

# Seok-Woo Son

Canada Research Chair (Tier II) in Global Climate Change and Variability  
Assistant Professor, Department of Atmospheric and Oceanic Sciences, McGill University  
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## 1. Academic Employment

- 09/2008 - present: Assistant Professor  
Department of Atmospheric and Oceanic Sciences, McGill University
- 08/2006 - 08/2008: Postdoctoral Research Scientist  
Department of Applied Physics and Applied Math, Columbia University

## 2. Educational Background

- 08/2001 - 05/2006: Ph.D. in Meteorology  
Department of Meteorology, The Pennsylvania State University  
Advisor: Prof. Sukyoung Lee
- 03/1999 - 02/2001: M.Sc. in Atmospheric Sciences  
School of Earth and Environmental Sciences, Seoul National University  
Advisor: Prof. Dong-Kyu Lee
- 03/1992 - 02/1999: B.Sc. in Atmospheric Sciences  
Department of Atmospheric Sciences, Seoul National University, Korea  
(engaged in the Army for military service from 10/1994 to 12/1996)

## 3. Honors and Major Awards

- Canada Research Chair Tier II, Government of Canada (June 2009 - July 2014)
- Arnulf I. Muan Fellowship in Earth and Mineral Sciences, Penn State (Fall 2005 - Spring 2006)
- Lotte Graduate Fellowship, Lotte Co. Ltd. (Spring 2002 - Spring 2005)

## 4. Research Activities

### a. Research Area: Atmospheric and Climate Dynamics

Large-scale Atmospheric Dynamics (General Circulation, Storm Tracks and Low-Frequency Variability), Global Tropopause and UT/LS Processes, Stratosphere-Troposphere Coupling and Exchange, and Polar Climate Change and Variability.

b. Publications: Peer-reviewed Journal Articles (in progress)

1. **Kim, J.** and S.-W. Son, 2011: Tropical cold-point tropopause: climatology, seasonal cycle and intraseasonal variability derived from COSMIC GPS radio occultation measurements, *Journal of Climate*, submitted.
2. Gerber, E. P., A. Butler, N. Calvo, A. Charlton-Perez, M. Giorgetta, E. Manzini, J. Perlwitz, L. M. Polvani, F. Sassi, A. Scaife, T. Shaw, S.-W. Son, and S. Watanabe, 2011: Assessing and understanding the impact of stratospheric dynamics and variability on the Earth system, *Bulletin of the American Meteorological Society*, in revision (accepted pending minor revision).
3. **Purich, A.** and S.-W. Son, 2011: Impact of Antarctic ozone depletion and recovery on Southern Hemisphere precipitation, evaporation and extreme changes, *Journal of Climate*, in revision (accepted pending minor revision).

c. Publications: Peer-reviewed Journal Articles (printed or in press)

4. Seo, K.-H., and S.-W. Son, 2011: The global atmospheric circulation response to tropical diabatic heating associated with the Madden-Julian Oscillation during northern winter, *Journal of the Atmospheric Sciences*, in press.
5. Son, S.-W., N. F. Tandon, and L. M. Polvani, 2011: The Fine-scale Structure of the Global Tropopause Derived from COSMIC GPS Radio Occultation Measurements, *Journal of Geophysical Research - Atmosphere*, in press.
6. Polvani, L. M., D. W. Waugh, G. J. P. Correa and S.-W. Son, 2011: Stratospheric ozone depletion: the main driver of 20th century atmospheric circulation changes in the Southern Hemisphere, *Journal of Climate*, 24, 795-812, doi:10.1175/2010JCLI3772.1
7. **Martineau, P.**, and S.-W. Son, 2010: Quality of reanalysis data during stratospheric vortex weakening and intensification events, *Geophysical Research Letters*, 37, L22801, doi:10.1027/2010GL045237.
8. Park, H.-S., J. C. H. Chiang, and S.-W. Son, 2010: The role of the central Asian mountains on the midwinter suppression of North Pacific storminess, *Journal of the Atmospheric Sciences*, 67, 3706-3720.
9. Hegglin, M. I., A. Gettelman, P. Hoor, R. Krichevsky, G. L. Manney, L. Pan, S.-W. Son, G. Stiller, S. Tilmes, K. A. Walker, and SPARC/CCMVal PIs, 2010: Multi-model assessment of the upper troposphere and lower stratosphere: extra-tropics, *Journal of Geophysical Research - Atmosphere*, 115, D00M09, doi:10.1029/2010JD013884.
10. Gettelman, A., M. I. Hegglin, S.-W. Son, **J. Kim**, M. Fujiwara, T. Birner, S. Kremser, M. Rex, and SPARC/CCMVal PIs, 2010: Multi-model assessment of the upper troposphere and lower stratosphere: tropics and trends, *Journal of Geophysical Research - Atmosphere*, 115, D00M08, doi:10.1029/2009JD013638.
11. Son, S.-W., E. P. Gerber, J. Perlwitz, L. M. Polvani, N. P. Gillett, K.-H. Seo and SPARC/CCMVal co-authors, 2010: Impact of stratospheric ozone on Southern Hemisphere circulation change: a multimodel assessment, *Journal of Geophysical Research - Atmosphere*, 115, D00M07, doi:10.1029/2010JD014271.

