

JO-ANNE CATHERINE BROWN, PH.D.

CONTACT INFORMATION

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HONORS AND AWARDS (HIGHLIGHTS)

INDEPENDENT CAREER AWARDS

- Students' Union Teaching Excellence Award [PHYS 221] 04/2019
- Students' Union Teaching Excellence Award [SCIE 331] 04/2018
- Students' Union Teaching Excellence Award [PHYS 211] 04/2016
- Engineering Students' Society 1st and 2nd Year Teaching Excellence Award (Block 4) [PHYS 259] 03/2014
- Faculty of Science Award for Excellence in Teaching 05/2013
- Students' Union Teaching Excellence Award (Honorable mention) [PHYS 221] 04/2013
- Students' Union Teaching Excellence Award nomination [PHYS 221] 12/2011

OTHER AWARDS

- NSERC PDF (\$40k/yr for 2 years; National) (*declined for Faculty position*) 2004
- Alberta Ingenuity Associateship (\$55k/yr for 3 years; Provincial) 01-06/2006; 07/2002 – 10/2004
- Plaskett Medal - **CASCA Thesis Prize** (Gold Medal + \$600; National) 06/2004
- Dean's Silver Medal in Science (top 1% Science Undergraduates at UofA) 05/1991

EMPLOYMENT

ASSOCIATE PROFESSOR 07/2015 – PRESENT
Department of Physics & Astronomy, University of Calgary *Calgary, AB*

GRADUATE PROGRAM DIRECTOR FOR PHAS 07/2018 – 10/2019
Department of Physics & Astronomy, University of Calgary *Calgary, AB*

ASSISTANT PROFESSOR 07/2006 – 06/2015
Department of Physics & Astronomy, University of Calgary *Calgary, AB*

ALBERTA INGENUITY ASSOCIATESHIP FELLOW 07/2002 – 06/2006
Department of Physics & Astronomy, University of Calgary *Calgary, AB*
under the supervision of Dr. A.R. Taylor
(Parental Leave: 11/2004- 12/205)

CGPS POSTDOCTORAL FELLOW 01/2002 – 06/2002
Department of Physics & Astronomy, University of Calgary *Calgary, AB*
under the supervision of Dr. A.R. Taylor

SESSIONAL INSTRUCTOR
Department of Physics & Astronomy, University of Calgary
Physics 455 – Electrostatics 09/2003 – 12/2003
Physics 457 – Electrodynamics 01/2002 – 04/2002

HARDWARE DESIGNER 12/1993 – 08/1996
Nortel Networks *Ottawa, ON*
under the supervision of L. Pratico

GEOPHYSICAL TRAINEE 05/1991 – 08/1991
Amoco Canada *Calgary, AB*
under the supervision of D. Au

EDUCATION

DOCTOR OF PHILOSOPHY IN ASTROPHYSICS <i>University of Calgary</i> Subject and Thesis Supervisor: Galactic Magnetism; Dr. A.R. Taylor Thesis Title: The Magnetic Field in the Outer Galaxy (17 Citations according to ADS)	09/1996 – 01/2002 <i>Calgary, AB</i>
MASTER OF SCIENCE IN ELECTRICAL ENGINEERING <i>Queen's University</i> Subject and Thesis Supervisor: Optical Communications; Dr. J.C. Cartledge Thesis Title: Switching Induced Interference in Fast Wavelength Switched CPFSK Systems	09/1991 – 12/1993 <i>Kingston, ON</i>
BACHELOR OF SCIENCE (HONOURS) WITH FIRST CLASS HONOURS <i>University of Alberta</i> Subject and Thesis Supervisor: Space Physics; Dr. J.C. Sampson Thesis Title: Atmospheric Gravity Waves and the Auroral Electrojet	09/1986 – 04/1991 <i>Edmonton, AB</i>

SIGNIFICANT COURSES AND TRAINING (> 2 hour programs)

- In July 2020, I completed the “Teaching Online Program” (TOP), a three week course offered by the Taylor Institute for Teaching & Learning. I took this course to help my transition to teaching online for the Fall 2020 (<http://taylorinstitute.ucalgary.ca/learning-and-instructional-design/blended-learning/teaching-online-program>).
- On June 20, 2019, I participated in the “Leadership Strategies for Supporting Mental Health” course (7 hours).
- In 2017-2018, I completed the six full-day workshops of the Leadership Program for Women in Science, Engineering, Trades and Technology (www.winsett.ca/programs/leadership-program/description-outcomes).
- In 2017, I took the “Growth Mindset” and the “Bystander Training” modules of the Heroic Imagination Project training, offered through the Faculty of Science (www.heroicimagination.org). From this training, I and Max Anikovskiy (Chemistry) developed a “Growth Mindset” workshop for undergraduates (7 hours).
- In March 2017, I was nominated to participate in an on-campus “Informed Opinions” workshop, designed for women communicating with the press (<https://informedopinions.org/>). I was nominated to participate by Faculty of Science Communications (Gloria Visseer-Niven), as participation was limited to 10 participants from across different faculties (~4 hours).
- In 2016, I completed certification for Myers-Briggs Type Indicator® Step I & Step II – October 17-20, 2016, Calgary, AB (www.psychometrics.com/training/on-site-mbti-training/). From this training, I developed MBTI workshops for both undergraduates, graduates, and faculty.
- In the fall of 2015, I completed the Leadership Primer through the Academic Leadership Academy at the University of Calgary (6 morning workshops September-December 2015).
- In 2011-2012, I completed a 144 hour course in Bodydynamic Foundation training (body-psychotherapy) in Calgary, AB (three, 6-day training sessions over a 1 year period + homework in groups); trainer: Lidy Evertsen (www.bodydynamic.com/theory/).

RESEARCH EXPERIENCE

- Refereed publications in three disciplines: Astrophysics, Electrical Engineering, and Education (book chapter).
- 27 peer-reviewed publications, 15 non-reviewed publications, and 14 science/observation proposals.
- h-factor: 17; **Career citations: 1600+**.

INDEPENDENT CAREER: RADIO ASTRONOMY (UNIVERSITY OF CALGARY)

- Associate Professor (with Tenure) as of July 1, 2015
- Assistant Professor: July 1, 2006 – June 30, 2015 (on sabbatical: July 1, 2014 – June 30, 2015)
- **NSERC supported** since 2006; NSERC CRD (co-I with 1 other) 2017-2019; CFI round 10 (co-I).
- Primary contributions so far: Demonstrated that there is likely only one “reversed” region in the Galactic magnetic field; was the first to show the reversal is diagonal within the disk, and that the pitch angle of the field varies with radius in our Galaxy; demonstrated that the measurement of the pitch angle in spiral galaxies may be a discriminating method for determining the likely dynamo mode at work in a given galaxy; there is no evidence for a warp in our magnetic field.
- 20 refereed publications with combined 1200+ citations (one first-author paper has 165+ citations).
- 7 non-refereed conference proceedings (one of which was an invited review).
- 24 Invited talks, 41 contributed talks, 14 posters, and 1 book chapter
- Trainees: 23 (1 pdf, 7 graduate students, 5 research project students (P598/599), 7 summer students)

POSTDOCTORAL WORK: RADIO ASTRONOMY (UNIVERSITY OF CALGARY)

- **Funded by Alberta Ingenuity** and University Technologies International (Institutional).
- Awarded an NSERC PDF, but declined for a faculty position.
- Primary contributions: Confirmed that there is no magnetic field reversal in the outer Galaxy; demonstrated that the Galactic magnetic field likely decays as $1/R$ in the disk of the outer Galaxy; produced a new set of RMs for the “Southern Galactic Plane Survey” that was used to do the first analysis of the small-scale fluctuations of rotation measures in/out of the spirals arms.
- 2 refereed publications and 3 non-refereed publications
- 8 Invited talks, 7 contributed talks, 1 poster
- Trainees: 2 summer students (one was co-supervised)

GRADUATE WORK (II): RADIO ASTRONOMY (UNIVERSITY OF CALGARY)

- **Received the Canadian Astronomical Society Thesis Prize (Plaskett Medal).**
- **Funded independently throughout degree (sources included NSERC, Killam, Ralph Steinhauer).**
- Most significant contributions: Using the Dominion Radio Astrophysical Observatory, demonstrated that simultaneous observations of closely-spaced polarisation angles are an effective method for determining RMs (several other facilities emulated this technique with their telescopes, including the Australia telescope compact array and the Effelsberg Telescope in Germany); increased the number of RMs in the disk of the outer Galaxy by more than a factor of 10; demonstrated that there is likely no magnetic field reversal in the outer Galaxy; provided the first evidence that the small-scale field is correlated to the large-scale field.
- 3 refereed and 5 non-refereed publications, 9 contributed talks, 2 posters
- Trainees: 1 summer student (co-supervised)

GRADUATE WORK (I): OPTICAL COMMUNICATIONS (QUEEN’S UNIVERSITY)

- **Funded independently by NSERC for both years.**
- Established that switching induced interference is an important design consideration in fast wavelength-switched systems; demonstrated how various key detectors respond differently to this interference.
- 2 refereed publications, 2 contributed talks, 1 poster
- Following my MSc I worked in industry as a hardware designer for 2.5 years.

UNDERGRADUATE THESIS WORK: SPACE PHYSICS (UNIVERSITY OF ALBERTA)

- Found evidence that sudden changes in the auroral electrojet current is a source of atmospheric gravity waves.
- **Recipient of the Dean’s Silver medal in Science** (Institutional award: top 1% of undergrad. science students)
- 1 contributed talk.

RESEARCH CONTRIBUTIONS

HQP types with: Postdoctoral Fellow, Graduate Student, Undergraduate student (as supervised by me). I identify myself in bold. Journal Impact Factors (I.F.) are from Thompson Reuter's Web of Science (2019)

PEER-REVIEWED PUBLICATIONS: INDEPENDENT CAREER: 17 [+3 in review]

Submitted Articles to Refereed Journals

27. Hutschenreuter, S., Anderson, C.S., Betti, S., Bower, G.C., **Brown, J.**, Brüggen, M. + 31 others (2021) *The Galactic Faraday Rotation Sky 2020*, submitted February 3, 2021 to Astronomy and Astrophysics (arXiv:2102.01709)
Journal I.F.: 5.636.
26. Wolleben, M., Landecker, T.L., Douglas, K.A., Gray, A.D., Ordog, A., Dickey, J.M., Hill, A.S., Carretti, E., **Brown, J.C.**, + 11 others (2021) *The Global Magneto-Ionic Medium Survey: A Faraday Depth Survey of the Northern Sky Covering 1280-1750 MHz*, submitted January 31, 2021 to the Astronomical Journal
Journal I.F.: 5.838.
25. Freeman, P., **Brown, J.** (2021) *Exploring Ambient Radio Frequency Emissions*, submitted November 2020 to Physics in Canada.
Journal I.F.: 1.032.

