomorrow Award
	Jul. 2004	Student Paper Award, 2004 IEEE AP-S International Symposium (Ph.D.)
	Sep. 2003	Canadian Wireless Telecommunications Association Scholarship (Ph.D.)
	Jun. 2002	Governor General of Canada Gold Medal (M.Sc.)
	Jan. 2002	Best Student Paper Award, 2002 International Conference on Microwaves, Radar, and Wireless Communications (MIKON) (M.Sc.)
	Sep. 2001	Alberta Ingenuity Fund Studentship (Ph.D., 5 years)
	Sep. 2001	NSERC PGS B Postgraduate Scholarship (Ph.D., 2 years)
	Sep. 1999	iCORE Post Graduate Scholarship Award (M.Sc., Ph.D., 6 years)
	Sep. 1999	TRLabs Scholarship, Fellowship and Special Award (M.Sc., Ph.D., 6 years)
	Sep. 1999	NSERC PGS A Postgraduate Scholarship (M.Sc., 2 years)
	May 1999	Engineering Institute of Canada Gold Medal (B.Sc.)

Courses Taught (Undergraduate)	Term	Class	Enrolment
	Spring 2025	ECE295H1S, Hardware Design and Communication	216
	Spring 2025	ECE422H1S, Radio and Microwave Wireless Systems	22
	Spring 2024	ECE295H1S, Hardware Design and Communication	114
	Spring 2024	ECE422H1S, Radio and Microwave Wireless Systems	9
	Spring 2023	ECE295H1S, Hardware Design and Communication	97
	Spring 2022	ECE295H1S, Hardware Design and Communication	84
	Spring 2021	ECE221H1S, Electric and Magnetic Fields	322[1]
	Spring 2020	ECE221H1S, Electric and Magnetic Fields	103
	Spring 2019	ECE221H1S, Electric and Magnetic Fields	115
	Fall 2017	ECE320H1S, Fields and Waves	62
	Spring 2017	ECE221H1S, Electric and Magnetic Fields	116
	Spring 2017	ECE422H1S, Radio and Microwave Wireless Systems	21
	Spring 2016	ECE357H1S, Electromagnetic Fields	34
	Spring 2016	ECE422H1S, Radio and Microwave Wireless Systems	26
	Spring 2015	ECE357H1S, Electromagnetic Fields	38
	Spring 2015	ECE422H1S, Radio and Microwave Wireless Systems	9
	Fall 2013	MAT290H1F, Advanced Engineering Mathematics	98
	Spring 2013	ECE422H1S, Radio and Microwave Wireless Systems	15
	Fall 2012	ECE320H1S, Fields and Waves	83
	Spring 2012	ECE422H1S, Radio and Microwave Wireless Systems	8
	Fall 2011	ECE320H1S, Fields and Waves	68
	Spring 2011	ECE422H1S, Radio and Microwave Wireless Systems	25
	Fall 2010	ECE320H1S, Fields and Waves	62
	Spring 2010	ECE422H1S, Radio and Microwave Wireless Systems	35
	Fall 2009	ECE320H1S, Fields and Waves	93
	Spring 2009	ECE422H1S, Radio and Microwave Wireless Systems	36
	Fall 2008	ECE320H1F, Fields and Waves	55
	Spring 2008	ECE422H1S, Radio and Microwave Wireless Systems	41
	Fall 2007	ECE320H1F, Fields and Waves	53
	Spring 2007	ECE422H1S, Radio and Microwave Wireless Systems	71

[1]All lecture sections merged for online delivery due to COVID-19

	TERM	CLASS	ENROLMENT
COURSES TAUGHT (GRADUATE)	Fall 2024	ECE1236H1S, Microwave and Millimetre-Wave Techniques	6
	Fall 2023	ECE1229H1S, Advanced Antenna Theory	5
	Fall 2021	ECE1229H1S, Advanced Antenna Theory	6
	Spring 2021	ECE1236H1S, Microwave and Millimetre-wave Techniques	6
	Spring 2020	ECE1229H1S, Advanced Antenna Theory	5
	Fall 2018	ECE1229H1S, Advanced Antenna Theory	12
	Fall 2013	ECE1229H1S, Advanced Antenna Theory	7
	Fall 2012	ECE1229H1S, Advanced Antenna Theory	11
	Fall 2011	ECE1229H1S, Advanced Antenna Theory	5
	Fall 2010	ECE1089H1F, Microwave structures integrated with nonlinear devices (reading course)	1
	Fall 2010	ECE1229H1S, Advanced Antenna Theory	6
	Spring 2010	ECE1229H1S, Advanced Antenna Theory	7
	Spring 2009	ECE1253H1S, Active Microwave Circuits	5
	Spring 2008	ECE1253H1S, Active Microwave Circuits	9

NUMBER OF SUPERVISORSHIPS

UNDERGRADUATE

- Undergraduate summer project students: 16 completed

- Undergraduate 4th year project students: 89 graduated, 6 in progress

- Engineering Science / ECE499 thesis students: 7 graduated, 1 in progress

GRADUATE

- Graduate Theses / Projects

  In progress

M.Eng.	0
M.A.Sc.	3
Ph.D.	4

  Completed

M.Eng.	3
M.A.Sc.	14
Ph.D.	7
Ph.D. international exchange students	6

POST-DOCTORAL

In progress	0
Completed	6

GRADUATE THESES (COMPLETED)

1. Zhengzheng Wang (09/2018–09/2024)
   Thesis title: Efficient Analysis and Optimization Methods for the Design of Electromagnetic Surface Unit Cells

2. Jeff Majnaric (09/2021–12/2023)

   Thesis title: Applications of Loop-based Advanced Electromagnetic Surfaces

3. Beichen Duan (co-supervised 50% with Prof. Bobicki [MSE]) (09/2018–06/2023)

   Thesis title: Application of Microwave Imaging in Identifying Valuable Minerals/Metals in Ore Sorting

4. Parinaz Naseri (09/2018–01/2023)

   Thesis title: Inverse Design of Metasurfaces Using Machine Learning Techniques

5. Gengyu (Paul) Xu (09/2016–05/2022)

   Thesis title: Advanced Electromagnetic Surfaces with Engineered Dispersion

6. Nicolas Faria (09/2018–09/2021)

   Thesis title: Reconfigurable Cylindrical Beamformers based on Electromagnetic Surfaces

7. Jonathan Anderson (09/2017–09/2020)

   Thesis title: Electromagnetic Surface Treatments for Improving Ground Penetrating Radar

8. Gursimran Sethi Singh (09/2016–01/2020)

   Thesis title: Low-Profile Radial Leaky-Wave Apertures for Satellite Applications

9. Min Yin (Talia) Xu (09/2016–01/2020)

   Thesis title: Reconfigurable Dual-band and Wide-band Spatially-fed Array Antennas