12. Son, S.-W., N. F. Tandon, L. M. Polvani and D. W. Waugh, 2009: Ozone hole and Southern Hemisphere climate change, *Geophysical Research Letters*, 36, L15705, doi:10.1029/2009GL038671.
13. Kravtsov, S., J. E. Ten Hoeve, S. B. Feldstein, S. Lee, and S.-W. Son, 2009: The relationship between statistically linear and nonlinear feedbacks and zonal-mean flow variability in an idealized climate model. *Journal of the Atmospheric Sciences*, 66, 353-372.
14. Ho, C.-H., H.-S. Kim, J.-H. Jeong, and S.-W. Son, 2009: Influence of stratospheric quasi-biennial oscillation on tropical cyclone tracks in western North Pacific, *Geophysical Research Letters*, 36, L06702, doi:10.1029/2009GL037163
15. Son, S.-W., M. Ting, and L. M. Polvani, 2009: The effect of topography on storm track intensity in relatively simple general circulation model. *Journal of the Atmospheric Sciences*, 66, 393-411.
16. Son, S.-W., L. M. Polvani, D. W. Waugh, T. Birner, H. Akiyoshi, R. R. Garcia, A. Gettelman, D. A. Plummer, and E. Rozanov, 2009: The impact of stratospheric ozone recovery on tropopause height trends. *Journal of Climate*, 22, 429-455.
17. Son, S.-W., L. M. Polvani, D. W. Waugh, H. Akiyoshi, R. Garcia, D. Kinnison, S. Pawson, E. Rozanov, T. G. Shepherd, and K. Shibata, 2008: The impact of stratospheric ozone recovery on the Southern Hemisphere westerly jet. *Science*, 320, 1486-1489.
18. Ryu, J.-H., S. Lee, and S.-W. Son, 2008: Vertically propagating Kelvin waves and tropical tropopause variability. *Journal of the Atmospheric Sciences*, 65, 1817-1837.
19. Son, S.-W., S. Lee, S. B. Feldstein, and J. E. Ten Hoeve, 2008: Time scale and feedback of zonal mean flow variability. *Journal of the Atmospheric Sciences*, 65, 935-952.
20. Son, S.-W., and L. M. Polvani, 2007: The dynamical formation of an extratropical tropopause inversion layer in a relatively simple general circulation model. *Geophysical Research Letters*, L17806, doi:10.1029/2007GL030564.
21. Son, S.-W., and S. Lee, 2007: Intraseasonal variability of the zonal mean tropical tropopause height. *Journal of the Atmospheric Sciences*, 64, 2695-2706.
22. Lee, S., S.-W. Son, K. Grise, and S. B. Feldstein, 2007: Mechanism of poleward propagation of zonal mean flow anomalies. *Journal of the Atmospheric Sciences*, 64, 849-868.
23. Williams, L. N., S. Lee, and S.-W. Son, 2007: Dynamics of the southern Hemisphere spiral jet. *Journal of the Atmospheric Sciences*, 64, 548-563.
24. Son, S.-W., S. Lee, and S. B. Feldstein, 2007: Intraseasonal variability of the zonal mean extratropical tropopause height. *Journal of the Atmospheric Sciences*, 64, 608-620.
25. Son, S.-W., and S. Lee, 2006: Preferred modes of variability and their relationship with climate change. *Journal of Climate*, 19, 2063-2075.
26. Son, S.-W., and S. Lee, 2005: The response of westerly jets to thermal driving in a primitive equation model. *Journal of the Atmospheric Sciences*, 62, 3741-3757.
27. Choi, G., J. Choi, J.-W. Kim, and S.-W. Son, 2002: The climatology of perceived sultriness in south Korea. *Journal of Korean Geographical Society*, 385-402. (in Korean with English abstract)

28. Son, S.-W., and D.-K. Lee, 2001: A numerical study on the evolution of mesoscale cyclone and associated low-level jet along the East Asian monsoon front. *Korean Journal of the Atmospheric Sciences*, 65-82.

