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ACADEMIC BACKGROUND

- Assessment of academic qualifications, June 1995, preparatory to application for registration as a Professional Engineer;
- Professional Research Associate, Institute of Space and Atmospheric Studies, University of Saskatchewan, since April 1995
- Research Associate with Canadian Network for Space Research (CNSR) at University of Calgary, April 1991 - March 1995
- Ph.D. (Physics), University of Saskatchewan, May 1991 (thesis: Comparison of Viking Ultraviolet Images with Low-Altitude Particle Precipitation).
- M.Sc. (Physics), University of Saskatchewan, May 1988 (thesis: Coordinated Ground-Satellite Auroral Studies).
- B.Sc. (Mathematics; High Honours), Honours Certificate (Physics), University of Saskatchewan, 1982.

AWARDS AND SCHOLARSHIPS

- NSERC Doctoral Prize Nominee, University of Saskatchewan, 1991
- B. W. Currie Graduate Scholarship, 1989-1990.
- University of Saskatchewan Graduate Scholarships, 1985-1990.
- Head of class in Physics Comprehensive Examination, June 1985.
- University of Saskatchewan Undergraduate Scholarships, 1980-1982.
- Proctor and Gamble Bursary, 1979-1980.
- Leonard Foundation Scholarships, 1976-1977; 1978-1982.
- Mathematics Prize, Grade 12, Tisdale Unit Composite School, Tisdale, SK.

RESEARCH GRANTS AND CONTRACTS

- NSERC Research Grant, April 1996: 2 years, $20,000;
- Canadian Space Agency CNSR Transition Program Contract, April 1995; renewed April 1996.

RECENT REFEREED PUBLICATIONS

- D. P. Steele and L. L. Cogger, Polar patches and the "tongue of ionization", **Radio Science, 31**, in press, 1996.
- P. Prikryl, I. F. Grant, J. W. MacDougall, C. W. S. Ziesolleck, D. P. Steele, G. J. Sofko, and R. A. Greenwald, Observations of polar patches generated by solar-wind-driven Pc5 field line resonances and pulsed magnetic reconnection at the dayside magnetopause, submitted to **J. Geophys. Res.**, 1996.

- D. P. Steele, D. J. McEwen and J. S. Murphree, A comparison of Viking UVI auroral observations and model calculations of camera responses, **J. Geophys. Res., 100**, 3657-3668, 1995.
- D. P. Steele, D. J. McEwen and J. S. Murphree, On the possibility of auroral remote sensing with the Viking ultraviolet imager, **J. Geophys. Res., 97,** 2845-2862, 1992a.
- D. P. Steele and D. J. McEwen, Auroral Excitation Efficiencies and Intensity Ratios, **J. Geophys. Res., 95,** 10321-10336, 1990.

RECENT CONFERENCE PRESENTATIONS

- R. A. Doe, J. D. Kelly, J. L. Semeter, D. P. Steele, Q. Wu, T. L. Killeen, and J. MacDougall, Multistation Imaging of Polar Cap Arcs, AGU Spring Meeting, May 20-24, 1996, Baltimore, MD.
- D. P. Steele and I. Oznovich, Single-Point Stereoscopy for Ground Based Space Research, AGU Fall Meeting, December 11-15, 1995, San Francisco, CA.
- D. P. Steele, Observations of diffuse auroras at the geomagnetic pole, XXI General Assembly of the IUGG, Boulder, CO, July 2-14, 1995.
- D. P. Steele, L. L. Cogger, E. J. Weber, and R. Sheehan, Observations of diffuse aurora over the geomagnetic pole, Polar Science Workshop, Windermere House, London, ON, May 25-26, 1995.
- D. P. Steele and L. L. Cogger, Optical Characterization of an F-Layer Polar Arc, DASP Winter Workshop, February 19-22, 1995, Banff, AB.
- P. Prikryl, I. F. Grant, J. W. MacDougall, G. J. Sofko, D. Andre, R. A. Greenwald and D. P. Steele, Observations of F-Region Irregularity Patches Associated with Poleward Drifting E-Region Irregularity Bands, DASP Winter Workshop, January 19-22, 1995, Banff, AB.
- D. P. Steele and L. L. Cogger, F-layer Patches Observed at the Geomagnetic Pole, Second Joint Workshop for CEDAR HLPS/STEP GAPS, June 26-29, 1994, Peaceful Valley Conference Center, Lyons, CO.
- D. P. Steele, Polar Airglow and Auroras: First Results from the CNSR/University of Calgary Polar Camera, AGU Fall Meeting, December 6-10, 1993, San Francisco, CA.
- D. P. Steele, L. B. Murdock, D. C. van der Schee, J. R. Sharber, J. D. Winningham, and R.A. Frahm,, Optical Remote Sensing of Auroral Particle Fluxes with Supporting Satellite Measurements, CEDAR Workshop, June 21-25, 1993, Boulder, CO, USA.
- D. P. Steele, K. R. Forrester, E. P. King, L. B. Murdock and T. S. Trondsen, An Airglow/Auroral Imager for the CNSR Polar Observatory, AGU Spring Meeting, 12-16 May 1992, Montreal, P.Q., Canada.