Accepted/Published Articles to Refereed Journals

24. Van Eck, C.L., **Brown, J.C.**, Ordog, A., Kothes, R., Landecker, T.L., Cooper, B., Rae, K.M., Del Rizzo, D. A., Gray, A.D., Ransom, R., Reid, R.I., Uyaniker, B. (2021) *Revisiting Rotation Measures from the Canadian Galactic Plane Survey: the Magnetic Field in the Disk of the Outer Galaxy*, Accepted by Astrophysical Journal Supplement Series (arXiv:2102.02856)
Journal I.F.: 7.95.
23. Ma, Y.K., Mao, S.A., Ordog, A., **Brown, J.C.** (2020) *The Complex Large-Scale Magnetic Fields in the First Galactic Quadrant as Revealed by the Faraday Depth Profile Disparity*, Monthly Notices of the Royal Astronomical Society, vol. 497, issue 3, pp. 3097-3117
Journal I.F.: 5.356
Citations: 2.
22. Tahani, M., Plume, R., **Brown, J.C.**, Soler, J.D., Kainulainen, J. (2019) *Could Bow-Shaped Magnetic Morphologies Surround Filamentary Molecular Clouds? The 3D Magnetic Field Structure of Orion-A*, Astronomy and Astrophysics, vol. 632, id.A68, 10pp. (arXiv:1910.07619)
Journal I.F.: 5.636
Citations: 11.
21. Ordog, A., Booth, R., Van Eck, C., **Brown, J.**, Landecker, T. (2019) *Faraday Rotation of Extended Emission as a Probe of the Large-Scale Galactic Magnetic Field*, Galaxies, vol. 7, issue 2, p. 43 (arXiv:1903.11227)
Journal I.F.: 1.13
Citations: 4.
20. Tahani, M., Plume, R., **Brown, J.C.**, Kainulainen, J. (2018) *Helical Magnetic Fields in Molecular Clouds? A New Method to Determine the Line-of-Sight Magnetic Field Structure in Molecular Clouds*, Astronomy and Astrophysics, vol 614, id.A100, 16pp. (arXiv:1802.07831)
Journal I.F.: 5.636
Citations: 24.

19. **Brown, J.** (2018) *Using Psychology in the Physics Classroom: Five Steps to Improving Classroom Effectiveness*, The Physics Teacher, **56**, 32 (doi.org/10.1119/1.5018687)
Journal I.F.: 0.671.
18. Ordog, A., **Brown, J.C.**, Kothes, R., Landecker, T.L. (2017) *Three-dimensional Structure of the Magnetic Field in the Disk of the Milky Way*, Astronomy & Astrophysics, vol. 603, id.A15, 6pp. (arXiv:1704.08663)
Journal I.F.: 5.636
Citations: 11.
17. Van Eck, C.L., **Brown, J.C.**, Shukurov, A., Fletcher, A. (2015) *Magnetic Fields in a Sample of Nearby Spiral Galaxies*, Astrophysical Journal, vol. 799, 35, 19 pp. (arXiv:astro-ph/1411.1386)
Journal I.F.: 5.84
Citations: 35.
16. Foster, T., Kothes, R., **Brown, J.C.** (2013) *A Relation Between the Warm Neutral and Ionized Media Observed in the Canadian Galactic Plane Survey*, Astrophysical Journal Letters, vol. 773(L11), 5 pp.
(arXiv:astro-ph/1307.4358)
Journal I.F.: 8.198
Citations: 6.
15. Mao, S.A., McClure-Griffiths, N.M., Gaensler, B.M., **Brown, J.C.**, Haverkorn, M., Kronberg, P.P., Van Eck, C.L., Stil, J.M., Shukurov, A., Taylor, A.R. (2012) *New Constraints on the Galactic Halo Magnetic Field using Rotation Measures of Extragalactic Sources Towards the Outer Galaxy*, Astrophysical Journal, vol. 755, 15 pp.
(arXiv:astro-ph/1206.3314)
Journal I.F.: 5.84
Citations: 49.
14. Oppermann, N., Junklewitz, H., Robbers, G., Bell, M.R., Enßlin, T.A., Bonafede, A., Braun, R., **Brown, J.C.**, Clarke, T.E., 21 others, and Van Eck, C.L. (2012) *An Improved Map of the Galactic Faraday Sky*, Astronomy & Astrophysics, vol. 542, 14 pp. (arXiv:astro-ph/1111.6186)
Journal I.F.: 5.636
Citations: 188.
13. Van Eck, C. L., **Brown, J.C.**, Stil, J. M., Rae, K M., Mao, S.A., Gaensler, B. M., Shukurov, A., Taylor, A. R., Haverkorn, M., Kronberg, P. P., McClure-Griffiths, N. (2011) *Modeling the Galactic Magnetic Field using New Rotation Measure Observations in the Galactic Disk from the Very Large Array*, Astrophysical Journal, vol. 728, pp. 97-110 (arXiv:astro-ph/1012.2938)
Journal I.F.: 5.84
Citations: 123.
12. **Brown, J.C.**, Stil, J., Landecker, T. L. (2008) *Visualizing the Invisible using Polarisation Observations*, Physics in Canada, vol. 64, pp. 215-225 (invited contribution to a special issue on Astrophysics; arXiv:astro-ph/1007.1015)
Journal I.F.: 1.032
11. Johnston, S., Taylor, R., Bailes, M., Bartel, N., Baugh, C., Bietenholz, M., Blake, C., Braun, R., **Brown, J.** and 41 coauthors (2008) *Science with ASKAP. The Australian Square-Kilometre-Array Pathfinder*, Experimental Astronomy, vol. 22, pp. 151-273 (arXiv:astro-ph/0810.5187)
Journal I.F.: 1.489
Citations: 327.
10. Haverkorn, M., **Brown, J.C.**, Gaensler, B. M., McClure-Griffiths, N. M. (2008) *The Outer Scale of Turbulence in the Magnetoionized Galactic Interstellar Medium*, Astrophysical Journal, vol. 680, pp. 362-370 (arXiv:astro-ph/0802.2740)
Journal I.F.: 5.84
Citations: 142.

9. Johnston, S., Bailes, M., Bartel, N., Baugh, C., Bietenholz, M., Blake, C., Braun, R., **Brown, J.** and 42 coauthors (2007) *Science with the Australian Square Kilometre Array Pathfinder*, Publications of the Astronomical Society of Australia, vol. 24, pp. 174-188 (arXiv:astro-ph/0711.2103)
Journal I.F.: 5.067
Citations: 200.
8. **Brown, J.C.**, Haverkorn, M., Gaensler, B.M., Taylor, A.R., Bizunok, N.S., McClure-Griffiths, N.M., Dickey, J.M., Green, A.J. (2007) *Extragalactic Rotation Measures in the Southern Galactic Plane Survey: New Insights into the Large-Scale Magnetic Field in the Inner Milky Way*, Astrophysical Journal, vol. 663, pp. 258-266 (arXiv:astro-ph/0704.0458)
Journal I.F.: 5.84
Citations: 164.

PEER-REVIEWED PUBLICATIONS: PDF WORK: 2

7. Haverkorn, M., Gaensler, B.M., **Brown, J.C.**, Bizunok, N.S., McClure-Griffiths, N.M., Dickey, J.M., Green, A.J. (2006) *Enhanced Small-Scale Faraday Rotation in the Galactic Spiral Arms*, Astrophysical Journal Letters, vol. 637, pp. L33-L35 (arXiv:astro-ph/0512456)
Journal I.F.: 8.198
Citations: 77.
6. **Brown, J.C.**, Taylor, A.R., Weilebinski, R., Mueller, P. (2003) *On Magnetic Field Reversals in the Outer Galaxy* Astrophysical Journal Letters, vol. 592, pp. L29-L32 -37 citations.
Journal I.F.: 8.198
Citations: 45.

PEER-REVIEWED PUBLICATIONS: GRADUATE STUDENT WORK: 5

5. **Brown, J.C.**, Taylor, A.R., Jackel, B.J. (2003) *Rotation Measures of Compact Sources in the Canadian Galactic Plane Survey*, Astrophysical Journal Supplement Series, vol. 145, pp. 213-223
Journal I.F.: 7.95
Citations: 76.
4. **Brown, J.C.** and Taylor, A.R. (2001) *The Structure of the Magnetic Field in the Outer Galaxy from Rotation Measure Observations Through the Disk*, Astrophysical Journal Letters, vol. 563, pp. L31-L34
Journal I.F.: 8.198
Citations: 62.
3. English, J., Taylor, A.R., Irwin, J.A., Dougherty, S.M., Basu, S., Beichman, C., **Brown, J.**, Cao, Y., Carignan, C., Crabtree, D., Dewdney, P., Duric, N., Fich, M., Gagnon, E., Galt, J., Germain, S., Ghazzali, N., Gibson, S. J., Godbout, S., Gray, A., Green, D.A., Heiles, C., Heyer, M., Higgs, L., Jean, S., Johnstone, D., Joncas, G., Landecker, T., Langer, W., Leahy, D., Martin, P., Matthews, H., McCutcheon, W., Moriarity-Scheiven, G., Pineault, S., Purton, C., Roger, R., Routledge, D., St-Louis, N., Tapping, K., Terebey, S., Vaneldik, F., Watson, D., Willis, T., Wendker, H., Zhang, X. (1998) *The Canadian Galactic Plane Survey*, Publications of the Astronomical Society of Australia, vol. 15, no. 1, pp. 56-59
Journal I.F.: 5.067
Citations: 35.
2. **Brown, J.C.** and Cartledge, J.C. (1994) *Interference in CPFSK Optical Crossconnect Systems with Noncoherent Detection*, Electronics Letters, vol 30, pp. 2156-2157
Journal I.F.: 1.316

1. **Brown, J.C.** and Cartledge, J.C. (1994) *Interference in Fast Wavelength Switched CPFSK Systems with Heterodyne Detection*, IEEE Photonics Technology Letters, vol. 6, pp. 863-865.
Journal I.F.: 2.451
Citations: 1

PEER-REVIEWED PUBLICATIONS: SIGNIFICANTLY IN PREPARATION: 1

1. Forster, B., Foster, T., Kothes, R., Hill, A., **Brown, J.** (2021) *What Rogue Hydrogen Clouds might tell us about Galactic Magnetic Fields*, to be submitted to Nature in the next two months.

