Nils Anders Christian Johnson, Ph.D.

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**EDUCATION** **DOCTOR OF PHILOSOPHY**, Transportation Technology and Policy, March 2012

Institute of Transportation Studies, University of California, Davis, CA, USA

**MASTER OF ENVIRONMENTAL MANAGEMENT**, December 1999

**MASTER OF FORESTRY**,December 1999

Nicholas School of the Environment, Duke University, Durham, NC, USA

**BACHELOR OF ARTS**, Political Science, May 1994

Haverford College, Haverford, PA, USA

**PROFESSIONAL** **Research Scholar,** International Institute for Applied Systems Analysis (IIASA), Vienna, Austria.

**EXPERIENCE** March 2012 – Present.

**Graduate Research Assistant,** Institute of Transportation Studies, University of California, Davis, USA.

January 2006 – February 2012.

**Program Manager**, Hydrogen Pathways Program, Institute of Transportation Studies, University of California, Davis, USA. June 2004 – December 2005

**GIS Specialist**, EIP Associates, San Francisco, CA, USA. April 2001 – September 2003

**GIS Analyst**, MFG, Inc., San Francisco, CA, USA. May 2000 – March 2001

**RESEARCH** **IPCC Fifth Assessment Report (AR5)**, International Panel on Climate Change (WGIII),

**ACTIVITIES** contributing author, March 2013-present.

**Shared Socioeconomic Pathways (SSP**s), involved in the implementation of new socioeconomic scenarios designed to be used for climate change research by the impact, vulnerability, adaptation, and mitigation communities, January 2013-present.

**AMPERE project**, IIASA, participated in a collaborative multi-model intercomparison project with particular involvement in the implementation and evaluation of scenarios exploring the implications of delayed climate action on the achievement of long-term climate objectives, March 2012-present.

**PUBLICATIONS** **N. Johnson,** V. Krey, D. McCollum, S. Rao, K. Riahi, and J. Rogelj (2013), *Stranded on a low-carbon planet: implications of climate policy for the phase-out of coal-based power plants.* Technological Forecasting and Social Change, in review.

C. Bertram, **N. Johnson**, G. Luderer, K. Riahi, M. Isaac, and J. Eom (2013), *Carbon lock-in through capital stock inertia associated with weak near-term climate policies.* Technological Forecasting and Social Change, accepted.

K. Riahi, E. Kriegler, **N. Johnson**, C. Bertram, M. den Elzen, J. Eom, M. Schaeffer, J. Edmonds, M. Isaac, V. Krey, T. Longen, G. Luderer, A. Mejean, D.L. McCollum, S. Mima, H. Turton, D.P. van Vuuren, K. Wada, V. Bosetti, P. Capros, P. Criqui, M. Hamdi-Cherif, M. Kainuma, and O. Edenhofer (2013), *Locked into Copenhagen pledges – implications of short-term emission targets for the cost and feasibility of long-term climate goals.* Technological Forecasting and Social Change, accepted.

J. Eom, J. Edmonds, V. Krey, **N. Johnson**, T. Longden, G. Luderer, K. Riahi, and D.P. van Vuuren (2013), *The impact of near-term climate policy choices on technology and emission transition pathways.* Technological Forecasting and Social Change, accepted.

**N.** **Johnson,**  (2012), *Detailed spatial modeling of coal-based hydrogen infrastructure deployment with carbon capture and storage: methods, implications, and insights*. University of California, Davis, doctoral dissertation.

**N. Johnson** and J. Ogden (2012), *Conceptual Design of Optimized Fossil Energy Systems with Capture and Sequestration of Carbon Dioxide: Phase 2*, final report for US DOE award number DE-FC26-02NT41623, report number 41623R08.

**N. Johnson** and J. Ogden (2012), *A spatially-explicit optimization model for long-term hydrogen pipeline planning*. International Journal of Hydrogen Energy, 37(6): p. 5421-5433.

J. Ogden and **N. Johnson** (2010), *Techno-economic analysis and modeling of carbon dioxide capture and storage technologies*, in *Developments and innovation in carbon dioxide capture and storage technology: Carbon dioxide capture, transport and industrial applications (Volume 1),* M. Maroto-Valer, Editor. Woodhead Publishing Ltd: Cambridge, UK. p. 27-63.

Y. Huang, Y. Fan, and **N. Johnson** (2010), *Multistage System Planning for Hydrogen Production and Distribution*. Networks and Spatial Economics. 10(4): p. 455-472.