10. Utkarsh Patel (co-supervised 50% with Prof. Triverio, 09/2014–07/2019), *Ph.D.*

    Thesis title: Reduced-Order Integral Equation Methods to Solve Complex Electromagnetic Problems

11. Ciaran Geaney (09/2015–07/2019), *M.A.Sc.*

    Thesis title: Reflectarray Antennas for Multiple-Beam Satellite Applications

12. Bozhou Du (09/2014–11/2016), *M.A.Sc.*

    Thesis: Analysis and Design of Simple, Low Loss and Low Cost Reconfigurable Reflectarrays

13. Jeff Nicholls (09/2013–12/2015), *M.A.Sc.*

    Thesis: Integrated Feeds for Electronically Reconfigurable Apertures

14. Tony Liang (01/2011-12/2015), *Ph.D.*

    Thesis title: Design of Ultra-Wideband Reflectors

15. Catherine Kocia (09/2012-12/2014), *M.A.Sc.*

    Thesis: Optically Transparent Reflectarrays for Satellite Applications

16. Krishna Kumar Kishor (05/2010-11/2014), *Ph.D.*

    Thesis: Multi-Functional Chassis-Based Antennas Using Characteristic Mode Theory

17. Alvin Ho (co-supervised 50% with Prof. Eleftheriades, 09/2010–04/2013) , *M.A.Sc.*

    Thesis: High-Permittivity Hemispherical Lens for MIMO Applications with Closely-Spaced Antennas

18. Natalie Jones (09/2011-11/2013), *M.A.Sc.*
    Thesis: An Ultra-wideband Spatial Filter for Time-of-Arrival Localization in Tunnels

19. Yu (Derek) Zhou (09/2009-12/2011), *M.A.Sc.*
    Thesis: Performance Evaluation of Pattern Reconfigurable Antennas in MIMO Systems

20. Jonathan Yun Lau (09/2007-11/2011), *Ph.D.*
    Thesis: Reconfigurable Transmitarray Antennas

21. Liang (Tony) Liang (09/2008-12/2010), *M.A.Sc.*
    Thesis: Evaluation of UWB Beamformers in a wireless channel and potential microwave implementations

22. Krishna Kumar Kishor (09/2007-04/2010), *M.A.Sc.*
    Thesis: An Active Reconfigurable Reflectarray Antenna

M.ENG. PROJECTS (COMPLETED)

1. Junchen Liu (09/2018 – 04/2019)
   Project: Convex Optimization of Wireless Power Transfer Systems

2. Dinesh Poopalaratnam (01/2013 – 12/2013)
   Project: Multiband handset antennas based on characteristic modes

3. Chang Liu (09/2009 – 09/2010)
   Project: Broadband reconfigurable reflectarray elements

PDF PROJECTS (COMPLETED)

1. Pasquale Cambareri (co-supervised 50% with Prof. Triverio) (11/2023 – 10/2024)
   Project: Efficient simulation of homogenized metasurfaces

2. Reza Gholami (co-supervised 50% with Prof. Triverio) (01/2020 – 07/2021)
   Project: Reduced-order electromagnetic modelling

3. Elham Baladi (02/2019 – 02/2021)
   Project: Modelling of electromagnetic metasurfaces

4. Mehdi Hosseini (02/2016–07/2018)
   Project: Design and analysis of polarizers for satcom

5. Kevin Zhu (09/2011 – 08/2012)
   Project: Microwave precursors

6. Asanee Suntives (05/2010 – 05/2011)
   Project: Electronically tunable leaky-wave antennas

INTERNATIONAL EXCHANGE STUDENTS

1. Jorge Hernán Cárdenas (Ph.D. student, Pontificia Universidad Católica de Valparaíso, Chile, 03/2025 – present)
   Thesis topic: Machine learning applied to metasurfaces

2. Ha Bui Van (Ph.D. student, Politecnico di Milano, Italy, 01/2013–09/2013)
   Thesis topic: Mutual coupling compensation in reflectarrays

3. Changjiang Deng (Ph.D. student, Tsinghua University, China, 03/2015–07/2015)
   Thesis topic: Compact multifunction handset antennas

4. Pablo Alcón García (Ph.D. student, Universidad de Oviedo, Spain, 09/2015 – 11/2015)
   Thesis topic: Compact phase shifters for transmitarrays

5. Eduardo Martínez de Rioja (Ph.D. student, Universidad Politécnica de Madrid, Spain, 08/2016 – 11/2016)
   Thesis topic: Multi-beam reflectarrays and transmitarrays

6. Jun Luo (Ph.D. student, Ph.D. student, Tsinghua University, China, 10/2016 – 03/2017)
   Thesis topic: Wideband and reconfigurable transmitarrays

GRADUATE THESES (IN PROGRESS)

- PH.D. CANDIDATES

    1. Ziqi Liu (09/2021–present)
       Thesis topic: Channel-informed full-time reconfigurable intelligent surfaces

    2. Mahdi Bahdani (09/2021–present)
       Thesis topic: Electromagnetic surfaces for sensing

    3. Stewart Pearson (09/2018–present)
       Thesis title: Optimization of Electromagnetic Metasurfaces Satisfying Application-Specific Criteria

    4. Hanieh Kiani Amiri (05/2023–present)
       Thesis topic: Integrated-feed metasurfaces for space applications

- M.A.SC. CANDIDATES

    1. Jayke Boghean (09/2023–present)
       Thesis topic: Cassegrain antennas for CubeSats

    2. Nan-Rong Hui (09/2023–present)
       Thesis topic: Reconfigurable Surfaces for RFI Mitigation in Radio Astronomy

    3. Hayden Arms (09/2024–present)
       Thesis topic: Additively manufactured advanced electromagnetic surfaces

GRADUATE STUDENT HONOURS AND AWARDS

- IEEE Outstanding New Leader Award, *Parinaz Naseri*, 2023
- Honourable mention, IEEE AP-S Student Paper Competition, *Parinaz Naseri* (Jul. 2022)
- Honourable mention, IEEE AP-S Student Paper Competition, *Gengyu Xu* (Dec. 2021)
- IEEE AP-S Doctoral Research Grant, *Parinaz Naseri*, 2020
- Honourable mention, IEEE AP-S Student Paper Competition, *Gengyu Xu* (Jul. 2019)
- Honourable mention, IEEE AP-S Student Paper Competition, *Utkarsh Patel* (Jul. 2019)
- NSERC Canada Graduate Scholarship, *Stewart Pearson* (Sep. 2019)
- NSERC Canada Graduate Scholarship, *Gengyu Xu* (2019–2021)

- Ontario Trillium Scholarship, *Parinaz Naseri* (Sep. 2018)

- IEEE AP-S Doctoral Research Grant, *Utkarsh Patel*, 2018

- Ontario Graduate Scholarship (OGS), *Stewart Pearson* (2018, 2020, 2021, 2022, 2023)

- Queen Elizabeth II Graduate Scholarship in Science and Technology, *Gengyu Xu* (Sep. 2018)