NON-REFEREED CONFERENCE PROCEEDINGS: INDEPENDENT CAREER: 7

15. Tahani, M., Plume, R., Brown, J. (2018) *The Line-of-Sight Magnetic Field Structure in Molecular Clouds*, presented at IAU XXX General Assembly, Vienna, Austria. Proceedings of the IAU, 2020, pp. 103-103 (doi: 10.1017/S1743921319003582)
14. Dawson, L., Canon Rubio, K., Mickleham, A., Sun, Q., Brown, J. Behjat, L. (2017) *Development of a Female Leadership Program for Graduate Students in Engineering and Science*, Canada: Gender Summit 11 North America.
13. Mao, S.A., McClure-Griffiths, N.M., Gaensler, B.M., **Brown, J.C.**, *Van Eck, C.L.*, Haverkorn, M., Kronberg, P.P., Stil, J.M., Shukurov, A., Taylor, A.R. (2015) *Magnetic Fields in the Milky Way Halo*, proceedings of the International Astronomical Union General Assembly in August 2012, Highlights of Astronomy, vol. 16, pp. 403-403.
Citations: 2
12. **Brown, J.C.** (2010) *The Magnetic Field of the Milky Way Galaxy*, ASP Conference Series (eds. R. Kothes, T.L. Landecker and A.G. Willis), vol 438, pp 216–228; proceedings for *The Dynamic ISM: A Celebration of the Canadian Galactic Plane Survey*, held in Naramata, British Columbia, June 6–10, 2010 (arXiv:astro-ph/1012.2932).
Citations: 15.
11. Rae, K.M. & **Brown, J.C.** (2010) *Constraints on the Galactic Magnetic Field From the Canadian Galactic Plane Survey*, ASP Conference Series (eds. R. Kothes, T.L. Landecker and A.G. Willis), vol 438, pp 229–235; proceedings for *The Dynamic ISM: A Celebration of the Canadian Galactic Plane Survey*, held in Naramata, British Columbia, June 6–10, 2010 (arXiv:astro-ph/1012.2934).
Citations: 9.
10. Van Eck, C.L. & **Brown, J.C.** (2010) *Modeling the Galactic Magnetic Field using Rotation Measure Observations in the Galactic Disk from the CGPS, SGPS, and the VLA*, ASP Conference Series (eds. R. Kothes, T.L. Landecker and A.G. Willis), vol 438, pp 236–242; proceedings for *The Dynamic ISM: A Celebration of the Canadian Galactic Plane Survey*, held in Naramata, British Columbia, June 6–10, 2010 (arXiv:astro-ph/1012.2936).
Citations: 3.
9. Kothes, R., **Brown, J.** (2009) *Probing ISM Magnetic Fields with SNRs*, IAU Symposium, vol. 259, pp. 75-80; proceedings for *Cosmic Magnetic Fields: from Planets, to Stars and Galaxies*, held in Tenerife, Spain, November 3–7, 2008 (arXiv:astro-ph/0812.3392).
Citations: 16.

NON-REFEREED CONFERENCE PROCEEDINGS: PDF WORK: 3

8. Haverkorn, M., Gaensler, B.M., **Brown, J.C.** (2008) *Mapping Galactic Magnetism through Faraday Rotation of Polarized Extragalactic Sources*, Astrophysics and Space Science Proceedings for “Mapping the Galaxy and Nearby Galaxies” (eds. K. Wada and F. Combes) held on Ishigaki Island, Japan, June 26 – 30, 2006. Citations: 1.
7. Haverkorn, M., Gaensler, B.M., **Brown, J.C.**, McClure-Griffiths, N.M., Dickey, J.M., Green, A.J. (2006) *Magnetic Fields in the Southern Galactic Plane Survey*, *Astronomische Nachrichten*, vol 327, pp 483-486; proceedings for *Origin and Evolution of Cosmic Magnetism* held in Bologna, Italy, August 29–September 2, 2005 (arXiv:astro-ph/0511407). Citations: 7.
6. Haverkorn, M., Gaensler, B., **Brown, J.**, McClure-Griffiths, N., Dickey, J., Green, A. (2005) *Enhanced Magneto-Ionic Fluctuations in the Milky Way’s Spiral Arms*, in *Proceedings: The Magnetized Plasma in Galaxy Evolution*, pp. 80-85; conference held in Krakow, Poland, September 27–October 1, 2004.

NON-REFEREED CONFERENCE PROCEEDINGS: GRADUATE WORK: 5

5. **Brown, J.C.** and Taylor, A.R. (2000) *Exploring the Galaxy’s Magnetic Field using Rotation Measures of Point Sources*, in *Proceedings of the Canadian Galactic Plane Survey Polarisation Workshop*, pp. 35-42; meeting held in Montreal, Quebec, May 14, 2000.
4. Landecker, T.L., Knee, L.B.G., Brunt, C., Dewdney, P.E., Dougherty, S.M, Galt, J.A, Gray, A.D., Higgs, L.A., Kothes, R., Purton, D.R., Roger, R.S., Tapping, K., Wallace, B.J., Willis, A.G., **Brown, J.C.**, and 39 co-authors (1999) *The Canadian Galactic Plane Survey – Phase 2*, *Journal of the Royal Astronomical Society of Canada*, vol. 93, p. 182; Canadian Astronomical Society Annual General Meeting held in held in Halifax, Nova Scotia, June 27-30, 1999.
3. **Brown, J.C.**, Taylor, A.R. and Peracaula, M. (1999) *The Interstellar Magnetic Field of CXR 11*, in *Max-Planck-Institut für Radioastronomie Workshop Proceedings*, pp. 34-37; Foreground Polarisation Workshop held in Bonn, Germany, September 7-9, 1998. Citations: 2.
2. **Brown, J.C.**, Taylor, A.R. and Peracaula, M. (1999) *The Interstellar Magnetic Field of the Ionized Filament CXR 11*, in ASP Conference Series (eds. A.R. Taylor, T.L. Landecker, and G. Joncas), vol. 168, pp. 223-226; proceedings for *New Perspectives on the Interstellar Medium*, held in Naramata, British Columbia, August 22-28, 1998. Citations: 1
1. **Brown, J.C.**, Taylor, A.R., Gray, A.D., Landecker, T.L., and Dewdney, P.E. (1998) *Wide-Field Imaging Polarimetry as a Probe of the Interstellar Medium*, *Journal of the Royal Astronomical Society of Canada*, vol. 92, p27; Canadian Astronomical Society Annual General Meeting held in Edmonton, Alberta, June 14-17, 1997.

OBSERVING AND SCIENCE PROPOSALS : INDEPENDENT CAREER: 14

14. **Brown, J.C.**, Belostotski, L., Landecker, T., Vanderlinde, K., Dobbs, M. (2019) CHORD: *The Canadian HI Observatory and Radio-transient Detector*, internal Notice of Intent for CFI round 10, submitted March 2019. The proposal was approved for UCalgary support. The final CFI proposal was submitted in January of 2020 (results are still pending official announcement).

13. Vanderlinde, K., Liu, A., Gaensler, B., Bond, D., Hinshaw, G., Ng, C., Chiang, C., Stairs, I., **Brown, J.**, Sievers, J., Mena, J., Smith, K., Bandurra, K., Masui, K., Spekkens, K., Belostotski, L., Dobbs, M., Turok, N., Boyle, P., Rupen, M., Landecker, T., Pen, U., Kaspi, V. (2019) *The Canadian Hydrogen Observatory and Radio-transient Detector (CHORD)*, Canadian Long Range Plan for Astronomy and Astrophysics White Papers (www.zendo.org/communities/lrp2020) id. 28
12. Spekkens, K. + 57 co-authors, including **Brown, J.** (2019) *Canada and the SKA from 2020-2030*, Canadian Long Range Plan for Astronomy and Astrophysics White Papers (www.zendo.org/communities/lrp2020) id. 46
11. West, J., **Brown, J.**, Gaensler, B., Hill, A.S., Irwin, J., Kothes, R., Landecker, T., Robishaw, T., Safi-Harb, S., Stil, J., Van Eck, C., Wade, G. (2019) *Cosmic Magnetism*, Canadian Long Range Plan for Astronomy and Astrophysics White Papers (www.zendo.org/communities/lrp2020) id. 54
13. Landecker, T.L., Kothes, R., Gray, A.D., **Brown, J.C.**, Booth, R.A. (2018) *HI Absorption of Polarized Radio Emission: Distances to Supernova Remnants*, Observing proposal for the Synthesis Telescope for R. Booth's MSc project. Observations began in 2019.
9. Ma, Y.K., Mao, S.A., Brown, J.C. (2017) *Probing the Complex Magnetic Field Structure in the Inner Galaxy with New Broadband Spectro-Polarimetric Observations*, 15 hour observing proposal with the VLA in D-array configuration. Observations commenced in 2018.
8. Foster, T., **Brown, J.C.**, Kothes, R. (2011) *A new High-Resolution DRAO Survey of the Energetic Galactic Anticentre Disc: Impacts of High-Velocity HI Clouds from Above, and Polarized Chimney Blowouts from Within* observing proposal submitted to DRAO in July 2011 requesting 58 fields over 1 year of observing. Observations commenced in August 2011.
7. **Brown, J.C.**, Landecker, T.L., Rae, K.M., Kothes, R. (2010) *Imaging the Disk-Halo Transition*, observing proposal submitted to DRAO in January 2010 requesting 75 square degrees of observing over six months. We were awarded the full observing request, and observations commenced in April 2010. These data formed the basis for B. Cooper's MSc.
6. **Brown, J.C.**, Landecker, T.L., Wolleben, M., Stil, J.M. (2010) *Cosmic Magnetism: An LRP 2010 White Paper*, an invited white paper as part of the Long Range Plan (LRP) decadal review outlining the broad goals and directions in astronomical and astrophysical research in Canada (www.casca.ca/lrp2010).
5. Hutchings, J.B., **Brown J.**, Davidge, T., Holder, G., Kothes, R., Venn, K., Webb, T., Willott, C. (2010) *Report to the LRP by the Groundbased Astronomy Committee (GAC)*. This was the GAC contribution to the LRP review (www.casca.ca/lrp2010).
4. PI: Gaensler, B., Landecker, T.L., Taylor, A.R.; 40 Co-I's including **Brown, J.** (2009) *Polarisation Sky Survey of the Universe's Magnetism (POSSUM)* Following a successful EOI (#3), we were invited to write this proposal for ASKAP.
3. PI: Gaensler, B.; Co-I's: Beck, R., **Brown, J.** and 25 others (2008) *The ASKAP Rotation Measure and Polarisation Investigation (ARMPIT)*, Expression of Interest (EOI) for an ASKAP (Australian Square Kilometer Array Pathfinder) Survey Science Project (<http://www.atnf.csiro.au/projects/askap/users.html>)
2. Fraisse, A.A., **Brown, J.C.**, Dobler, G., Dotson, J.L., Draine, B.T., Frisch, P.C., Haverkorn, M., Hirata, C.M., Jansson, R., Lazarian, A., Magalhaes, A.M., Waelkens, A., Wolleben, M. (2008) *CMBPol Mission Concept Study: Foreground Science Knowledge and Prospects*, a 43 page proposal resulting from the CMB Polarization workshop held at FermiLab in June, 2008 (see *invited talks* below; arXiv:astro-ph/0811.3920).
Citations: 22.
1. Mao, A. **Brown, J.C.**, Gaensler, B., Taylor, A.R., Stil, J., Haverkorn, M., McClure-Griffiths, N., Shukurov, A., Kronberg, P. (2008) *Final Frontiers of the Milky Way's Magnetic Field* 96-hour observation proposal on the VLA with A. Mao and J.C. Brown as Co-PI's.

