

# Bharat Rastogi

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## EDUCATION

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- Oregon State University** Corvallis, USA  
Ph.D. in Forest Ecosystems and Society, Advisor: Christopher Still 2013–2018  
– Dissertation: “Ecosystem photosynthesis and forest-atmosphere interactions inferred from carbonyl sulfide ”
- University of California, Santa Barbara** Santa Barbara, USA  
M.A. in Geography, Advisor: Christopher Still 2011–2013  
– Thesis: “Characterizing the Spatial and Temporal Patterns of Cloud cover and Fog Inundation for the Northern Channel Islands of California”
- University of East Anglia** Norwich, U.K.  
M.Sc. in Environmental Sciences, Advisor: Nikolai Pedentchouk 2009–2010  
– Thesis: “Molecular and carbon specific isotope analysis of n-alkanes from a marine sediment as a proxy for glaciation during the last quaternary in the Gulf of Corinth, Greece”
- St. Stephen’s College, University of Delhi** Delhi, India  
B.Sc. (Hons.) in Chemistry 2006–2009

## EXPERIENCE

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- University of Colorado Boulder/NOAA Global Monitoring Laboratory** Boulder, USA  
Postdoctoral Scholar in Carbon Cycle Greenhouse Gases 2019–present  
– Improving the monitoring capability of carbon budget for the US Corn Belt - integrating multi-source satellite data with improved land surface modeling and atmospheric inversions  
– Evaluate bias in satellite retrievals of total column  $CO_2$  from OCO-2 over North America.
- Oregon State University** Corvallis, USA  
Postdoctoral Scholar with Christopher Still and John Kim August 2018–January 2019  
– Characterizing spatial and temporal patterns of near-surface clouds in the Pacific Northwestern US by analysing cloud data from satellites, airport records and radiosondes.
- Oregon State University** Corvallis, USA  
Graduate Research Assistant 2013–2018  
– Measurement and modeling of carbonyl sulfide and other environmental data. Analysing co-located eddy covariance fluxes of  $CO_2$  and water vapor. Analyses of sap-flow data. Measuring and modeling thermal infrared imagery (canopy temperature).

## PUBLICATIONS

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- [1] M. Leonard, L. Bruhwiler, A. R. Jacobson, A. Kaushik, B. Rastogi, I. Baker, K. Haynes, A. S. Denning, and A. Subramanian, “Assessing the present-day terrestrial carbon cycle from a variety of data-driven carbon cycle models and a process-based phenology model”, *in-revision: Journal of Geophysical Research: Biogeosciences*, .