- Best oral paper award, 2017 IEEE International Conference on Electrical Performance of Electronic Packaging and Systems (EPEPS), *Utkarsh Patel* (Oct. 2017)

- Ontario Graduate Scholarship (OGS), *Gengyu Xu* (Sep. 2017, 2021)

- Best Paper Award at the 21st IEEE Workshop on Signal and Power Integrity (SPI), *Utkarsh Patel* (Jul. 2017)

- Honourable mention, IEEE AP-S Student Paper Competition, *Utkarsh Patel* (Jul. 2017)

- Honourable mention, IEEE AP-S Student Paper Competition, *Gengyu Xu* (Jul. 2017)

- NSERC Canada Graduate Scholarship, *Utkarsh Patel* (Sep. 2016, Sep. 2017, Sep. 2018)

- IEEE AP-S R. W. P. King paper award, *shared with Tony Liang* (Jul. 2015)

- Wallberg Fellowship, *Tony Liang* (Sep. 2015)

- Queen Elizabeth II Graduate Scholarship in Science and Technology, *Tony Liang* (Sep. 2014)

- Ontario Graduate Scholarship (OGS), *Utkarsh Patel* (2013–2016)

- Ontario Graduate Scholarship (OGS), *Jeff Nicholls* (Sep. 2014)

- Nomination for IEEE AP-S R. W. P. King paper award, *Jonathan Lau* (Apr. 2013)

- NSERC Canada Graduate Scholarship, *Jeff Nicholls* (Apr. 2013)

- NSERC Canada Graduate Scholarship, *Trevor Cameron* (Jan. 2012)

- Ontario Graduate Scholarship (OGS), *Natalie Jones* (Sep. 2011)

- NSERC Postdoctral Fellowship (PDF), *Asanee Suntives* (Jul. 2010)

- Ontario Graduate Scholarship in Science and Technology (OGSST), *Jonathan Lau* (Sep. 2008, Sep. 2009)

- NSERC Canada Graduate Scholarship, *Jonathan Lau* (May 2007)

UNDERGRADUATE THESIS PROJECTS (COMPLETED)

1. Iliya Shofman (09/2020-12/2024)
   Thesis: High-gain, high-bandwidth deployable folded-panel reflectarray antenna for CubeSat applications

2. Yi-Hsuan Yeh (09/2020-04/2021)
   Thesis: Characteristic mode-based design of a full-duplex radio terminal

3. Jing Shuang (Lisa) Li (09/2017-04/2018)
   Thesis: Intelligent synthesis of metasurfaces

4. Jianwei Sun (09/2016-04/2017)
   Thesis: Synthesis of multibeam reflectarrays using genetic algorithms

5. Catherine Kocia (09/2011-04/2012)
   Thesis: Compound reconfigurable apertures

6. Linghan Li (co-supervised 50% with Prof. Khisti, 09/2010-04/2011)
   Thesis: Private communications using reconfigurable antennas

7. Hui Yuan Xiong (09/2008-04/2009)
   Thesis: Design and modeling of differentially-fed frequency agile antennas

UNDERGRADUATE SUMMER PROJECTS (COMPLETED)

1. Dana Kokoska (05/2020–08/2020)
   Project: Realization of reconfigurable leaky-wave antennas

2. Iliya Shofman (05/2020–08/2020)
   Project: Deployable metasurfaces for cubesats

3. Gengyu (Paul) Xu (05/2016-08/2016)
   Project: Rapid analysis of multilayer periodic structures

4. Jing Shuang (Lisa) Li (05/2016-08/2016)
   Project: OpenMP implementation of periodic method of moments

5. Mohammad Mohsen-Pour (05/2016-08/2016)
   Project: Characterizing non-linear behaviour of reconfigurable reflectarray elements

6. Jeff Nicholls (05/2013-08/2013)
   Project: Simulation of ion optics for electrostatic ion thrusters

7. Utkarsh Patel (05/2011-08/2011)
   Project: RFID antenna development

8. Kenneth Ng, Gabriel Ng (team, 05/2010-08/2010)
   Project: ECE320 lab development

9. Linghan Li (co-supervised 50% with Prof. Khisti, 05/2010-08/2010)
   Project: Investigation of privacy schemes using reconfigurable antennas

10. Jeaff Wang (05/2010-08/2010)
    Project: High speed antenna field modulation controller

11. Justin Martinko (05/2009-08/2009)
    Project: Experimental measurements of frequency agile antennas

12. Hui Yuan Xiong (05/2008-08/2008)
    Project: Ultra-wideband array test bed

13. Xindai (Lewis) Li (05/2008-08/2008)
   Project: Reconfigurable antenna controller / feeds

14. Hui Yuan Xiong (05/2007-08/2007)
   Project: Frequency agile antenna architectures

UNDERGRADUATE STUDENT HONOURS AND AWARDS

- NSERC undergraduate research award (USRA), *William Taylor* (May 2024)
- NSERC undergraduate research award (USRA), *Suet Ling Kwan* (May 2023)
- NSERC undergraduate research award (USRA), *Dana Kokoska* (May 2020)
- Engineering Science Summer Research Opportunity Program (ESROP) fellowship, *Iliya Shofman* (May 2020)
- NSERC undergraduate research award (USRA), *Gengyu (Paul) Xu* (May 2016)
- NSERC undergraduate research award (USRA), *Jing Shuang (Lisa) Li* (May 2016)
- NSERC undergraduate research award (USRA), *Mohammad Mohsen-Pour* (May 2016)
- NSERC undergraduate research award (USRA), *Jeff Nicholls* (May 2013)
- CNIB award, *Sarah Hossain, Mohamed Elsayed, Mohannad Fahim Ali* (Sep. 2011)
- NSERC undergraduate research award (USRA), *Utkarsh Patel* (May 2011)
- ALOHA Design Award, *Alp Kucukelbir, Tyler de Witt, Rajat (Mark) Grover* (May 2009)
- IEEE Antennas and Propagation Society Research Award, *Hui Yuan Xiong* (May 2008)
- NSERC undergraduate research award (USRA, declined), *Justin Martinko* (May 2009)
- NSERC undergraduate research award (USRA), *Hui Yuan Xiong* (May 2008)
- NSERC undergraduate research award (USRA), *Xindai (Lewis) Li* (May 2008)
- Best poster, Engineering Science Undergraduate Research Day (UnERD), *Hui Yuan Xiong* (August 2007)
- Engineering Science Summer Research Opportunity Program (ESROP) fellowship, *Hui Yuan Xiong* (May 2007)

UNIVERSITY ADMINISTRATIVE ACTIVITIES

- Member, ECE Search Committee, ECE Department, University of Toronto (Winter 2025)
- Member, ECE Chair Advisory Search Committee, Faculty of Applied Science and Engineering (Winter 2024)
- Chair, Space Committee, ECE Department, University of Toronto (July 2023 to present)
- Member, ECE Curriculum Matters Committee, ECE Department, University of Toronto (July 2023 to present)