INVITED ORAL PRESENTATIONS: INDEPENDENT CAREER: 24

32. *Invited Talk* **Brown, J.C.** (2019) *Probing the Invisible: Radio Astronomy's Quest to Understand Galactic Magnetism Using Compact Sources*, The Future of Canadian Radio Astronomy meeting, held in Penticton, British Columbia (DRAO), May 6-8, 2019.
31. *Invited Talk* **Brown, J.C.** (2018) *The Generations of Observing and Modeling the Galactic Magnetic Field*, CHANG-ES meeting, held at the University of Calgary, Alberta, July 30 – August 4, 2018.
30. *Invited Talk* **Brown, J.C.** (2017) *'B' in Canada*, Canadian Radio Astronomy: Surveying the Present and Shaping the Future, McGill University, Montreal, Quebec, September 13-14, 2017.
29. *Special Presentation* Behjat, L., Bauer, K., **Brown, J.**, Gavrilova, M., Grozik, J., Marasco, E. (2017) *Increasing the Visibility of Women in STEM*, 2nd Annual Diversity Dialogue luncheon for Ada Lovelace Day, Keynote Presentation (invited by Steve Vamosi, AD-EDI), University of Calgary, October 10, 2017 (Note: This was a group presentation).
28. *Special Presentation* Behjat, L., Bauer, K., **Brown, J.**, Gavrilova, M., Grozik, J., Marasco, E. (2017), *Speak Her Mind*, Women of SPE (Society of Petroleum Engineers), Calgary, Alberta, April 18, 2017 (Note: This was a group presentation).
27. *Special Presentation* Behjat, L., Bauer, K., **Brown, J.**, Gavrilova, M., Grozik, J., Marasco, E. (2017) *Increasing the Visibility of Women in STEM*, Diversity Week Presentation (invited by the Office of Equity, Diversity, and Inclusion), University of Calgary, March 27, 2017 (Note: This was a group presentation).
26. *Colloquium* **Brown, J.C.** (2017) *Radio Astronomy 101 – The Canadian Edition*, at the University of Alberta, Edmonton, March 3, 2017.
25. *Plenary* Behjat, L., Bauer, K., **Brown, J.**, Gavrilova, M., Grozik, J., Marasco, E. (2016) *Increasing the Visibility of Women in Science, Technology, Engineering, and Math*, Speaking Her Mind Conference (2016) University of Calgary, October 22, 2016 (Note: This was a group presentation).
24. *Colloquium* **Brown, J.C.** (2016) *Radio Astronomy 101 – A Canadian View*, at the University of Idaho, Moscow, Idaho, October 10, 2016.
23. *Plenary* **Brown J.C.** (2016) *The Magnetic Field of Our Galaxy*, Women in Physics Canada 2016, University of Saskatchewan, Saskatoon, July 27-29, 2016.
22. *Plenary* **Brown, J.C.** (2016) *Radio Astronomy 101 – The Canadian Edition*, American Physical Society NW Section meeting, Penticton, British Columbia, May 12-14, 2016.
21. *Colloquium* **Brown, J.C.** (2015) *Imaging the Invisible using the Canadian Radio-Telescope that Could*, at the University of Toronto, November 27, 2015.
20. *Colloquium* **Brown, J.C.** (2015) *Imaging the Invisible with the Little Radio-Telescope that Could*, at the University of Lethbridge, April 2, 2015.
19. *Invited Seminar* **Brown, J.C.** (2014) *The Magnetic Field of the Milky Way – a Canadian Perspective*, at the Canadian Institute for Theoretical Astrophysics in Toronto, December 1, 2014.
18. *Conference Presentation* **Brown, J.C.** (2013) *The Magnetic Field of the Milky Way*, at 'Cosmic magnetic fields: mathematical and observational descriptions', an invitation-only meeting held in celebration of the 60th birthday of Anvar Shukurov, held at Newcastle University, March 18-19, 2013.
17. *Invited Talk* **Brown, J.C.** (2012) *Recent Observations and Interpretations of the Magnetic Field in the Milky Way*, Annual meeting of the DFG research unit for 1254: Magnetisation of the Interstellar and Intergalactic Media, held in Mainz, Germany, July 9-13, 2012.

16. *Invited Talk* **Brown, J.C.** (2011) *Observational Constraints for the Galactic Dynamo in the Milky Way*, mini-conference on ‘Understanding Astrophysical Dynamos’ at the 53rd Annual Meeting of the American Physical Society – Division of Plasma Physics, Salt Lake City, Utah, November 14-18, 2011.
15. *Invited Talk*: **Brown, J.C.** (2011) *Frontiers of Exploration of the Galactic Magnetic Field*, Canadian Astronomical Society (CASCA) meeting in London, Ontario, May 30 - June 2, 2011.
14. *Conference Presentation*: **Brown, J.C.** (2011) *Review of Galactic Magnetism*, Workshop on Primordial Magnetism (Invitation Only), held at Arizona State University, March 30 - April 2, 2011.
13. *Colloquium*: **Brown, J.C.** (2010) *Visualizing the Invisible – The Story of the Galactic Magnetic Field*, University of British Columbia, Vancouver, B.C., November 15, 2010.
12. *Invited Review*: **Brown, J.C.** (2010) *The Magnetic Field of the Milky Way Galaxy*, The Dynamic ISM: A celebration of the Canadian Galactic Plane Survey, Naramata, British Columbia, June 6-10, 2010. Proceedings published in the Astronomical Society of the Pacific Conference Series, January 2011.
11. *Invited Talk*: **Brown, J.C.** (2008) *Exploring Galactic Magnetism*, Session on Canadian Women in Physics, AAPT 2008 Summer meeting, Edmonton, Alberta July 19-23, 2008.
10. *Invited Talk*: Haverkorn, M. & **Brown, J.C.** (2008) *Large-Scale Structure of the Galactic Magnetic Field* CMB Polarization: Theory and Foregrounds workshop, Fermilab, Illinois June 23-26, 2008. In addition to the talk, we wrote a contribution to the CMBPol Foreground Science report on the Structure of the Galactic Magnetic field.
9. *Invited Talk*: **Brown, J.C.** (2007) *Global Models of the Galactic Magnetic Field*, URSI North American Radio Science Meeting, Ottawa, Ontario, July 22-26, 2007.

I accepted an invitation to present a talk on the Galactic Magnetic Field at an IAU symposium that was to be held in Cape Town, South Africa in 2014 [invited by Roy Booth]. The symposium was not successful in its bid to the IAU. Although the symposium proceeded outside of the IAU, I declined to present in that forum.

In addition, I declined invited talks at the following meetings: “Cosmic Magnetism: From Stellar to Intergalactic Scales” [invited by George Hobbs] held in Kiama, Australia (2010); the Canadian Astronomical Society annual meeting [invited by Rob Thacker] held in Halifax, N.S. (2010).

INVITED ORAL PRESENTATIONS: PDF WORK: 8

8. *Invited Talk*: **Brown, J.C.** (2006) *Observations of the Galactic Magnetic Field from the International Galactic Plane Survey*, Special Session 22: Canadian Women Astronomers: Their Status & Science, American Astronomical Society 208th Meeting, Calgary, Alberta, June 4-8, 2006.
7. *Conference Presentation*: **Brown, J.C.** (2004) *Observations of the Galactic Magnetic Field from the International Galactic Plane Survey and Observational Evidence of the Anisotropy of the Small-Scale Field*, presented at the invitation-only workshop on Magnetic Fields in Galaxies, held in Leiden, the Netherlands, July 5-8, 2004.
6. ***Plaskett Medal Talk***: **Brown, J.C.** (2004) *The Magnetic Field in the Outer Galaxy*, Canadian Astronomical Society annual meeting, University of Manitoba, June 15, 2004.
5. *Colloquium*: **Brown, J.C.** (2004) *The Magnetic Field of the Galaxy: New Insights from the International Galactic Plane Survey*, University of Minnesota, March 5, 2004.

4. *Seminar: Brown, J.C. (2003) Observations of the Galactic Magnetic Field using Data from the International Galactic Plane Survey*, Hertzberg Institute for Astrophysics (Victoria), November 25, 2003.
3. *Conference Presentation: Brown, J.C. (2003) The Power of the Canadian Galactic Plane Survey for Probing the Galactic Magnetic Field*, URSI Radio Science Meeting, Columbus, Ohio, June 25, 2003.
2. *Seminar: Brown, J.C. (2003) The CGPS and the Magnetic Field of the Galaxy*, Dominion Radio Astro- physical Observatory, March 17, 2003.
1. *Colloquium: Brown, J.C. (2002) Observations of the Galactic Magnetic Field using Data from the Canadian Galactic Plane Survey*, R&G Lunch Talks, Harvard-Smithsonian Center for Astrophysics, September 27, 2002.

In addition, I declined an invited talk at “Diffuse Matter in Galaxies” [invited by Ellen Zweibel] held in Puerto Rico (2004), as I was unable to travel at that time.