RECENT SCIENTIFIC EXPERIENCE

- Inferred polar cap auroral emission heights from single-station multispectral image data, with confirmation by precipitating particle observations from simultaneous DMSP satellite overflight (Steele and Oznovich, 1995);
- Determined polar cap ionospheric convection velocities from ground-based images, and created first optical montage view of the polar *F* layer tongue of ionization (Steele and Cogger, 1996);

- Managed scientific and technical development of the CNSR/University of Calgary Polar Camera, a CCD-based airglow/auroral imager for the CNSR Polar Observatory, from concept to completion; installed Polar Camera at Eureka, NWT, in October 1993, and operated it since then (Steele and Cogger, 1996);
- Performed a detailed quantitative analysis of FUV auroral images obtained by Viking satellite (Steele et al., 1992);
- Calculated FUV auroral emissions excited by electron spectra measured in Viking imager field of view (using the Strickland auroral code and Gladstone 1-d resonance radiation code); compared expected signal with Viking measurements (Steele et al., 1995);
- Maintained, processed, and interpreted an extensive set of HiLat and DMSP satellite measurements of high latitude electron precipitation (Steele et al., 1992; 1995);
- Studied auroral excitation efficiency and intensity ratio variations with geophysical conditions (Ap, F10.7) using the MSIS-86 neutral thermosphere model (Steele and McEwen, 1990);

TEACHING EXPERIENCE

- Taught E.P. 324.3 (Mechanics IV: fluid and system dynamics) to 3rd-year Engineering Physics students in University of Saskatchewan, Winter 1996;
- Lectured Physics 233 (honours introductory mechanics) part-time with Prof. L. L. Cogger in University of Calgary, Fall1994;
- Taught Physics 203 (non-calculus survey course) in University of Calgary, Summer 1994, achieving an exceptionally high rating in student evaluation;
- Lectured occasionally in honours introductory physics course in University of Saskatchewan, 1988-1990;
- Guided junior graduate students in auroral physics and data analysis;
- Taught a well-received weekly tutorial for first year honours physics students 1985-1991;
- Demonstrated introductory undergraduate laboratory 1980-1984.

TRAINING OF HIGHLY QUALIFIED PERSONNEL

- Supervised NSERC Summer Research student Todd Oliynyk during summer 1994, in work related to Polar Camera data quality assurance, data analysis and interpretation, and acquisition of skills with a widely used data analysis software system;
- Supervised University of Calgary Physics Co-op student David van der Schee during summer 1993, in work on Polar Camera calibration, field testing, data analysis tool development,and acquisition of skills with a widely used data analysis software system; this experience led directly to an extended work term with the Canadian Space Agency;
- Supervised Ph.D. candidate Kevin Forrester during development phase of Polar Camera, in work related to science background of instrument mission and software development for camera control and data acquisition;
- Supervised NSERC Summer Research student Zeljko Pavic during summer 1991, in work related to on-orbit assessment of Viking UVI instrumental gain and data quality.

OTHER

- Chaired session SA21A, Dynamics of the Polar Mesosphere (oral presentations) at AGU Fall Meeting, December 6-10, 1993, San Francisco, CA;
- Coached mini-soccer, 1995-96;
- Attended leadership development workshop for Worldwide Marriage Encounter.

SKILLS

- Fluent in IDL, Pascal and FORTRAN;
- Extensive experience in MS-Windows, VAX-VMS, and UNIX environments;
- Exceptional writing and speaking skills.

REFERENCES

Prof. J. S. Murphree, Head
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