- Ad Hoc Committee to Evaluate Teaching Stream Requests for SGS Appointments in ECE (May 2022)

- ISTEP Search Committee for 3 Year CLTA Hire for Graduate Student Communication (May 2022)

- Associate Chair, Graduate Studies, ECE (July 2018 to June 2021)

- Member, SGS Advisory Committee on Program and Student Matters (July 2019 to June 2021)

- Member, ECE Executive Commitee (July 2018 to June 2021)

- Member, ECE Advisory Committee (July 2018 to June 2021)

- Chair, ECE Graduate Matters Committee (GMC) (July 2018 to June 2021)

- Member, FASE Engineering Graduate Education Committee (EGEC) (July 2018 to June 2021)

- Member, Ad Hoc Committee to Explore Adding ECE concentrations to the MScAC degree in Computer Science (September 2018 to present)

- Member, SGS Awards Committee (July 2018 to June 2021)

- Member, Faculty of Applied Science and Engineering Working Group to Establish an Engineering Education-Based Institute (October 2016 to February 2018)

- Member, ECE Curriculum Matters Committee, ECE Department, University of Toronto (July 2016 to June 2017)

- Member, ECE PTR Committee, ECE Department, University of Toronto (July 2014 to July 2016)

- Member, Faculty of Applied Science and Engineering Scholarship and Awards Committee, University of Toronto (July 2012 to December 2013)

- Graduate coordinator, Electromagnetics Group, ECE Department, University of Toronto (July 2012 to June 2013)

- Co-chair, Joint Health and Safety Subcommittee, ECE Department, University of Toronto (July 2008 to June 2013)

- Member, Joint Health and Safety Subcommittee, APSC Faculty, University of Toronto (July 2008 to June 2013)

- EM search committee, ECE Department, University of Toronto (November 2010 to July 2011)

- Graduate Secretary, Electromagnetics Group, ECE Department, University of Toronto (July 2009 to June 2010)

- Member, UofT Canadian Space Agency Roundtable Panel, University of Toronto (November 2008 to December 2009)

- Member, Computer Systems Committee, ECE Department, University of Toronto (January 2008 to July 2008)

- Member, Student-Staff Committee, ECE Department, University of Toronto (September 2007 to July 2009)

[B1] S. V. Hum, *Aperture Antennas for Millimeter and Sub-Millimeter Wave Applications*.   Cham: Springer International Publishing AG, 2018, ch. 5, pp. 143–189.

JOURNAL PAPERS SUBMITTED AND UNDER REVIEW

[JS2] **Z. Liu** and S. V. Hum, "Channel-informed RIS analysis and optimization using hybrid ray-tracing and full-wave simulation framework," *IEEE Transactions on Antennas and Propagation*.

[JS1] **J. Majnaric**, H. Saghlatoon, Y. Pachichigar, J. Nicholls, and S. V. Hum, "A single-layer wideband Ku-band reflectarray for satellite applications," *IEEE Transactions on Antennas and Propagation*, 2024.

JOURNAL PAPERS PUBLISHED OR ACCEPTED

[JP72] **M. Behdani**[1] and S. V. Hum, "Wide-angle direction finding with a spatially dispersive reconfigurable leaky-wave antenna (in press)," *IEEE Transactions on Antennas and Propagation*, 2024.

[JP71] **Y. Liu**, **Z. Liu**, S. V. Hum, and C. D. Sarris, "An equivalence principle-based hybrid method for propagation modeling in radio environments with reconfigurable intelligent surfaces," *IEEE Transactions on Antennas and Propagation*, vol. 72, no. 7, pp. 5961–5973, Jul. 2024.

[JP70] J. Budhu, S. V. Hum, S. Ellingson, and R. M. Buehrer, "Design of rim-located reconfigurable reflectarrays for interference mitigation in reflector antennas," *IEEE Transactions on Antennas and Propagation*, vol. 72, no. 4, pp. 3736–3741, 2024.

[JP69] **B. Duan**, E. R. Bobicki, and S. V. Hum, "Application of microwave imaging in sensor-based ore sorting," *Minerals Engineering*, vol. 202, p. 108303, 2023.

[JP68] D. R. Prado, **P. Naseri**, J. A. López-Fernández, S. V. Hum, and M. Arrebola, "Support vector regression-enabled optimization strategy of dual circularly-polarized shaped-beam reflectarray with improved cross-polarization performance," *IEEE Transactions on Antennas and Propagation*, vol. 71, no. 1, pp. 497–507, Jan. 2023.

[JP67] **E. Baladi**, G. S. Sethi, H. Legay, and S. V. Hum, "Low-profile true-time-delay beamsteerable leaky-wave antenna for satellite applications in the K band," *IEEE Transactions on Antennas and Propagation*, vol. 71, no. 1, pp. 236–249, Jan. 2023.

[JP66] **P. Naseri**, G. Goussetis, N. J. G. Fonseca, and S. V. Hum, "Synthesis of multi-band reflective polarizing metasurfaces using a generative adversarial network," *Scientific Reports*, vol. 12, no. 1, p. 17006, 2022.

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[1]Boldface indicates supervised HQP

[JP65] **B. Duan**, E. R. Bobicki, and S. V. Hum, "Identification of valuable minerals or metals in ores using microwave imaging," *IEEE Transactions on Antennas and Propagation*, vol. 70, no. 12, pp. 12 189–12 198, Dec. 2022.

[JP64] **G. Xu**, G. V. Eleftheriades, and S. V. Hum, "Wide-angle beam-steering and adaptive impedance matching with reconfigurable nonlocal leaky-wave antenna," *IEEE Open Journal of Antennas and Propagation*, vol. 3, pp. 1141–1153, 2022.

[JP63] **S. Pearson**, **P. Naseri**, and S. V. Hum, "A beam-splitting bianisotropic metasurface designed by optimization and machine learning," *IEEE Open Journal of Antennas and Propagation*, vol. 3, pp. 798–811, 2022. **Special Issue on "Surface Wave and Metasurface Electromagnetic Engineering"**

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[C59] **E. Martinez-de-Rioja**, J. A. Encinar, A. Pino, B. Gonzalez-Valdes, S. V. Hum, C. Tienda, and G. Toso, "Bifocal technique applied to dual transmitarray antennas," in *2018 12th European Conference on Antennas and Propagation (EUCAP)*, London, UK, Apr. 2018.

[C58] C. S. Geaney, M. Hosseini, and S. V. Hum, "A cascaded polarizer-reflectarray for independent dual circular polarization control," in *Proc. 38th ESA Antenna Workshop*, Noordwijk, Netherlands, Oct. 2017.