- [2] B. Rastogi, J. B. Miller, M. Trudeau, A. E. Andrews, L. Hu, M. Mountain, T. Nehrkorn, B. Baier, K. McKain, J. Mund, K. Guan, and C. B. Alden, “Evaluating consistency between total column  $CO_2$  retrievals from OCO-2 and the in situ network over north america: Implications for carbon flux estimation”, *Atmospheric Chemistry and Physics*, vol. 21, no. 18, pp. 14 385–14 401, 2021.
- [3] C. J. Still, B. Rastogi, G. F. Page, D. M. Griffith, A. Sibley, M. Schulze, L. Hawkins, S. Pau, M. Detto, and B. R. Helliker, “Imaging canopy temperature: Shedding (thermal) light on ecosystem processes”, *New Phytologist*, 2021.
- [4] A. W. Dye, B. Rastogi, R. E. Clemesha, J. B. Kim, R. M. Samelson, C. J. Still, and A. P. Williams, “Spatial patterns and trends of summertime low cloudiness for the pacific northwest, 1996–2017”, *Geophysical Research Letters*, vol. 47, no. 16, e2020GL088121, 2020.
- [5] Y. Jiang, C. J. Still, B. Rastogi, G. F. Page, S. Wharton, F. C. Meinzer, S. Voelker, and J. B. Kim, “Trends and controls on water-use efficiency of an old-growth coniferous forest in the pacific northwest”, *Environmental Research Letters*, vol. 14, no. 7, p. 074 029, 2019.
- [6] B. Rastogi, M. Berkelhammer, S. Wharton, M. E. Whelan, M. S. Itter, J. B. Leen, M. X. Gupta, D. Noone, and C. J. Still, “Large uptake of atmospheric  $OCS$  observed at a moist old growth forest: Controls and implications for carbon cycle applications”, *Journal of Geophysical Research: Biogeosciences*, vol. 123, no. 11, pp. 3424–3438, 2018.
- [7] B. Rastogi, M. Berkelhammer, S. Wharton, M. E. Whelan, F. C. Meinzer, D. Noone, and C. J. Still, “Ecosystem fluxes of carbonyl sulfide in an old-growth forest: Temporal dynamics and responses to diffuse radiation and heat waves”, *Biogeosciences*, vol. 15, no. 23, pp. 7127–7139, 2018.
- [8] M. E. Whelan, S. T. Lennartz, T. E. Gimeno, R. Wehr, G. Wohlfahrt, Y. Wang, L. M. Kooijmans, T. W. Hilton, S. Belviso, P. Peylin, B. Rastogi, *et al.*, “Reviews and syntheses: Carbonyl sulfide as a multi-scale tracer for carbon and water cycles”, *Biogeosciences*, vol. 15, no. 12, pp. 3625–3657, 2018.
- [9] C. Still and B. Rastogi, “What drives carbon isotope fractionation by the terrestrial biosphere?”, *Journal of Geophysical Research: Biogeosciences*, vol. 122, no. 11, pp. 3108–3110, 2017.
- [10] B. Rastogi, A. P. Williams, D. T. Fischer, S. F. Iacobellis, K. McEachern, L. Carvalho, C. Jones, S. A. Baguskas, and C. J. Still, “Spatial and temporal patterns of cloud cover and fog inundation in coastal california: Ecological implications”, *Earth Interactions*, vol. 20, no. 15, pp. 1–19, 2016.

## PROFESSIONAL SERVICE

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- **Proposal reviewer:** US-Israel Binational Science foundation
- **Journal Reviewer:** Biogeosciences, Tellus-B, Agricultural and Forest Meteorology, New Phytologist. Co-reviewed manuscripts for Nature Geoscience and Science
- **Judge for student presentations:** North American Carbon Program meeting, Summer Internship Research Program at UCAR, Boulder

## TEACHING

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- **Teaching Assistant** at Oregon State University Spring 2015 and 2017  
*Scientific Methods for Analyzing Natural Resource Problems (FES 399/NR 325)*
- **Teaching Assistant** at University of California, Santa Barbara Spring 2013  
*California’s Channel Islands (Geog 149/ Environmental Studies 111)*
- **Teaching Assistant** at University of California, Santa Barbara Fall 2011 and 2012, Winter 2012 and 2013

*Oceans and Atmosphere (Geog 3A)*

- **Teaching Assistant** at University of California, Santa Barbara  
*Land, water and life (Geog 3B)*

Spring 2012

## SCHOLARSHIPS AND AWARDS

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- Student Sustainability Initiative, Oregon State University 2017
- Richard Waring Travel Scholarship 2013 –2017
- Richardson Graduate student fellowship 2013
- Provost's Distinguished Graduate Student Scholarship 2013
- Faculty of Science International Student Fund Award, University of East Anglia, 2009
- Science Meritorious Scholarship, University of Delhi 2007

## WORKSHOPS AND PROFESSIONAL COURSES

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- Integrated carbon and water for Ecological and Biochemical synthesis 2017  
*Stevenson, WA*
- Flux Course 2015  
*Mountain Research Station, University of Colorado, Boulder*
- Conservation ethics workshop 2014  
*Oregon State university Corvallis, Oregon*
- Pacific Coastal Fog Workshop 2012  
*USGS: Menlo Park, California*

## SKILLS

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- Measurement and Analyses of eddy covariance, trace gases, stable isotopes and environmental data
- Analyses of ecophysiological data
- Analyses of large scale remote sensing data
- Working on supercomputing systems (NASA HECC, NOAA)

## LANGUAGES

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- **Python:** Proficient
- **Matlab:** Proficient
- **R:** Proficient
- **bash:** Intermediate
- **L<sup>A</sup>T<sub>E</sub>X:** Advanced
- **ArcGIS:** Proficient