\* **bold** - supervised students

d. Publications: Peer-reviewed Book and Report Chapters

29. Gillett, N. P., and S.-W. Son, 2011: Impact of polar ozone loss on the troposphere, in “Stratospheric Ozone Depletion and Climate Change”, R. Muller Ed., Royal Society of Chemistry, in press.
30. Forster, P. M., D. W. J. Thompson, M. P. Baldwin, M. P. Chipperfield, M. Dameris, J. D. Haigh, D. J. Karoly, P. J. Kushner, W. J. Randel, K. H. Rosenlof, D. J. Seidel, S. Solomon, G. Beig, P. Braesicke, N. Butchart, N. P. Gillett, K. M. Grise, D. R. Marsh, C. McLandress, T. N. Rao, S.-W. Son, G. L. Stenchikov, and S. Yoden, 2011: Stratospheric changes and climate, in “Scientific Assessment of Ozone Depletion: 2010”, Global Ozone Research and Monitoring Project. Report No. 52, 516 pp., World Meteorological Organization, Geneva, Switzerland.
31. Baldwin, M., N. P. Gillett, P. M. Forster, E. P. Gerber, M. I. Hegglin, A. Y. Karpechko, J. Kim, P. J. Kushner, O. H. Morgenstern, T. Reichler, S.-W. Son, and K. Tourpali, 2010: Effects of the stratosphere on the troposphere, in “SPARC Report on the Evaluation of Chemistry-Climate Models”, V. Eyring, T. G. Shepherd, D. W. Waugh (Eds.), SPARC Report No. 5, WCRP-132, WMO/TD-No. 1526
32. Gettelman, A., M. I. Hegglin, S.-W. Son, M. Fujiwara, S. Tilmes, L. Pan, P. Hoor, H. Lee, G. L. Manney, T. Birner, G. Stiller, M. Rex, S. Kremser, D. Wuebbles, K. A. Walker, and J. A. Anel, 2010: Upper troposphere and lower stratosphere, in “SPARC Report on the Evaluation of Chemistry-Climate Models”, V. Eyring, T. G. Shepherd, D. W. Waugh (Eds.), SPARC Report No. 5, WCRP-132, WMO/TD-No. 1526.

e. Seminars (recent 6 years)

1. Canadian Centre for Climate Modelling and Analysis, Victoria, Canada (August 2011)
2. Recherche en Prévision Numérique, Environment Canada, Dorval, Canada (November 2010)
3. Global Environmental and Climate Change Centre, McGill University, Canada (February 2010)
4. Atmospheric Environment Division, National Institute for Environmental Studies, Japan (Jan. 2010)
5. Department of Atmospheric Sciences, Pusan National University, Korea (January 2010)
6. School of Earth and Environmental Sciences, Seoul National University, Korea (January 2010)
7. Department of Atmospheric Sciences, Peking University, China (December 2009)
8. Center of Climate Science, Korea Polar Research Institute/KORDI, Korea (December 2009)
9. Climate Research Lab, National Institute of Meteorological Research/KMA, Korea (Dec. 2009)
10. Department of Physics, University of Toronto, Toronto, Canada (April 2009)
11. Climate Research Division, Environment Canada, Toronto, Canada (November 2008)