[C57] **U. R. Patel**, **S. Sharma**, S. Yang, S. V. Hum, and P. Triverio, "Full-wave electromagnetic characterization of 3D interconnects using a surface integral formulation," in *26th Conference on Electrical Performance of Electronic Packages and Systems (EPEPS)*, San Jose, CA, Oct. 2017. (**Best oral presentation award**)

[C56] **U. R. Patel**, P. Triverio, and S. V. Hum, "A single-source surface integral equation formulation for composite dielectric objects," in *2017 IEEE Antennas and Propagation Society International Symposium*, Jul. 2017. (**Honourable mention, 2017 IEEE AP-S Student Paper Contest**)

[C55] **G. Xu**, S. V. Hum, and G. V. Eleftheriades, "Systematic design of single-layer multi-stop-band frequency selective surfaces," in *2017 IEEE Antennas and Propagation Society International Symposium*, Jul. 2017. (**Honourable mention, 2017 IEEE AP-S Student Paper Contest**)

[C54] **E. Martínez-de-Rioja**, J. A. Encinar, **C. S. Geaney**, and S. V. Hum, "Study of bifocal dual reflectarray configurations for multi-beam antennas in Ka-band," in *2017 IEEE Antennas and Propagation Society International Symposium*, Jul. 2017.

[C53] **M. Hosseini** and S. V. Hum, "A circular polarization selective surface employing Jerusalem cross-based polarizers," in *2017 IEEE Antennas and Propagation Society International Symposium*, Jul. 2017.

[C52] **C. S. Geaney**, **J. Sun**, **E. Martínez-de-Rioja**, J. A. Encinar, and S. V. Hum, "Synthesis of a multi-beam dual reflectarray antenna using genetic algorithms," in *2017 IEEE Antennas and Propagation Society International Symposium*, Jul. 2017.

[C51] **U. R. Patel**, S. V. Hum, and P. Triverio, "A magneto-quasi-static surface formulation to calculate the impedance of 3D interconnects with arbitrary cross-section," in *21st IEEE Workshop on Signal and Power Integrity*, May 2017. (**Best student paper award, SPI2017**)

[C50] **E. Martínez-de-Rioja**, J. A. Encinar, A. Pino, B. Gonzalez-Valdes, C. Tienda, S. V. Hum, G. Toso, "Application of bifocal concept to dual reflectarray configurations for multi-beam satellite antennas in Ka-band," in *2017 European Conference on Antennas and Propagation (EuCAP 2017)*, pp. 2433-2436, Mar. 2017.

[C49] **M. Hosseini** and S. V. Hum, "A circuit-driven design methodology for a linear-to-circular polarizer," in *2017 European Conference on Antennas and Propagation (EuCAP 2017)*, pp. 2340-2344, Mar. 2017.

[C48] **M. Hosseini** and S. V. Hum, "A dual-CP reflectarray unit cell for realizing independently controlled beams for space applications," in *2017 European Conference on Antennas and Propagation (EuCAP 2017)*, pp. 66-70, Mar. 2017.

[C47] **U. R. Patel**, S. V. Hum, and P. Triverio, "Fast parameter extraction for transmission lines with arbitrary shaped conductors and dielectrics using the contour integral method," in *25th Conference on Electrical Performance of Electronic Packages and Systems (EPEPS)*, pp. 193-196, Oct. 2016.

[C46] **U. R. Patel**, P. Triverio, and S. V. Hum, "Analysis of radiating microstrip structures using the contour integral method," in *2016 IEEE Antennas and Propagation Society International Symposium*, pp. 1335-1336, Jun. 2016.

[C45] **B. Du** and S. V. Hum, "An equivalent circuit model for reconfigurable reflectarrays based on Floquet modal expansion," in *2016 IEEE Antennas and Propagation Society International Symposium*, pp. 1201-1202, Jun. 2016.

[C44] S. V. Hum, "Recent advances in reconfigurable antennas and spatially-fed arrays," in *2015 IEEE International Symposium on Antennas and Propagation & USNC/URSI National Radio Science Meeting*, Jul. 2015.

[C43] S. V. Hum, "Applying classroom assessment techniques in electromagnetics courses," in *2015 IEEE International Symposium on Antennas and Propagation & USNC/URSI National Radio Science Meeting*, Jul. 2015.

[C42] **L. Liang** and S. V. Hum, "An impedance surface-based method for designing wideband reflectarrays," in *2015 IEEE International Symposium on Antennas and Propagation & USNC/URSI National Radio Science Meeting*, pp. 2135-2136 Jul. 2015.

[C41] **J. Nicholls** and S. V. Hum, "An electronically steerable reflectarray with integrated leaky-wave feed," in *2015 IEEE International Symposium on Antennas and Propagation & USNC/URSI National Radio Science Meeting*, pp. 2175-2176, Jul. 2015.

[C40] **D. Poopalaratnam**, **K. K. Kishor** and S. V. Hum, "Multi-feed chassis-mode antenna with dual-band MIMO operation," in *2014 IEEE Antennas and Propagation Society International Symposium (APSURSI)*, pp. 1427-1428, Jul. 2014.

[C39] **T. R. Cameron**, S. V. Hum and G. V. Eleftheriades, "A wide-angle impedance matching metasurface," in *2014 IEEE Antennas and Propagation Society International Symposium (APSURSI)*, pp. 21-22, Jul. 2014.

[C38] **B. V. Ha**, R. E. Zich, P. Pirinoli, S. V. Hum, "Application of modified Bayesian optimization algorithm to the design of reflectarray antenna," in *2014 Numerical Electromagnetic Modelling and Optimization Conference (NEMO2014)*, May 2014.

[C37] **C. Kocia** and S. V. Hum, "Analysis of reflectors fed by reconfigurable array lenses," in *2014 European Conference on Antennas and Propagation (EuCAP 2014)*, pp. 18-21, Apr. 2014.

[C36] **C. Kocia** and S. V. Hum, "Optically transparent reflectarray for satellite applications," in *2014 European Conference on Antennas and Propagation (EuCAP 2014)*, pp. 1607-1610, Apr. 2014.

[C35] **B. V. Ha**, R. E. Zich, P. Pirinoli and S. V. Hum, "Design and optimization of a multi-resonant reflectarray element," in *2014 European Conference on Antennas and Propagation (EuCAP 2014)*, pp. 2301-2304, Apr. 2014.

[C34] S. N. Jha, C. Craeye and S. V. Hum, "Fast MBF approach for reflectarrays analysis," in *2014 European Conference on Antennas and Propagation (EuCAP 2014)*, pp. 2595-2597, Apr. 2014.

[C33] **L. Liang** and S. V. Hum, "Design of an ultra-wideband reflectarray using transformation optics," in *2013 IEEE Antennas and Propagation Society International Symposium (APSURSI)*, pp. 1346-1347, Jul. 2013.

[C32] **K. K. Kishor** and S. V. Hum, "A reconfigurable chassis-mode MIMO antenna," in *2013 European Conference on Antennas and Propagation (EuCAP 2013)*, pp. 1992-1996, Apr. 2013.