CONTRIBUTED ORAL PRESENTATIONS: INDEPENDENT CAREER: 41

60. *Freeman, P., Brown, J.C., Landecker, T., Vanderlinde, K. (2019) Bringing the Synthesis Telescope into the 21st Century*, Tech Talk Tuesday at DRAO, July 23, 2019.
59. *Ordog, A., Booth, R., Van Eck, C., Brown, J., Landecker, T. (2019) Extended Emission Rotation Measures: Observations and Toy Models of the Galactic Magnetic Field*, Canadian Astronomical Society Annual Meeting, June 18, 2019.
58. *Tahani, M., Plume, R., Brown, J. (2019) Large-Scale Magnetism Associated with Filamentary Molecular Clouds*, seminar presented at DRAO, Penticton, British Columbia, May 10, 2019.
57. *Tahani, M., Plume, R., Brown, J. (2019) A New Method to Determine the Line-of-sight Magnetic Field Structure in Molecular Clouds*, The Future of Canadian Radio Astronomy meeting, held in Penticton, British Columbia (DRAO), May 6-8, 2019.
56. *Tahani, M., Plume, R., Brown, J. (2019) A New Method to Determine the Line-of-sight Magnetic Field Structure in Molecular Clouds*, ALMA Workshop: Star Formation with ALMA: Evolution from Molecular Clouds to Protostars, Japan, March 4 - 6, 2019.
55. *Tahani, M., Plume, R., Brown, J. (2019) Magnetic Field Reversal; Filamentary Structures*, a seminar presented at Nagoya University, Japan, February 20, 2019.
54. *Tahani, M., Plume, R., Brown, J. (2018) Helical Magnetic Fields in Molecular Clouds? A New Method to Determine the Line-of-sight Magnetic Field Structure in Molecular Clouds*, XXX IAU General Assembly; FM4: Magnetic Fields along the Star-Formation Sequence, Vienna, Austria. August 30, 2018.
53. *Tahani, M., Plume, R., Brown, J. (2018) Large-Scale Magnetism in Filamentary Molecular Clouds*, seminar presentation at Chalmers University of Technology, Gothenburg, Sweden, August 27, 2018.
52. *Tahani, M., Plume, R., Brown, J. (2018) Large-Scale Magnetism in Filamentary Molecular Clouds*, seminar presentation at the Max-Planck Institute for Astronomy, Heidelberg, Germany, August 22, 2018.
51. *Brown, J.C. (2017) The Magnetic Field of the Galaxy from Extragalactic RM Data*, Global Magneto-Ionic Medium Survey Workshop, held in Penticton, British Columbia (DRAO), October 25-26, 2017.
50. *Ordog, A., Brown, J.C., Landecker, T.L., Kothes (2017) Three-Dimensional Magnetic Field Structure from Combined Datasets*, Global Magneto-Ionic Medium Survey Workshop, held in Penticton, British Columbia (DRAO), October 25-26, 2017.
49. *Tahani, M., Plume, R., Brown, J. (2017) A New Method to Detect Magnetic Fields in Molecular Clouds*, seminar presentation at McMaster University, Hamilton, Ontario, July 26, 2017.

48. Archer, W., **Brown, J.**, Gallardo-Lacourt, B., *How to Communicate Effectively with your Scientific Peers*, CEDAR 2017, Keystone Resort, Colorado, June 18-23, 2017.
47. Ordog, A., **Brown, J.C.**, Landecker, T.L., Kothes, R. (2017) *The Three-Dimensional Structure of the Magnetic Field in the Disk of the Milky Way*, Canadian Astronomical Society Annual General Meeting, University of Alberta, May 29-June 1, 2017 (A. Ordog won the outstanding student presentation.)
46. Ordog, A., **Brown, J.C.**, Landecker, T.L., Kothes, R. (2016) *The Galactic Magnetic Field as a Parker Spiral – A New View of the Milky Way*, Women in Physics Conference, University of Saskatchewan, Saskatoon, July 27-29, 2016.
45. Tahani, M., Plume, R., Brown, J.C. (2016) *The Effects of Magnetic Fields in Star Formation Regions*, American Physical Society NW Section Annual Meeting, Okanagan College, Penticton, BC, May 12-14, 2016.
44. Ordog, A., **Brown, J.C.**, Landecker, T.L., Kothes, R. (2016) *The Galactic Magnetic Field as a Parker Spiral – A New View of the Milky Way*, American Physical Society NW Section Annual Meeting, Okanagan College, Penticton, BC, May 12-14, 2016.
43. **Brown, J.C.** (2015) *Essential Psychology in the Post-Secondary Classroom*, American Physical Society NW Section Annual Meeting, Okanagan College, Penticton, BC, May 12-14, 2016.
42. **Brown, J.C.** (2015) *Essential Psychology in the Physics Classroom – MBTI and You*, Canadian Association of Physicists Annual Meeting, held in Edmonton, Alberta, June 14-19, 2015.
41. **Brown, J.C.** (2015) *Essential Psychology in the Physics Classroom – Five Steps to Improve Classroom Effectiveness*, Canadian Association of Physicists Annual Meeting, held in Edmonton, Alberta, June 14-19, 2015.
40. Ordog, A., **Brown, J.C.** (2015) *Rotation Measures of diffuse polarized emission from the Canadian Galactic Plane Survey*, Canadian Astronomical Society Annual General Meeting, held in Hamilton, Ontario, May 24-28, 2015.
39. Ordog, A., **Brown, J.C.** (2015) *Rotation Measures of diffuse polarized emission: Insights into Galactic magnetism from the Canadian Galactic Plane Survey*, 16th Annual meeting of the Northwest Section of the American Physical Society, held in Pullman, Washington, May 14-16, 2015.
38. Ordog, A., **Brown, J.C.** (2014) *Cross-Scale Correlation in the Galactic Magnetic Field*, 15th Annual meeting of the Northwest Section of the American Physical Society, held in Seattle, Washington, May 1-3, 2014.
21. Cooper, B., **Brown, J.C.** (2013) *The Disk-Halo Transition of the Milky Way Magnetic Field*, Canadian Astronomical Society Annual General Meeting, held in Vancouver, British Columbia, May 28 - 30, 2013
36. Foster, T., **Brown, J.C.**, Kothes, R. (2013) *A Mean Relation Between the Warm Neutral and Magneto-Ionic Media Observed in the Canadian Galactic Plane Survey*, International EMU/POSSUM/GALFACTS Meeting, held in Penticton, British Columbia, May 20-24, 2013.
35. **Brown, J.C.** (2012) *Studies of Galactic Magnetism*, American Physical Society NW Chapter Annual Meeting, held in Vancouver, British Columbia, October 18 - 20, 2012.
34. Van Eck, C.L., **Brown, J.C.**, Fletcher, A., Shukurov, A. (2012) *Connecting galactic magnetic fields to the interstellar medium*, Annual meeting of the DFG research unit for 1254: Magnetisation of the Interstellar and Intergalactic Media, held in Mainz, Germany, July 9-13, 2012.
33. Van Eck, C.L., **Brown, J.C.**, Fletcher, A., Shukurov, A. (2012) *Connecting galactic magnetic fields to the interstellar medium: Looking for statistical correlations*, Canadian Astronomical Society Annual General Meeting, held in Calgary, Alberta, June 4-7, 2012.
32. Van Eck, C.L., **Brown, J.C.**, Fletcher, A., Shukurov, A. (2011) *Statistical Properties of Magnetic Fields in Galaxies*, American Physical Society – Division for Plasma Physics meeting, Salt Lake City, Utah, November 14-18, 2011.

31. **Brown, J.C.** (2011) *Science with POSSUM in the Galactic Disk* North American EMU / POSSUM Meeting, Calgary, Alberta, June 30 - July 2, 2011
30. **Brown, J.C.** (2011) *Imaging the Invisible: Investigating the Galactic Magnetic Field*, Advanced Image Reconstruction Techniques workshop, Calgary, Alberta, April 18, 2011.
29. **Brown, J.C.**, *Van Eck*, C.L. (2010) *Recent Developments with the Large-scale Galactic Magnetic Field and a First Look at RMs from GALFACTS*, GALFACTS / POSSUM 2010 Workshop, Calgary, Alberta, August 16-20, 2010.
28. *Van Eck*, C.L., **Brown, J.C.** (2010) *Modeling the Galactic Magnetic Field using Rotation Measure Observations in the Galactic Disk from the CGPS, SGPS, and the VLA*, The Dynamic ISM: A Celebration of the Canadian Galactic Plane Survey, Naramata, British Columbia, June 6-10, 2010.
27. *Rae*, K.M., **Brown, J.C.** (2010) *Constraints on the Galactic Magnetic Field From the Canadian Galactic Plane Survey*, The Dynamic ISM: A Celebration of the Canadian Galactic Plane Survey, Naramata, British Columbia, June 6-10, 2010.
26. Stil, J.M., **Brown, J.C.** (2010) *The Origin and Evolution of Cosmic Magnetism*, Long Range Plan (LRP) Town Hall Meeting, Calgary, Alberta, March 9, 2010.
25. **Brown, J.C.** (2010) *Training the Astronomers of the Future*, Long Range Plan (LRP) Town Hall Meeting, Calgary, Alberta, March 9, 2010.
24. *Van Eck*, C., **Brown, J.C.** (2009) *The Galactic Magnetic Field as Viewed from the VLA*, 11th Annual Meeting of the Northwest Section of the American Physical Society, held in Vancouver, British Columbia, May 14-16.
23. **Brown, J.C.** (2009) *The Synthesis Telescope and the Galactic Magnetic Field; Past, Present, and Future*, Future of the DRAO Synthesis Telescope workshop, held in Penticton, British Columbia, January 12-13.
22. Stil, J., Taylor, A.R., & **Brown, J.C.** (2007) *A New Perspective on the Local Magneto-ionic ISM*, Canadian Astronomical Society Annual General Meeting, held in Kingston, Ontario, June 5-8.
21. **Brown, J.C.** (2007) *Global Structure of the Galactic Magnetic Field from the International Galactic Plane Survey*, Workshop on the Large Scale Magnetic Field of the Milky Way, held in Princeton, New Jersey, April 30 - May 2; talk presented by T.L. Landecker and M. Haverkorn.
20. **Brown, J.C.** (2007) *Global Structure of the Galactic Magnetic Field: The Impact of GALFACTS*, GALFACTS Planning Meeting, Calgary, Alberta, January 11-12.

CONTRIBUTED ORAL PRESENTATIONS: PDF WORK: 7

19. Haverkorn, M., **Brown, J.C.**, Gaensler, B.M., McClure-Griffiths, N.M., Dickey, J.M., Green, A.J. (2006) *Small-scale structure in the Galactic ISM, from depolarization of polarized extragalactic sources*, Workshop on the Turbulence in the Magnetized Interstellar Medium held in Perm, Russia, September 6-8.
18. **Brown, J.C.** (2006) *Modelling the Magnetic Field of the Galaxy*, Canadian Astronomical Society Annual General Meeting, held in Calgary, Alberta, June 1-4.
17. **Brown, J.C.** (2006) *Are We There Yet? Progress in the Quest to Understand the Galactic Magnetic Field*, International Galactic Plane Survey Meeting, held in Calgary, Alberta, May 27-30.
16. Haverkorn, M., Gaensler, B., **Brown, J.**, McClure-Griffiths, N., Dickey, J., Green, A. (2004) *Enhanced Magneto-Ionic Fluctuations in the Milky Way's Spiral Arms*, The Magnetized Plasma in Galaxy Evolution conference held in Krakow, Poland, September 27-October 1.

15. **Brown, J.C.** (2004) *Magnetic Field Observations with the IGPS*, International Galactic Plane Survey Annual Meeting, held in Penticton, British Columbia, May 2-5.
14. **Brown, J.C.** (2003) *Unraveling Magnetic Mysteries using Rotation Measures of Compact Sources in the CGPS and SGPS*, International Galactic Plane Survey Annual Meeting, held in Quebec City, Quebec, May 9-12.
13. **Brown, J.C. & Taylor, A.R.** (2002) *The Galactic Magnetic Field Structure in the Outer Galaxy*, International Galactic Plane Survey Annual Meeting, held in Edmonton, Alberta, May 15-18.