12. Climate and Oceanic Dynamics Branch, LDEO/Columbia University, NY, USA (November 2008)
13. Institute for Terrestrial and Planetary Atmospheres, Stony Brook University, NY, USA (July 2008)
14. School of Earth and Environmental Sciences, Seoul National University, Korea (June 2008)
15. Department of Atmospheric Sciences, Yonsei University, Korea (June 2008)
16. Department of Earth and Environmental System, Pusan National University, Korea (May 2008)
17. College of Oceanic and Atmospheric Sciences, Oregon State University, OR, USA (April 2008)
18. Scripps Institution of Oceanography, U.C. San Diego, CA, USA (April 2008)
19. Program in Atmospheres, Oceans, and Climate, M.I.T., MA, USA (March 2008)
20. Department of Atmospheric and Oceanic Sciences, McGill University, Canada (February 2008)
21. School of Earth and Atmospheric Sciences, Georgia Tech., GA, USA (January 2008)
22. Geophysical Fluid Dynamics Lab/NOAA, NJ, USA (November 2007)
23. Department of Earth and Environmental System, Pusan National University, Korea (July 2007)
24. School of Earth and Environmental Sciences, Seoul National University, Korea (July 2007)
25. Department of Atmospheric Sciences, Kongju National University, Korea (July 2007)
26. Climate Research Lab, METRI/Korean Meteorological Administration, Korea (July 2007)
27. Climate and Oceanic Dynamics Branch, LDEO/Columbia University, NY, USA (January 2007)
28. Department of Earth System Science, U.C. Irvine, CA, USA (June 2006)
29. Climate and Radiation Branch, Earth Sciences Division, NASA GSFC, MD, USA (May 2006)
30. Department of Earth and Planetary Sciences, Johns Hopkins University, MD, USA (May 2006)
31. Department of Applied Physics & Applied Mathematics, Columbia U., NY, USA (May 2006)
32. Earth and Environmental Systems Institute, Pennsylvania State University, PA, USA (April 2006)
33. Department of Environmental Sciences and Engineering, Cal. Tech., CA, USA (January 2006)

f. Invited Conference/Workshop Presentations (recent 6 years)

1. Son, S.-W., 2011: Ozone hole and Southern Hemisphere climate change, World Climate Research Programme (WCRP) Open Science Conference, 24-28 October, Denver, USA.
2. Son, S.-W., 2011: Climate impact of the Montreal Protocol, Canada-Korea Conference on Science and Technology, 7-9 August, Vancouver, Canada.
3. Son, S.-W., 2011: Ozone hole and Southern Hemisphere climate change, International Union of Geodesy and Geophysics (IUGG) 2011 General Assembly, 28 June - 7 July, Melbourne, Australia.
4. Son, S.-W., 2010: Ozone hole and climate change in the Southern Hemisphere, American Geophysical Union (AGU) 2010 Joint Assembly, 8 - 12 August, Foz do Iguacu, Brazil.

5. Son, S.-W., L. M. Polvani, N. F. Tandon, and D. W. Waugh, 2009: Stratospheric ozone and Southern Hemisphere climate change, American Geophysical Union (AGU) 2009 Joint Assembly, 24-27 May 2009, Toronto, Canada.

g. Contributed Conference/Workshop Presentations (recent 6 years as a lead author)

6. Son, S.-W., H.-S. Kim and H. Lin, 2011: The tropospheric response to stratospheric quasi-biennial oscillation during boreal summer, AMS 16th conference on middle atmosphere, 23-27 January, Seattle, USA (Talk)
7. Son, S.-W., and coauthors, 2011: The impact of stratospheric ozone on Southern Hemisphere circulation change: a multimodel assessment, AMS 23rd conference on climate variability and change, 23-27 January, Seattle, USA (Talk)
8. Son, S.-W., N. F. Tandon and L. M. Polvani, 2010: Fine-scale structure of the global tropopause, Annual CMOS congress, 31 May - 4 June 2010, Ottawa, Canada. (Talk)
9. Son, S.-W., H.-S. Kim and H. Lin, 2010: Tropical-extratropical teleconnection associated with stratospheric quasi-biennial oscillation, Annual CMOS congress, 31 May - 4 June 2010, Ottawa, Canada. (Talk)
10. Son, S.-W. and CCMVal2 coauthors, 2010: The impact of stratospheric ozone on Southern Hemisphere circulation change: A multimodel assessment, Annual CMOS congress, 31 May - 4 June 2010, Ottawa, Canada. (Talk)
11. Son, S.-W. and CCMVal2 coauthors, 2009: The role of stratospheric ozone in the Southern Hemisphere circulation change: SPARC/CCMVal2 results, C-SPARC workshop, 7-8 December 2009, Toronto, Canada. (Talk)
12. Son, S.-W., L. M. Polvani, N. F. Tandon, and D. W. Waugh, 2009: Stratospheric ozone and Southern Hemisphere climate change, IUGG MOCA-09 Joint Assembly, 19-29 July 2009, Montreal, Canada. (Talk)
13. Son, S.-W., M. Ting, and L. M. Polvani, 2009: The effect of topography on storm track intensity in relatively simple general circulation model, IUGG MOCA-09 Joint Assembly, 19-29 July 2009, Montreal, Canada. (Talk)
14. Son, S.-W., L. M. Polvani, N. F. Tandon, and D. W. Waugh, 2009: Stratospheric ozone and Southern Hemisphere climate change, AMS 15th conference on Middle Atmosphere, 8-12 June 2009, Stowe, VT. (Talk)
15. Son, S.-W., L. M. Polvani, and J. A. Eckstein, 2009: Northern Hemisphere tropopause observed by radiosonde, AMS 15th conference on Middle Atmosphere, 8-12 June 2009, Stowe, VT. (Poster)
16. Son, S.-W., E. P. Gerber, and L. M. Polvani, 2009: The effect of the stratospheric circulation on the extratropical tropopause inversion layer in a relatively simple GCM, AMS 17th conference on Atmospheric and Oceanic Fluid Dynamics, 8-12 June 2009, Stowe, VT. (Poster)
17. Son, S.-W., and CCMVal-2 PIs, 2009: Southern Hemisphere circulation change as simulated by the SPARC/CCMVal-2 models: The role of stratospheric ozone, SPARC/CCMVal workshop, 1-5 June 2009, Toronto, Canada. (Poster)