[C31] **N. Jones** and S. V. Hum, "An ultra-wideband spatial filter for a tunnel environment," in *2012 International Conference on Ultra-wideband (ICUWB)*, pp. 491-495, Sep. 2012.

[C30] **Y. Zhou**, R. S. Adve, and S. V. Hum, "Performance evaluation of MIMO pattern reconfigurable antennas," in *2012 IEEE Antennas and Propagation Society International Symposium*, Jul. 2012.

[C29] **G. Zhu**, S. V. Hum, and C. D. Sarris, "Microwave pulse optimization for low attenuation in lossy dispersive media," in *2012 IEEE Antennas and Propagation Society International Symposium*, Jul. 2012.

[C28] A. Madanayake, C. Wijenayake, N. Tran, S. V. Hum, L. T. Bruton and T. Cooklev, "Directional spectrum sensing using tunable multi-D space-time discrete filters", 2012 IEEE International Symposium on a World of Wireless, Mobile and Multimedia Networks (WoWMoM), Jun. 2012.

[C27] **J. Y. Lau** and S. V. Hum, "A balanced bridged-T reconfigurable array lens element," in *2011 IEEE Antennas and Propagation Society International Symposium (APSURSI)*, pp. 680-683, Jul. 2011.

[C26] **N. Sood**, **L. Liang**, S. V. Hum, and C. D. Sarris, "Ray-tracing based modeling of ultra-wideband pulse propagation in railway tunnels," in *2011 IEEE Antennas and Propagation Society International Symposium (APSURSI)*, pp. 2383-2386, Jul. 2011.

[C25] **A. Suntives** and S. V. Hum, "An electronically tunable half-mode substrate integrated waveguide leaky-wave antenna," in *2011 European Conference on Antennas and Propagation (EuCAP 2011)*, pp. 3828-3832, Apr. 2011.

[C24] **K. Kishor** and S. V. Hum, "An amplifying reconfigurable reflectarray element," in *2010 IEEE Antennas and Propagation Society International Symposium*, Jul. 2010.

[C23] **L. Liang** and S. V. Hum, "Experimental verification of an adaptive UWB beamformer based on multidimensional filtering in a real radio channel," in *2010 IEEE Antennas and Propagation Society International Symposium*, Jul. 2010.

[C22] S. V. Hum, "Analysis of varactor diode-tuned frequency agile antennas," in *2010 European Conference on Antennas and Propagation (EuCAP 2010)*, Apr. 2010.

[C21] **J. Y. Lau** and S. V. Hum, "Design and measurement of a 6 x 6 planar reconfigurable transmitarray," in *2010 European Conference on Antennas and Propagation (EuCAP 2010)*, Apr. 2010.

[C20] **J. Y. Lau** and S. V. Hum, "A low-cost reconfigurable transmitarray element," in *2009 IEEE Antennas and Propagation Society International Symposium*, Jun. 2009.

[C19] **K. Kishor** and S. V. Hum, "Modeling of active reconfigurable reflectarray elements," in *13th International Symposium on Antenna Technology and Applied Electromagnetics and the Canadian Radio Science Meeting, 2009 (ANTEM/URSI 2009)*, Feb. 2009.

[C18] M. Stickel and S. V. Hum, "Lessons learned from the first-time use of tablet PCs in the classroom," in *38th Annual Frontiers in Education Conference, 2008 (FIE 2008)*, Oct. 2008, pp. S1A–7–S1A–12.

[C17] A. Madanayake, S. V. Hum, and L. Bruton, "UWB beamforming using digital 2D IIR frequency-planar filters," in *2008 IEEE Antennas and Propagation Society International Symposium*, Jul. 2008.

[C16] **H. Y. Xiong** and S. V. Hum, "A differentially-fed microstrip patch antenna with enhanced frequency agility," in *2008 IEEE Antennas and Propagation Society International Symposium*, Jul. 2008.

[C15] S. V. Hum, "Circuit models and implementations of electronically tunable reflectarray elements," in *International Conference on Electromagnetics in Advanced Applications, 2007 (ICEAA 2007)*, Sep. 2007, pp. 1062–1065.

[C14] S. V. Hum and M. Okoniewski, "A technique for predicting specular reflections from reflectarrays," in *2007 IEEE Antennas and Propagation Society International Symposium*, June 2007, pp. 2116–2119.

[C13] S. V. Hum and M. Okoniewski, "Predicting scattered and reflected fields from reflectarrays," in *2007 International URSI Electromagnetic Theory Symposium (EMTS 2007)*, Ottawa, Canada, Jul. 2007.

[C12] S. V. Hum, G. McFeetors, and M. Okoniewski, "Integrated MEMS reflectarray elements," in *2006 European Conference on Antennas and Propagation (EuCAP 2006)*, vol. ESA SP-626, Nov. 2006.

[C11] S. V. Hum, M. Okoniewski, and R. J. Davies, "An evolvable antenna platform based on reconfigurable reflectarrays," in *2005 NASA/DoD Conference on Evolvable Hardware, 2005*, Jun. 2005, pp. 139–146.

[C10] G. G. Messier, S. V. Hum, and M. Okoniewski, "Combining space time block coding and adaptive sectorization using an electronically tunable reflectarray," in *2005 IEEE 62nd Vehicular Technology Conference, 2005 (VTC-2005-Fall)*, vol. 1, Sep. 2005, pp. 364–366.

[C9] S. V. Hum, M. Okoniewski, and R. J. Davies, "A reconfigurable antenna based on an electronically tunable reflectarray," in *16th International Conference on Wireless Communications (Wireless 2004)*, vol. 2, Jul. 2004, pp. 532–541.

[C8] S. V. Hum and M. Okoniewski, "An electronically tunable reflectarray using varactor diode-tuned elements," in *2004 IEEE Antennas and Propagation Society International Symposium*, vol. 2, Jun. 2004, pp. 1827–1830. **(2nd place, student paper award competition)**

[C7] M. A. J. Weldon, R. J. Davies, S. V. Hum, and M. Okoniewski, "Enhancement of electro-optic modulators using traveling-wave resonators," in *2003 SPIE International Symposium (ITCom 2003)*, vol. 5247, Sep. 2003, pp. 373–381.

[C6] M. A. J. Weldon, R. J. Davies, S. V. Hum, and M. Okoniewski, "Resonant enhancement of electro-optic modulators using traveling-wave ring resonators," in *15th International Conference on Wireless Communications (Wireless 2003)*, vol. 2, Jul. 2003, pp. 485–494.

[C5] R. J. Davies, S. V. Hum, B. D. Davis, and R. D. Walton, "Progress in last mile broadband wireless technologies," in *Proceedings of the 14th International Conference on Wireless Communications (Wireless 2002)*, vol. 1, Jul. 2002, pp. 356–373.