CONTRIBUTED ORAL PRESENTATIONS: GRADUATED AND UNDERGRADUATE WORK: 12

12. **Brown, J.C. & Taylor, A.R.** (2002) *The Magnetic Field in the Outer Galaxy (or: What I did for my Ph.D.)*, Canadian Astronomical Society Annual General Meeting held in Penticton, British Columbia, May 12-14.
11. **Brown, J.C. & Taylor, A.R.** (2001) *The Magnetic Field in the Plane of the Outer Galaxy as seen through the CGPS*, Canadian Astronomical Society Annual General Meeting, held in Hamilton, Ontario, May 26-29.
10. **Brown, J.C. & Taylor, A.R.** (2001) *The Galactic Magnetic Field from the Canadian Galactic Plane Survey*, Green Bank Workshop - 21 cm HI Survey of the Milky Way, held in Green Bank, West Virginia, May 21-23.
9. **Brown, J.C. & Taylor, A.R.** (2000) *The Magnetic Field Configuration in the Outer Region of the Galaxy*, Canadian Astronomical Society Annual General Meeting held in Vancouver, British Columbia, May 25-28; *second place "best student talk"*.
8. **Brown, J.C. and Taylor, A.R.** (2000) *Exploring the Galaxy's Magnetic Field using Rotation Measures of Point Sources*, Canadian Galactic Plane Survey Polarisation Workshop, Montreal, Quebec, May 14, 2000.
7. **Brown, J.C. & Taylor, A.R.** (1999) *Revealing the Galactic Magnetic Field in the Plane of the Galaxy*, Canadian Astronomical Society Annual General Meeting held in Halifax, Nova Scotia, June 27-30, 1999.
6. **Brown, J.C. & Taylor, A.R.** (1999) *Revealing the I/S Magnetic Field through Rotation Measure Maps of the Galactic Plane*, Canadian Galactic Plane Survey Annual Meeting held in Vancouver, British Columbia, May 13-15.
5. **Brown, J.C., Taylor, A.R. and Peracaula, M.** (1998) *The Interstellar Magnetic Field of CXR 11*, Galactic Foreground Polarisation Workshop held in Bonn, Germany, September 7-9.
4. **Brown, J.C. & Taylor, A.R.** (1998) *Differential Faraday Rotation as a Probe of the Interstellar Magnetic Field*, Canadian Galactic Plane Survey Annual Meeting held in Kingston, Ontario, May 2-4.
3. **Brown, J.C. & Cartledge, J.C.** (1994) *Interference in Wavelength Switched CPFSK Systems with Coherent and Noncoherent Detection*, Conference on Optical Fiber Communication, held in San Jose, California, February 20-25.
2. **Brown, J.C. & Cartledge, J.C.** (1993) *Switching Induced Interference in FSK-WDM Systems*, Telecommunications Research Institute of Ontario Conference held in Peterborough, Ontario.
1. **Brown, J.C. & Samson, J.C.** (1990) *Atmospheric Gravity Waves and the Auroral Electrojet*, Canadian Undergraduate Physics Conference held in Quebec City, Quebec, November 1-4.

 POSTER PRESENTATIONS: INDEPENDENT CAREER: 14

18. Booth, R., **Brown, J.C.**, Landecker, T.L., Kothes, R. (2020) H I Absorption of Polarized Emissions: Distance to Supernova Remnant DA 530. Canadian Astronomical Society Annual Meeting, Online, May 25-28, 2020.
17. Freeman, P., **Brown, J.**, Landecker, T., Vanderlinde, K. (2019) *A Modern Correlator for DRAO's Synthesis Telescope*, Canadian Astronomical Society Annual Meeting, June 17-20, 2019.
16. Ordog, A., Booth, R., Van Eck, C., **Brown, J.**, Landecker, T. (2019) *Comparing Extended Emission and Compact Source Rotation Measures to Probe the Large-Scale Galactic Magnetic Field*, 'New Perspectives on Galactic Magnetism' conference, held in Newcastle upon Tyne, UK, June 10-14, 2019.
15. Tahani, M., Plume, R., **Brown, J.** (2018) *Helical Magnetic Fields in Molecular Clouds? A New Method to Determine the Line-of-sight Magnetic Field Structure in Molecular Clouds*, Interstellar Filament Paradigm conference, held at Nagoya University, Japan, November 5-9, 2018.
14. Freeman, P., **Brown, J.** (2018) *Analyzing Ambient Radio Frequency Signals*, Canadian Astronomical Society Annual Meeting, May 22-26, 2018.
13. Ordog, A., Booth, R., **Brown, J.** (2018) *Is Extended the New Compact? Evaluating Rotation Measures for Studying the Galactic Magnetic Field*, Canadian Astronomical Society Annual Meeting, May 22-26, 2018.
12. Tahani, M., Plume, R., **Brown, J.** (2018) *Helical Magnetic Fields in Molecular Clouds? A New Method to Determine the Line-of-sight Magnetic Field Structure in Molecular Clouds*, Early Phase Star-Formation 2018 conference, Max Planck Institute for Astronomy, May 13-18, 2018 (competitive entry for presentation).
11. Tahani, M., Plume, R., **Brown, J.C.** (2017) *Using Faraday Rotation to Measure Magnetic Field Strengths in Molecular Clouds: A New Approach*, Canadian Astronomical Society Annual General Meeting, University of Alberta, May 30 – June 1, 2017.
10. **Brown, J.C.** (2015) *Essential Psychology in the Post-Secondary Classroom*, 2015 University of Calgary Conference on Postsecondary Learning and Teaching, held in Calgary, Alberta, May 12-13, 2015.
9. Cooper, B., **Brown, J.C.** (2012) *The Disk-Halo Transition in the Outer Milky Way*, Canadian Astronomical Society Annual General Meeting, held in Calgary, Alberta, June 4-7, 2012.
8. Van Eck, C.L., **Brown, J.C.** (2011) *A New Empirical Model for the Large-Scale Magnetic Field of the Milky Way* UKMHD conference, London, England, June 16 - 17, 2011.
7. **Brown, J.C.**, Taylor, A.R., Sunstrum, C., Aaquist, O. & Lehota, N. (2008) *The Twilight Zone - Modeling the Magnetic Transition Between the Galactic Disk and Halo*, Canadian Astronomical Society Annual General Meeting, held in Victoria, British Columbia, May 20-23.
6. Sunstrum, C., Taylor, A.R. & **Brown, J.C.** (2008) *Polarization Catalogue of the Canadian Galactic Plane Survey*, Canadian Astronomical Society Annual General Meeting, held in Victoria, British Columbia, May 20-23.
5. Jaffe, T., Banday, A.J., Aumont, J., Barbosa, D., Bernard, J.P., Boulanger, F., **Brown, J.**, and 14 others (2007) *The Large-Scale Galactic Magnetic Field*, Planck Consortium Meeting, held in Toulouse, France, June 18-20.

 POSTER PRESENTATIONS: PDF WORK: 1

4. Haverkorn, M., Gaensler, B.M., **Brown, J.C.**, McClure-Griffiths, N.M., Dickey, J.M., Green, A.J., Staveley-Smith, L., Dickel, J.R., Wolleben, M. (2006) *Mapping Galactic Magnetism through Faraday rotation of polarized extragalactic point sources*, Conference on Mapping the Galaxy and Nearby Galaxies held in Ishigaki, Japan, June 26-30.

POSTER PRESENTATIONS: GRADUATE WORK: 3

3. **Brown, J.C.** & Taylor, A.R. (2002) *The Magnetic Field in the Outer Galaxy (or: What I did for my Ph.D.)*, Canadian Astronomical Society Annual General Meeting held in Penticton, British Columbia, May 12-14.
2. **Brown, J.C.**, Taylor, A.R., Gray, A.D., Landecker, T.L., and Dewdney, P.E. (1997) *Wide-Field Imaging Polarimetry as a Probe of the Interstellar Medium*, Canadian Astronomical Society Annual General Meeting held in Edmonton, Alberta, June 14-17.
1. **Brown, J.C.** & Cartledge, J.C. (1993) *Interference in Wavelength Switched CPFSK Systems with Coherent and Noncoherent Detection*, Photonics '93 held in Atlanta, Georgia, September 26-29.

BOOK CHAPTERS AND OTHER PUBLICATIONS: 1

26. Bauer, K., Behjat, L., **Brown, J.**, Gavrilova, M., Hayley, J., Marasco, E. (2020) *First Wave, Second Wave, Third Wave: Women in Science, Technology, engineering, and Mathematics*, chapter 9 in "Women Negotiating Life in the Academy; A Canadian Perspective", S. Eaton and A. Burns (eds.), pp. 101-115.
(www.springer.com/us/book/9789811531132)

TEACHING CONTRIBUTIONS

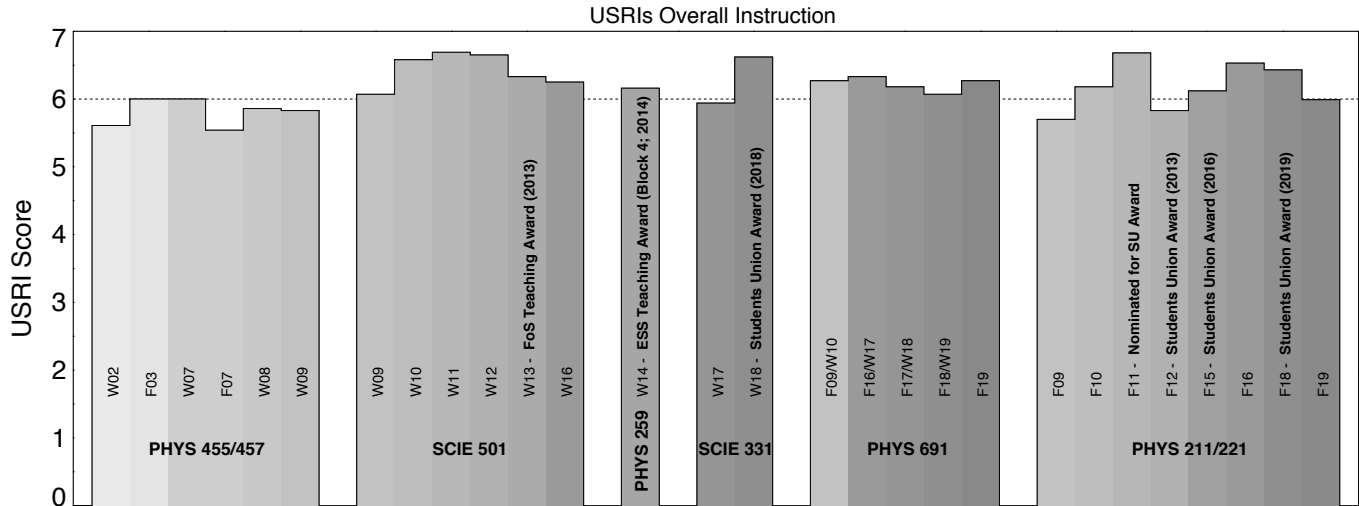


Figure 1: USRI histogram for all courses taught to date between 2002-2019, based on Q1 – overall teaching. Shades of grey indicate relative year of teaching with the darkest being the most recently taught.