**N. Johnson,** C. Yang, and J. Ogden (2008), *A GIS-based assessment of coal-based hydrogen infrastructure deployment in the state of Ohio.* International Journal of Hydrogen Energy, 33(20): p. 5287-5303.

J. Ogden, C. Yang, **N. Johnson**, J. Ni, and J. Johnson (2005), *Conceptual Design of Optimized Fossil Energy Systems with Capture and Sequestration of Carbon Dioxide: Phase 1*, final report for US DOE award number DE-FC26-02NT41623, report number 41623R04.

**CONFERENCES N. Johnson,** E. Kriegler, M. Tavoni, G. Luderer, and K. Riahi, *Implications of near-term policy for limiting warming to 2˚C: a synthesis of the AMPERE, LIMITS, and ROSE projects*, podium presentation at the 6th Annual IAMC Meeting, Tsukuba, Japan, October 2013.

**N. Johnson** and J. Ogden, *Envisioning CO2 distribution networks for CCS in the United States: Modeling CO2 pipeline deployment at a regional scale*, podium presentation at the 1st International BeWhere Workshop, Laxenburg, Austria, October 2013.

**N. Johnson** and J. Ogden, *Envisioning CO2 distribution networks for CCS in the United States: Strategies for CO2 pipeline deployment at a regional scale*, podium presentation at the International Pittsburgh Coal Conference, Istanbul, Turkey, October 2010.

**N. Johnson** and J. Ogden, *Detailed spatial modeling of carbon capture and storage (CCS) infrastructure deployment in the southwestern United States*, poster presentation at the International Conference on Greenhouse Gas Technologies (GHGT), Amsterdam, The Netherlands, Sept. 19-23, 2010, in Energy Procedia. 4: p. 2693-2699.

**N.** **Johnson** and J. Ogden, *Transporting CO2: Independent pipelines for each source or organized regional networks?,* podium presentation at the Ninth Annual Conference on Carbon Capture and Storage, Pittsburgh, PA, May 10-13, 2010.

**N.** **Johnson,** J. Ogden, and Y. Fan, *Optimizing hydrogen pipeline deployment in real geographic regions*, podium presentation at National Hydrogen Association Conference, Long Beach, CA, May 3-6, 2010.

**N.** **Johnson,** C. Yang, and J. Ogden, *A regional model of coal-based hydrogen infrastructure deployment with carbon capture and storage*, podium presentation at Pittsburgh Coal Conference, Pittsburgh, PA, September 29-October 2, 2008.

**N.** **Johnson,** C. Yang, and J. Ogden, *Modeling deployment of alternative fuel infrastructure in California using GIS*, podium presentation at ESRI International User Conference, San Diego, CA, August 4-8, 2008.

**N. Johnson** and J. Ogden, *Moving towards a national assessment of coal-based hydrogen infrastructure deployment with carbon capture and sequestration*, poster presentation at 7th Annual Carbon Capture and Sequestration Conference, Pittsburgh, PA, May 5-8, 2008.

**N.** **Johnson,** C. Yang, and J. Ogden, *A blueprint for the long-term deployment of hydrogen infrastructure in California*, podium presentation at National Hydrogen Association Conference, Sacramento, CA, March 30-April 3, 2008.

**N.** **Johnson,** C. Yang, and J. Ogden, *Build-out scenarios for implementing a regional hydrogen infrastructure*, podium presentation at National Hydrogen Association Conference, Long Beach, CA, March 12-16, 2006.

**N.** **Johnson**, C. Yang, J. Ni, J. Johnson, Z. Lin, and J. Ogden, *Optimal design of a fossil-based hydrogen infrastructure with carbon capture and sequestration: case study in Ohio*, podium presentation at National Hydrogen Association Conference, Washington, DC, March 29-April 1, 2005.

**PROFESSIONAL Research Experience in Carbon Sequestration (RECS) Program**, US DOE, August 2008, Participated in

**PROGRAMS**  a two-week course on the policy and science related to carbon capture and sequestration (CCS).

**PH.D. STUDENTS Pedro Rua Rochedo,** *Federal University of Rio de Janeiro*, Brazil.Joint research to examine the potential for

**SUPERVISED** bioenergy with carbon capture and storage (CCS) in Brazil.

**SKILLS** Proficient in ArcGIS, GAMS/CPLEX, R programming, MESSAGE, Microsoft Office, French language.