18. Son, S.-W., L. M. Polvani, N. F. Tandon, and D. W. Waugh, 2008: Stratospheric ozone and Southern Hemisphere climate change, C-SPARC workshop, 24-25 November 2008, Toronto, Canada. (Talk)
19. Son, S.-W., L. M. Polvani, N. F. Tandon, D. W. Waugh, J. Perlwitz, and S. Pawson, 2008: Stratospheric ozone and Southern Hemisphere climate change, SPARC General Assembly, 31 August - 5 September 2008, Bologna, Italy. (Poster)
20. Son, S.-W., E. P. Gerber, and L. M. Polvani, 2008: The effect of the stratospheric circulation on the extratropical tropopause inversion layer in a relatively simple GCM, SPARC General Assembly, 31 August - 5 September 2008, Bologna, Italy. (Poster)
21. Son, S.-W., L. M. Polvani, D. W. Waugh, and CCMVal PIs., 2008: Impact of stratospheric ozone recovery on the Southern Hemisphere westerlies in the 21st century, AOGS General Assembly, 16-20 June 2008, Pusan, Korea. (Talk)
22. Son, S.-W. and S. Lee, 2008: Intraseasonal variability of the zonal mean tropical tropopause height: importance of MJO convection, AOGS General Assembly, 16-20 June 2008, Pusan, Korea. (Talk)
23. Son, S.-W., E. P. Gerber, and L. M. Polvani, 2008: The effect of the stratospheric circulation on the extratropical tropopause inversion layer in a relatively simple GCM, EGU General Assembly, 13-18 April 2008, Vienna, Austria. (Poster)
24. Son, S.-W., L. M. Polvani, D. W. Waugh, J. Perlwitz, and S. Pawson, 2008: Impact of stratospheric ozone recovery on the Southern hemisphere future climate: DJF westerly jet and Hadley cell, SPARC DynVar Workshop, 27-28 March 2008, Toronto, Canada. (Talk)
25. Son, S.-W., and L. M. Polvani, 2007: The spontaneous formation of a tropopause inversion layer in simple, dry, atmospheric general circulation models, AGU fall meeting, 10-14 December 2007, San Francisco, CA. (Poster)
26. Son, S.-W., S. Lee, S. B. Feldstein, and J. E. Ten Hoeve, 2007: Time scale and feedback of zonal mean flow variability, AGU Fall Meeting, 10-14 December 2007, San Francisco, CA. (Poster)
27. Son, S.-W., and L. M. Polvani, 2007: The spontaneous formation of a tropopause inversion layer in simple, dry, atmospheric general circulation models, AMS 14th conference on Middle Atmosphere, 20-24 August 2007, Portland, OR. (Poster)
28. Son, S.-W., and coauthors, 2007: The tropopause in the 21st century, AMS 14th conference on Middle Atmosphere, 20-24 August 2007, Portland, OR. (Poster)
29. Son, S.-W., M. Ting, and L. M. Polvani, 2007: The effect of topography on storm track intensity in relatively simple general circulation model, AMS 16th conference on Atmospheric and Oceanic Fluid Dynamics, 25-29 June 2007, Santa Fe, NM. (Talk)
30. Son, S.-W., S. Lee, S. B. Feldstein, and J. E. Ten Hoeve, 2007: Time scale and feedback of zonal mean flow variability, AMS 16th conference on Atmospheric and Oceanic Fluid Dynamics, 25-29 June 2007, Santa Fe, NM. (Poster)
31. Son, S.-W., and S. Lee, 2007: Intraseasonal variability of the zonal mean tropical tropopause height, AMS 16th conference on Atmospheric and Oceanic Fluid Dynamics, 25-29 June 2007, Santa Fe, NM. (Poster)