[C4] S. V. Hum, J. Chu, R. Johnston, and M. Okoniewski, "Improving the bandwidth of microstrip patch antennas using resistive loading," in *2003 IEEE Antennas and Propagation Society International Symposium (AP-S 2003)*, vol. 2, Jun. 2003, pp. 276–279.

[C3] S. V. Hum, M. Okoniewski, and R. Davies, "Modulator structures for radio-on-fiber applications," in *14th International Conference on Microwaves, Radar and Wireless Communications, 2002 (MIKON-2002)*, vol. 1, 2002, pp. 37–40. **(1st place, student paper competition)**

[C2] S. V. Hum, A. Høst-Madsen, and M. Okoniewski, "Improving the reverse link capacity of CDMA systems using macrodiversity," in *2000 IEEE Antennas and Propagation Society International Symposium (AP-S 2000)*, vol. 2, 2000, pp. 936–939.

[C1] S. V. Hum, A. Høst-Madsen, and M. Okoniewski, "A macrodiversity combining technique for improving the reverse link capacity of CDMA systems," in *2000 IEEE 51st Vehicular Technology Conference Proceedings (VTC-2000-Spring)*, vol. 3, 2000, pp. 2502–2506.

PATENTS

[PA1] S. V. Hum, R. J. Davies, and M. Okoniewski, "Electro-optic modulator with resonator," U.S. Patent #6,873,750, issued Mar. 29, 2005.

UNREFEREED CONTRIBUTIONS

[CA10] S. V. Hum, **D. Zhou**, and **L. Liang**, "Final Report on NEMO-HD X-band Antenna Design and Measurements," UTIAS Tech Rep., Jun. 2013.

[CA9] C. D. Sarris and S. V. Hum. "Development of a propagation model suitable for pulsed radio transmissions in railway tunnels," Thales Tech. Rep., Oct. 2010.

[CA8] **J. Y. Lau** and S. V. Hum, "Beamforming with a 6×6 reconfigurable transmitarray", in *2010 CNC/USNC/URSI National Radio Science Meeting*, Jul. 2010.

[CA7] S. V. Hum, G. McFeetors, and <u>M. Okoniewski</u>, "A reflectarray cell based on a tunable MEMS capacitor," in *2006 USNC/URSI National Radio Science Meeting*, Jul. 2006, p. 624.

[CA6] S. V. Hum, <u>M. Okoniewski</u>, and R. J. Davies, "An equivalent circuit model for reflectarray elements," in *2005 USNC/URSI National Radio Science Meeting*, Jul. 2005, p. 490.

[CA5] S. V. Hum, "A reconfigurable antenna based on an electronically tunable reflectarray," 2004, TRLabs Technology Forum.

[CA4] S. V. Hum, "Enhanced optical modulators for radio-on-fiber applications," 2001, TRLabs Technology Forum.

[CA3] S. V. Hum, "Polymer modulators for radio-on-fiber applications," 2000, TRLabs Technology Forum.

[CA2] S. V. Hum, "Improving the reverse link capacity of CDMA systems using macro-diversity," 1999, TRLabs Technology Forum.

[CA1] S. V. Hum, "A measurement system for predicting the perfomance of 64 QAM in non-equalized radio channels," TRLabs, Tech. Rep., 1998.

THESES

[T2] S. V. Hum, "Reconfigurable antennas based on electronically tunable reflectarrays," Ph.D. dissertation, University of Calgary, June 2006.

[T1] S. V. Hum, "Electro-optic modulators for radio-on-fiber applications," Master's thesis, University of Calgary, December 2001.

CAREER TOTALS

Refereed journal papers (published/accepted)	72
Refereed conference papers (published/accepted)	106
Total	178
h-index	36
Citations	5,228 (source: Google Scholar)

INVITED TALKS AND WORKSHOPS

[IT29] S. V. Hum, "Advanced Electromagnetic Surfaces for RFI Mitigation and Localization in Radio Astronomy," METAFORA workshop, Gothenburg, Sweden, April 2025.

[IT28] S. V. Hum, M. Arrebola, N. Anselmi, G. Oliveri, H. Legay, R. Gillard, D. Cavallo, and C. Craeye, "Arrays and Reflectarrays," European School of Antennas, Louvain-la-Neuve, Belgium, September 2024.

[IT27] S. V. Hum, "Advanced Electromagnetic Surfaces: Design, Implementation, and Applications," METAFORA workshop, Santiago, Chile, April 2024.

[IT26] S. V. Hum, "Implementation and Applications of Advanced Electromagnetic Surfaces," keynote talk, 2024 International Symposium on Space Terahertz Technology, Charlottesville, Virginia, April 2024.

[IT25] S. V. Hum, M. Arrebola, N. Anselmi, G. Oliveri, H. Legay, R. Gillard, D. Cavallo, and C. Craeye, "Arrays and Reflectarrays," European School of Antennas, Louvain-la-Neuve, Belgium, September 2022.

[IT24] S. V. Hum, "Recent Developments in the Design and Realization of Advanced Electromagnetic Surfaces," invited semi-plenary talk at the 2022 European Conference on Antenna and Propagation.

[IT23] S. V. Hum, M. Arrebola, A. Massa, P. Roaca, H. Legay, R. Gillard, D. Cavallo, and C. Craeye, "Arrays and Reflectarrays," European School of Antennas, Louvain-la-Neuve, Belgium, September 2018.

[IT22] S. V. Hum, "Advanced Electromagnetic Surfaces: Architectures and Opportunities", University of Rennes1 / IETR, April 2018

[IT21] S. V. Hum, J. A. Encinar, A. Massa, P. Rocca, R. Gillard, A. Neto, H. Legay, and C. Craeye, "Arrays and Reflectarrays," European School of Antennas, Louvain-la-Neuve, Belgium, 8 September 2016.

[IT22] S. V. Hum, "Advances in Reconfigurable Antennas and Spatially-Fed Arrays: Contributions by Julien Perruisseau-Carrier", Scientific Workshop, 2015 European Conference on Antennas and Propagation, Lisbon, Portugal, 14 April 2015.

[IT21] S. V. Hum, "Reconfigurable Apertures and Antennas: Architectures and Opportunities," European Space Agency, Noordwijk, The Netherlands, 30 September 2014

[IT20] S. V. Hum, G. Franceschetti, J. A. Encinar, A. Massa, G. Oliveri, R. Gillard, A. Neto, and C. Craeye, "Arrays and Reflectarrays," European School of Antennas, Louvain-la-Neuve, Belgium, 2 October 2014.

[IT19] S. V. Hum, "Reconfigurable Apertures and Antennas: Architectures and Opportunities," Universidad Politécnica de Madrid, 29 May 2014.

[IT18] S. V. Hum, "Reconfigurable Antennas: Architectures, Technologies, and Their Exciting Future," École Polytechnique Fédérale de Lausanna (EPFL), 23 April 2014.