Term	Course	Course Title	Enrollment	USRI ¹ Overall Instruction
Winter 2021	PHYS 691.x2/x4	Scientific Communication Graduate Seminar	17	In progress
Fall 2020	PHYS 691.x1 & PHYS 691.x3	Scientific Communication x1= speaking; x3 = writing	11 14	Not Available
^h Fall 2019	PHYS 211	Introductory Mechanics	190	5.99 (5.95, 5.61)
^h Fall 2019	PHYS 691.x1 & PHYS 691.x3	Scientific Communication x1= speaking; x3 = writing	24 31	6.36 (6.28, 5.75) 6.17 (6.28, 5.75)
Winter 2019	PHYS 691.x2/x4	Scientific Communication Graduate Seminar	17	5.87 (6.18, 6.07)
^g Fall 2018	PHYS 221	Introductory Mechanics	122	6.43 (5.95, 5.30)
Fall 2018	PHYS 691.x1 & PHYS 691.x3	Scientific Communication x1= speaking; x3 = writing	18 15	6.07 (6.15, 5.98) 6.27 (6.15, 5.98)
^f Winter 2018	SCIE 331	Scientific Explorations	54	6.62 (5.99, 5.54)
Winter 2018	PHYS 691.x2/x4	Scientific Communication Graduate Seminar	14	6.11 (6.04, 6.30)
Fall 2017	PHYS 691.x1 & PHYS 691.x3	Scientific Communication x1= speaking; x3 = writing	15 22	6.45 (6.32, 6.04) 6.00 (6.32, 6.04)
Winter 2017	SCIE 331	Scientific Explorations	55	5.94 (5.45, 5.79)
Winter 2017	PHYS 691.x2/x4	Scientific Communication Graduate Seminar	19	6.29 (6.13, 6.07)
Fall 2016	PHYS 691.x1 & PHYS 691.x3	Scientific Communication x1= speaking; x3 = writing	16 16	6.21 (5.84, 5.92) 6.50 (5.84, 5.92)
Fall 2016	PHYS 221	Introductory Mechanics	201	6.53 (5.83, 5.58)

Winter 2016	SCIE 501	Capstone Project Course In Natural Science	55	6.25 (6.32, 5.90)
^e Fall 2015	PHYS 211	Introductory Mechanics	310	6.12 (5.72, 5.50)
^d Winter 2014	PHYS 259	Electricity & Magnetism (for Engineers)	146	6.16 (5.63, 5.70)
^c Winter 2013	SCIE 501	Capstone Project Course In Natural Science	21	6.33 (5.87, 5.88)
^b Fall 2012	PHYS 221	Introductory Mechanics	177	5.83 (4.72, 5.55)
Winter 2012	SCIE 501	Capstone Project Course In Natural Science	28	6.65 (6.05, 5.88)
^a Fall 2011	PHYS 221	Introductory Mechanics	199	6.68 (5.23, 5.46)
Winter 2011	SCIE 501	Capstone Project Course In Natural Science	25	6.69 (5.82, 5.73)
Fall 2010	PHYS 221	Introductory Mechanics	92	6.18 (5.00, 5.35)
Winter 2010	PHYS 691.x2/x4	Graduate Seminar	15	6.75 (5.75, 6.04)
Winter 2010	SCIE 501	Capstone Project Course In Natural Science	28	6.58 (5.85, 5.71)
Fall 2009	PHYS 221	Introductory Mechanics	171	5.7 (4.89, 5.27)
Fall 2009	PHYS 691.x3	Effective Scientific Writing	10	6.5 (6.14, 6.15)
Fall 2009	PHYS 691.x1	Effective Scientific Speaking	8	5.75 (6.14, 6.15)
Winter 2009	SCIE 501	Capstone Project Course In Natural Science	22	6.07 (5.65, 5.66)
Winter 2009	PHYS 457	E&M III (Electrodynamics)	14	5.83 (5.03, 5.39)
Winter 2008	PHYS 457	E&M III (Electrodynamics)	15	5.86 (4.94, 5.38)
Fall 2007	PHYS 455	E&M II (Electrostatics)	19	5.54 (5.06, 5.35)
Winter 2007	PHYS 457	E&M III (Electrodynamics)	16	6.00 (4.97, 5.33)
Fall 2003	PHYS 455	E&M II (Electrostatics)	14	6.00 (Withheld, 5.38)
Winter 2002	PHYS 457	E&M (Electrodynamics)	25	5.61 (5.56, 5.29)

1. USRI = Universal Student Ratings of Instruction; evaluated out of 7.
The numbers in brackets are the averages for overall instruction for the Department and Faculty based on courses taught at the same level in the same semester for Q1 = Overall Teaching.

^h10/2019: I went on medical leave in October 2019 until September 2020.

^g04/2019: Awarded a Students' Union Teaching Excellence Award P221-Fall 2018

^f04/2018: Awarded a Students' Union Teaching Excellence Award SCIE 331- Winter 2018

^e04/2016: Awarded a Students' Union Teaching Excellence Award P211-Fall 2015.

^d03/2014: Awarded the 1st & 2nd yr Teaching Excellence Award (Block 4), from the Engineering Students' Society

^c05/2013: Awarded a Faculty of Science Award for Excellence in Teaching (one of 2 for teaching.)

^b05/2012: Awarded a Students' Union Teaching Excellence Award P221-Fall 2012 (1 of 5 awards in Science.)

^a12/2011: Nominated for a Students' Union Teaching Excellence Award for P221-Fall 2011.

TRAINEES (HIGHLY QUALIFIED PERSONNEL, HQP): 23 (NOT INCLUDING SUPERVISORY COMMITTEES)

POSTDOCTORAL FELLOWS SUPERVISED (1)

	PDF Name	Project	Period
1	C.V.E.	Revisiting the Rotation Measures of the CGPS	03/2018 – 08/2018

GRADUATE STUDENTS SUPERVISED (7)

	Student Name	Type	Thesis Title	Period
7	B.B.	MSc	Using Polarisation to Probe Distances to SNRs (co-supervisor: Tom Landecker)	09/2018 - PRESENT
6	A.O.	PhD	Deciphering Galactic Magnetism from Polarisation Structures in the Northern Sky	01/2016 – 08/2020
5	P.F.	MSc	The Development of a Modern Correlator for the DRAO Synthesis Telescope	09/2017 – 12/2019
4	M.T.	PhD	Magnetism and Molecular Clouds (co-supervisor: Rene Plume)	01/2015 – 01/2019
3	A.O.	MSc	The Cross-scale Coupling between the Large- and Small-scale Magnetic Fields in the Galaxy	09/2013 – 12/2015
2	B.C.	MSc	The Disk-Halo Transition of the Galactic Magnetic Field	09/2011 – 05/2014
1	C.V.E.	MSc	Identifying Relationships between Galactic Magnetic Fields and the Interstellar Medium	05/2010 – 08/2012

UNDERGRADUATE RESEARCH PROJECT STUDENTS (5)

	Student Name	Course*	Project Title	Period
5	F.L.	P599	Maximizing Student outcomes in Web-Based First-Year Physics Courses (co-supervisor: Jared Stang)	Winter 2021
4	B.B.	P598	Studying Galactic Magnetism: Is Extended Really the New Compact?	F17/W18
3	A.O.	P599	Analysis of Polarisation Data from the Canadian Galactic Plane Survey to Measure the GMF	Fall 2012
2	C.V.E.	P598	Measuring the Galactic Magnetic Field with the Very Large Array	F08/W09
1	K.R.	P598	Alignment of the Galactic Magnetic Field	F08/W09

* P599 = ½ year course; P598 = full year course.

UNDERGRADUATE SUMMER STUDENTS SUPERVISED OR CO-SUPERVISED (10)

	Student Name	Project Title (Funding)	Period
10	W.L.	Cross-scale Coupling of the Galactic Magnetic Field to the ISM (NSERC USRA)	Summer 2019
9	B.B.	Extended as the New Compact: Rotation Measure Studies in a New Era (NSERC USRA)	Summer 2018
8	A.O.	Cross-scale Correlations in the Galactic Magnetic Field (NSERC USRA)	Summer 2013

7	A.D.	The Relevance of Small and Homegrown in the Age of Ultra-big and Exotic – Part 2 (NSERC USRA)	Summer 2012
6	A.B.	The Relevance of Small and Homegrown in the Age of Ultra-big and Exotic (NSERC USRA)	Summer 2011
5	K.R.	Processing the CGPS – Turning Straw into Gold.	Summer 2009, 2010
4	C.V.E.	A Question of Alignment: The Galactic Magnetic Field versus the Optical Spiral Arms (NSERC USRA x 2)	Summer 2008, 2009
3	M.U.	MHD and the Galactic Magnetic Field (NSERC USRA; Primary supervisor: R. Ouyed)	Summer 2004
2	D.G.	Data Processing	May/June 2002
1	C.S.	Data Processing for my PhD (Primary supervisor: A.R. Taylor)	Summer 2000

GRADUATE STUDENT SUPERVISORY COMMITTEE MEMBER (10)

	Student	Type	Supervisor	Defense Date	In program
13	D.W.	MSc	Mike Weiser	In program	2020-PRESENT
12	J.W.	PhD	David Knudsen	May 2, 2020	2015-2020
11	T.C.	PhD	Brian Jackel	September 4, 2019	2015-2019
10	C.Q.	MSc	Johnathan Burchill	June 27, 2019	2017-2019
9	R.R.	MSc	Brian Jackel	August 22, 2018	2016-2018
8	K.M.	PhD	Mike Weiser	June 5, 2018	2013-2018
7	L.W.	MSc	Rachid Ouyed	June 30, 2017	2015-2017
6	E.D.	MSc	Chris Cully	April 15, 2016	2014-2016
4	N.H.	MSc	Mike Weiser	April 29, 2014	2012-2014
3	K.T.	MSc	René Plume	June 7, 2013	2010-2013
2	R.K.	MSc	David Knudsen	July 15, 2010	2008-2010
1	M.K.	MSc	Denis Leahy	July 31, 2009	2007-2009