32. Son, S.-W., and L. M. Polvani, 2007: The spontaneous formation of a tropopause inversion layer in simple, dry, atmospheric general circulation models, AMS 16th conference on Atmospheric and Oceanic Fluid Dynamics, 25-29 June 2007, Santa Fe, NM. (Poster)
33. Son, S.-W., 2007: Understanding Southern Hemisphere climate change with a simple GCM simulations, Columbia APAM Research Conference, 9 February 2007, New York, NY. (Talk)
34. Son, S.-W., 2006: Climate change at cruising altitude: rising in tropopause, Columbia APAM Research Conference, 13 October 2006, New York, NY. (Talk)

## 5. Teaching and Research Supervision

### a. Taught Courses

- ATOC215 Oceans, Weather and Climate (40-50 undergraduate students): W2009 & W2010 co-taught with Prof. David Straub.
- ATOC315 Atmospheric Thermodynamics and Convection (20-30 undergraduate students): F2009, F2010
- ATOC513 Waves and Stability (10-15 graduate students): W2009 & W2010 co-taught with Prof. David Straub, W2011.
- ATOC531 Dynamics of Current Climates (10-15 graduate students): F2011.

### b. Research Supervision (current)

- Kevin Grise (Postdoc, 2011-Present): North American storm tracks.
- Joowan Kim (Ph.D., 2009-Present): Dynamics of tropical cold-point tropopause.
- Patrick Martineau (Ph.D., 2011-Present): Dynamics of sudden stratospheric warming.
- Etienne Dunn-Sigouin (M.Sc., 2010-Present): Atmospheric blocking.
- Ariaan Purich (R.A., 2011-Present): Seasonal prediction of precipitation.

### c. Research Supervision (past)

- Naishi Lin (M.Sc. 2010): Meteorologist at Environment Canada (9/10)
- Patrick Martineau (M.Sc. 2011): Ph.D. student at McGill (9/11)
- Ariaan Purich (M.Sc. 2011, co-supervised with Prof. Derome): R.A. at McGill (9/11)
- Ayako Yamamoto (M.Sc. 2011, co-supervised with Prof. Bourqui): R.A. at McGill (9/11)
- Rosalie Belanger-Rioux (U3, 2009): Graduate student at M.I.T. (9/10)
- Etienne Tetreault-Pinard (U1, 2009): Graduate student at U. Washington (9/11)
- Zacari Jardak (U3, 2011): Private sector (9/11)



- Jiwook Hwang (U3, 2011): Special student at McGill (9/11)

## **6. Professional Activities and Services**

### a. Professional Activities

- Associate Editor of “Asia-Pacific Journal of Atmospheric Sciences” (2011-Present)
- Co-author of Chapter 4 “Stratospheric Changes and Climate” in 2010 WMO/UNEP Scientific Assessment of Ozone Depletion (2011)
- Co-author of Chapter 7 “Upper Troposphere and Lower Stratosphere” and Chapter 10 “ Effects of the Stratosphere on the Troposphere” in WCRP/SPARC CCMVal Report (2010).
- Member of “Global Environment and Climate Change Centre (GEC3)” (2010-Present).
- Member of NSERC site visiting committee (2009).
- Session convener for AGU fall meeting “Studying Climate Dynamics with Idealized Atmospheric GCMs” (2007).
- Member of American Meteorological Society (since 2007), American Geophysical Union (since 2007), and Canadian Meteorological and Oceanographic Society (since 2008).
- Frequent reviewer for AGU, AMS, EGU, RMetS Journals (7-8 papers per year), NERC, NSERC, NSF, NOAA Grant Proposals (1-2 proposals per year) and others.

### b. Outreaches

- Judge of “Undergraduate Research Conference”, 15 October 2010, Faculty of Science, McGill University
- Speaker of “Wine and Cheese” (2008, 2009, 2010), Atmospheric and Oceanic Sciences, McGill University.
- Speaker of “Soup and Science”, 15 September 2009, Redpath Museum, McGill University
- Korean language teacher (2009-present) at the SeoKwang Presbyterian Church of Montreal.

### c. University/Departmental Services

- Departmental seminar organizer, 2009-present
- Member of departmental computing committee, 2009-present
- Member of faculty search committee for the physical oceanography position, 2010.
- Member of Schulich library advisory committee, 2008-2009.

## **7. References (Available upon request)**