[IT17] S. V. Hum, "Reconfigurable Antennas: Architectures, Technologies, and Their Exciting Future," Lund University, 24 March 2014.

[IT16] S. V. Hum, "Reconfigurable Antennas: Architectures, Technologies, and Their Exciting Future," Université Catholique de Louvain, 24 February 2014.

[IT15] S. V. Hum, "Reconfigurable Antennas: Architectures, Technologies, and Their Exciting Future," Lund University, 24 March 2014.

[IT14] S. V. Hum, "Reconfigurable Antennas: Architectures, Technologies, and Their Exciting Future," École Polytechnique Fédérale de Laussane, 23 April 2014.

[IT13] J. A. Encinar, S. V. Hum, and J. Perruisseau-Carrier, "Reflectarray Antennas: Design, Reconfigurability And Potential Applications," short course for the 2012 IEEE Antennas and Propagation Society International Symposium, 8 July 2012.

[IT12] S. V. Hum, "Reconfigurable Antennas: Architectures, Technologies, and Their Exciting Future," University of Akron, 6 July 2012.

[IT11] S. V. Hum, "Reconfigurable Antennas: Architectures, Technologies, and Their Exciting Future," University of Alberta / IEEE Northern Canada MTT / AP Chapter, 30 April 2012.

[IT10] S. V. Hum, "Reconfigurable Antennas: Architectures, Technologies, and Their Exciting Future," Ryerson University, 23 June 2011.

[IT9] J. A. Encinar, S. V. Hum, J. Perruisseau-Carrier, and K. van Caekenberghe, "Electronically Scanned Reflectarrays," short course for the 2011 European Conference on Antennas and Propagation, 15 April 2011.

[IT8] S. V. Hum, "Reconfigurable Antennas: Architectures, Technologies, and Their Exciting Future," Dalhousie University, 16 February 2011.

[IT7] S. V. Hum, "Reconfigurable Antennas and Antenna Arrays: Architectures and Technologies," University of Illinois at Urbana-Champaign, 5 October 2010.

[IT6] S. V. Hum, "Reconfigurable Antennas and Antenna Arrays: Architectures and Technologies," Universidad Politécnica de Madrid, 19 April 2010.

[IT5] S. V. Hum, "Reconfigurable Antennas and Antenna Arrays: Architectures and Technologies," McMaster University, 9 April 2010.

[IT4] S. V. Hum, "Reconfigurable Antennas: Architectures and Technologies," MDA, 18 February 2010.

[IT3] S. V. Hum, "Reconfigurable Antennas: Architectures and Technologies," IEEE Communications, Microwave Theory & Techniques, and Antennas & Propagation Chapter (COMMTAP), University of Calgary, 20 February 2009.

[IT2] S. V. Hum, "Reconfigurable Antennas: Making it Possible," COM DEV, 22 August 2007.

[IT1] S. V. Hum, "Reconfigurable Antennas: Present and Future Research," McGill University, 11 July 2007.

PROFESSIONAL SOCIETY MEMBERSHIPS

Institute of Electrical and Electronic Engineers (IEEE)

IEEE Antennas and Propagation Society (AP-S)

IEEE Microwave Theory and Techniques Society (MTT-S)

Professional Engineers Ontario (P. Eng.)

Amateur radio license, advanced class (callsign VA3SHV)

PROFESSIONAL ACTIVITIES

Reviewer, NSERC Alliance Grants, 2022.

Guest editor, IEEE Antennas and Propagation Magazine Special Issue on Enginering Education (2018–2019)

Co-chair, IEEE Antennas and Propagation Society Education Committee (2018 – present)

Conference organizing committee (short courses and workshops chair), 2018 European Conference on Antennas and Propagation (EuCAP2018)

Reviewer, NSERC Collaborative Research and Development Grants, 2016.

North American Liason, European Conference on Antennas and Propagation (2016–2018).

Guest editor, IEEE Transactions on Antennas and Propagation Special Issue on the Theory and Applications of Characteristic Modes (August 2014 – July 2016)

Associate editor, IEEE Transactions on Antennas and Propagation (2010–2016)

Chair, IEEE Antennas and Propagation Society Design Competition (2016–2018)

Co-chair, 2015 IEEE International Symposium on Antennas and Propagation Technical Program Committee

Member, NSERC Strategic Project Grants review panel (2014 – present)

Member, 2015 European Conference on Antennas and Propagation Technical Program Committee

Member, European Conference on Antennas and Propagation Technical Program Committee: 2014, 2015, 2017

Member, 2014 IEEE International Symposium on Antennas and Propagation Technical Program Committee

Member, IEEE Antennas and Propagation Society Education Committee (2013 – present)

Chair, 2013 NSERC Collaborative Research and Development (CRD) Grant Site Committee

Member, 2012 IEEE International Symposium on Antennas and Propagation Technical Program Committee

Member, 2011 IEEE International Symposium on Antennas and Propagation Technical Program Committee

Member, 2010 IEEE International Symposium on Antennas and Propagation Steering Committee (Registration co-chair, website chair)

Member, 2010 IEEE International Symposium on Antennas and Propagation Technical Program Committee

Vice-chair, IEEE Toronto Section, Electromagnetics and Radiation Chapter (Spring 2009 – present)

Member, 2009 International Conference on Ultrawideband (ICUWB) Technical Program Committee

Co-chair, 2009 International Symposium on Antenna Technology and Applied Electromagnetics (ANTEM) Organized Session on "Arrays and Reflectarrays"

Co-chair, 2007 Electromagnetic Theory Symposium (EMTS) Special Session on "Advanced in Reflectarrays and Frequency Selective Surfaces"

Session chair for: IEEE Symposium and Antennas and Propagation (2010–2012), 2010 European Conference on Antennas and Propagation

Article reviewer for: IEEE Transactions on Antennas and Propagation, IEEE Microwave and Wireless Components Letters, IEEE Antennas and Propagation Magazine, IET Microwaves, Antennas & Propagation, IEEE Transactions on Education, Canadian Journal of Electrical and Computer Engineering, International Journal of RF and Microwave Computer-Aided Engineering, .

Research grant reviewer for: NSERC (Discovery Grants, I2I Program, Collaborative Research and Development Grants), Strategic Project Grants, New Frontiers in Research Fund (NFRF), Icelandic Research Fund, Netherlands Organization for Scientific Research (NWO), Alberta Innovates

Book reviewer for: Artech-House, John Wiley & Sons.

OTHER ACTIVITIES	M.A.Sc. thesis committees as examiner	41
	M.A.Sc. thesis committees as chair	29
	Ph.D. qualification exam committees	79
	Ph.D. advisory committees	33
	Ph.D. thesis committees as chair (DOE/FOE)	24
	Ph.D. committees as examiner	39
	Ph.D. committees as external appraiser	3
	Ph.D. committees as external examiner	10
	Habilitations as jury member	1
	Total	259