 ADDITIONAL TEACHING: WORKSHOP LEADER, PANEL DISCUSSIONS, GUEST LECTURES

- MBTI Workshops
 - SCIE 331: Communication Preferences & Group Work using MBTI January 2019, 2020, 2021
 - ENGG 601: Professional Development with MBTI October 2016, 2017, 2020
 - PHYS 397: Understanding MBTI & You September 9, 2019
 - Science Teaching Forum: MBTI in the Academy January 29, 2019
 - Energy Bioengineering Group MBTI (invited by K. Cannon-Rubio) February 23, 2018
- Departmental Graduate Association TA Orientation presenter (as GPD) September 2019, 2020
 - MBTI + Expectations of the Department + How Funding Works
- Guest Lectures:
 - PHYS 598: How to Apply for Graduate School (as GPD) October 2018, 2020
 - PHIL 567/667 Philosophy of Historical Science Class (on Astronomy & Magnetism) April 11, 2016
- Panelist for “Managing Mental Health” workshop (Taylor Institute workshop) August 28, 2019
- Future Faculty Workshop for Women in Science and Engineering May 15, 2019
 - I presented an invited talk on “Getting the Best Job for You”.
 - I participated in a panel discussion on Work-Life Balance.
- Female Graduate Leadership Circle 2017-2019
 - This was a program I co-developed with L. Behjat (PI; Electrical Engineering), designed to provide leadership training to female graduate students in Science and Engineering. I co-lead a workshop on Implicit Bias; I lead a workshop on MBTI; I organized a self-defense workshop. The full program ran across one academic year (September-April).
- Growth Mindset Workshops for Undergraduate Students, developed and presented with M. Anikovskiy (Chemistry): January 4, March 26, and November 8 2018
- Fall Orientation
 - Two panel discussions on transitioning to university September 5, 2018
 - First Lecture Series presentation × 2 September 7, 2017
 - First Lecture Series presentation (on Astrophysics + undergraduate experiences) September 7, 2016
- Graduate Student Workshop on ‘Science Writing’ at CASCA 2017 (Edmonton) May 29, 2017
 - Presented on Science writing; participated in a panel discussion on science publishing.
- Panel discussions member (invited) at the Women in Physics Conference 2016
 - Gender Issues and Bias in Academia and Industry July 27, 2016
 - Alternative Scientific Careers July 28, 2016
 - Work-Life Balance July 29, 2016
- Co-Facilitator: Safe Learning Environments (with Leslie Reid and Carol Berenson) September 7, 2016
- Undergraduate Student Workshop (I co-organized this with M. Wieser, UPD.) April 9, 2016
 - Presented on resume/cv writing & interview skills; recruited alumni no longer in physics
- Science Teaching Forum Panel Member (3 panelists: Biology, Comp. Sci., Physics) September 25, 2014
 - “Old Dogs, Old Tricks: tried and true teaching strategies that stand the test of time.”
- Graduate Student Workshop on ‘Life after Graduate School’ at CASCA 2012 (Calgary) June 4, 2012
 - Presented two talks: 1) Scholarship and Proposal Writing; 2) CV and Resume Writing

SERVICE CONTRIBUTIONS

SERVICE: DEPARTMENT LEVEL

- I have been on 34 student exam committees (in addition to my own students & supervisory committees) since 2008:
 - 19 as the internal examiner in Physics (MSc & PhD defenses; Candidacy exams)
 - 5 as the Neutral chair (all in Physics)
 - 10 as the internal-external examiner: 7 in Electrical Engineering; 2 in Education; 1 in Geomatics
- Faculty (Astronomy) Hiring Committee member April/May 2021
- **Graduate Program Director (GPD; Associate Head, Graduate)** July 2018-October 2019; September 1-15, 2020
- Chair – Undergraduate Affairs Committee January 2016 – June 2018
- Faculty Advisor for the Society of Physics Students Calgary Chapter April 2012 – June 2017
- Faculty (Instructor) Hiring Committee April-June 2016
- Colloquium Committee member 2014 – 2016
- Undergraduate Laboratory Committee member 2013 – 2015
- WISE Midterm Review Session for Physics 259 February 11, 2014
- Member of the LOC for CASCA 2012 (Calgary) 2010 – 2012
- Undergraduate Liaison Committee (Faculty representative) 2011 – 2012
- Undergraduate Affairs Committee member 2010 – 2012
- Graduate Scholarships and Admissions Committee member 2009
- PhD qualifying exam committee member 2006, 2007, 2010, 2011
- Undergraduate Teaching Lab Development member 2007 – 2010
- Faculty (Radio Astronomy) Hiring Committee member 2008

SERVICE: UNIVERSITY LEVEL

- Hiring Committee Member (Mechatronics Engineering) February – April 2021
- Faculty Tenure and Promotion committee (elected) December 2020/January 2021
- ‘Ask Me’ Volunteer for Faculty of Science Orientation September 2020
- Faculty of Science Teaching and Learning Committee member September 2015 – June 2018
- Faculty of Science Diversity, Equity, and Inclusion Committee member March 2016 – July 2016
- Faculty of Science Teaching and Learning Committee member September 2015 – June 2018
- Science Teaching Forum leader, “Psychology in the Science Classroom” March 24, 2015
- Judge for the Students’ Union Undergraduate Research Symposium November 27, 2014
- Dean’s Advisory Committee on Women in Science 2002 – 2004

SERVICE: NATIONAL LEVEL

- National Research Council Review of DRAO Telescopes (ST and GALT) Fall 2020
- CASCA Ground-based Astronomy Committee (GAC) 2009 – 2012
- Canadian SKA Science Advisory Committee 2007 – 2010

SERVICE: INTERNATIONAL LEVEL

- Member of the Square Kilometer Array Science Working Group on Magnetism 2015 – 2020
- Elected to the Executive Committee of NW Section of the American Physical Society (APS) 2011 – 2016
 - This was a 4-year position, with increasing responsibility as Vice-chair, Chair-elect, chair, Past-chair. As Chair-elect (2013-2014), it was my responsibility to arrange and organize the program for the annual APS-NW meeting held in Seattle. May 1–3, 2014
- Member of SOC for SpS4 of the IAU General Assembly (Beijing) 2010 – 2012
- Session Chair, NW American Physical Society meeting in Vancouver, BC May 14 -16, 2009

SERVICE: REVIEW ACTIVITIES

- Reviewer of a Discovery Grant for NSERC 2020-2021 2021
- Referee for The Physics Teacher 2015
- Referee for the Astrophysical Journal 2011, 2012, 2013
- Referee for the Monthly Notices of the Royal Astronomical Society 2009

SERVICE: OUTREACH ACTIVITIES (HIGHLIGHTS)

- Presented ‘Radio Astronomy 101’ for Churchill High School Science Club (virtual talk) November 12, 2020
- Invited Public lecture for the Royal Astronomical Society of Canada (Calgary branch) February 21, 2019
- Presenter at the Telus Spark “Space Night” (Adults Only) – “Radio Astronomy 101” January 10, 2019
- Panelist for the Calgary Girls’ School “Speak Out” event (4 professional women panelists) March 15, 2018
- Invited Public lecture at the Cochrane Public Library for the Glenbow Ranch Park Foundation February 27, 2018
- Welcoming Orienteer at the DRAO Perseid Meteor Shower Open House August 12, 2017
- Organized Wilfred Buck (Cree story teller) to speak at the RAO (*400+ attendees*) November 5, 2016
- Organized a University public lecture on Climate Change by Dr. Greg Bothun (*~100 attendees*) September 26, 2015
- Podcast interview for “The Star Spot” about Cosmic Magnetism May 23, 2015
- Explore-IT Session Organizer (Nature of Light) for Grade 9 girls on UofC campus May 6, 2015
- Organized a University public lecture on Lise Meitner by Dr. Anthea Coster (*400+ attendees*) April 9, 2015
- Guest on CBC Radio’s **Quirks and Quarks** - December 6, 2008; June 6, 2012; October 25, 2014
- University week presentation on ‘The Solar System’ for Grade 5 students June 4, 2014
- Host for RAO Open house – an evening of student presentations May 10, 2014
- Presentation on Sound and Hearing at Dr. E.W. Coffin Elementary School November 12, 2013
- Panel member for “Science Cafe” at Telus Spark (Is There Life in Outer Space?) October 4, 2012
- Speaker for ‘Professional Development Day’ for Teachers at RAO May 18, 2012
- Engineering Club assistant at Dr. E. W. Coffin Elementary School T&R lunch hours, March, 2012
- Presenter for the UofC undergraduate club, “SSPEAK” (Scientific Speaking club) October 7, 2011
- Public talks at Rothney Astrophysical Observatory (RAO) – 2007, 2008, 2009, 2011 and February 21, 2019
- Citizens in Action speaker at Terry Fox Junior High School March 3, 2011
- Science Club assistant at Dr. E. W. Coffin Elementary School T&R lunch hours, March, 2011
- Royal Astronomical Society meeting guest speaker (in Penticton, BC) June 10, 2010
- Presentation to two groups from the Calgary Girls School at RAO February 3 & 4, 2010
- Grade 6 ‘Sky Science’ talk at Ramsay School (Calgary Science Network) December 17, 2008
- Almadina Language Charter Academy Career Day speaker April 11, 2008

SERVICE: AS A GRADUATE AND UNDERGRADUATE STUDENT

- Founding chairperson of the Graduate Liaison Committee (UofC) 1999 – 2000
- UofC's Graduate student representative for CASCA's Graduate Student Committee 1998 – 2000
- Electrical Engineering representative to the Graduate Student Association (Queen's) 1992 – 1993
- Founding treasurer of the Undergraduate Physics Club (UofA) 1990 – 1991

MEMBERSHIPS IN PROFESSIONAL ORGANIZATIONS

Canadian Association of Physicists (CAP)	2012 – PRESENT
American Physical Society (APS)	2011 – PRESENT
International Astronomical Union (IAU)	2008 – PRESENT
Canadian Astronomical Society (CASCA)	1997 – PRESENT

ADDITIONAL FORMS OF ACHIEVEMENT

- I was the University of Calgary's nominee for the Engineering, Medicine and Natural Sciences category for the 2003 CAGS/UMI Distinguished Dissertation Award (national thesis award).
- My job with Nortel required working in Ottawa and Montreal in a bilingual environment. While I am not fluent, my knowledge of French was sufficient for me to function well in that environment.
- I have management experience as the captain of a Nortel league softball team (The Ground Bouncers; season champions 1994, playoff champions 1995), and as the manager of a kite store in Waterton National Park (Windy Weather Kites; Summers of 1987, 1988, 1989).
- From 1994-2003, I was an avid whitewater kayaker.
- I am a blue belt in Koryu Uchinadi Kenpo-Jutsu (Karate for self defence against habitual acts of physical violence). I have been training since 2013.
- My other interests include cross-country skiing, hiking, zumba, and yoga.