

# Abhilash Kantamneni

updated - Jan 2018

## PERSONAL DETAILS

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## ACADEMIC QUALIFICATIONS

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<b>PhD Geography</b>   University of Guelph Opportunity and mobility in energy transitions	<i>expected</i> 2019
<b>M.S. Computer Science</b>   Michigan Tech Generic ontologies for solar irradiance forecasting	2016
<b>M.S. Physics</b>   Michigan Tech Citizen science smartphone apps for astronomy	2013
<b>B.E. Electrical and Electronics</b>   Anna University Power system operation and control	2008

## PROFESSIONAL EXPERIENCE

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<b>MITACS Research Intern</b>   Toronto and Region Conservation Authority Program evaluation of Ontario's Renewable Energy Initiative for social housing.	2016-2017
<b>Co-Founder, VP</b>   MiDataLabs Data science startup working exclusively on community focused projects.	2015-present
<b>Researcher</b>   Keweenaw Research Center Developing community decision support tools for solar PV.	Summers- 2014, 2015
<b>Co-Founder, VP</b>   iThoughtz Technologies Product design, evaluation and testing at a software start-up	2010-2012
<b>Researcher</b>   SSN Institutions Department of Physics Modeling meta-materials as sonic wave guides	2008-2009

## LEADERSHIP EXPERIENCE

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<b>Community Engagement Committee</b>   Our Energy Guelph Community intermediary updating Guelph's community energy plan	2016-present
<b>Director</b>   Victor Davies Memorial Court Homes Non-profit providing housing for families in need	2016-present
<b>Director</b>   Rural Renewable Energy Alliance Non-profit dedicated to making solar energy accessible to communities of all income levels	2016-present
<b>Technical Advisor</b>   Michigan Conservative Energy Forum Non-profit advancing clean energy policy in Michigan	2015-2016
<b>Technical Advisor</b>   Keweenaw Bay Indian Community CARE Intermediary overseeing solar PV development at Keweenaw Bay Indian Community	2015-2016
<b>Executive Director</b>   Houghton Energy Efficiency Team Intermediary that championed Houghton County into the semifinals of a national energy competition (GUEP)	2014-2015

## **COMMUNITY PROJECTS**

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- Midwest Solar Calculators** | Solarize Houghton 2016  
Developed online tools, guidebooks and peer-to-peer network to help rural Midwest American homeowners install rooftop solar PV.
- Energy Efficient Communities** | Michigan Interfaith Power & Light 2015  
Helped five local faith-based institutions secure funding for energy efficiency retrofits.
- Community Solar** | Ontonagon Rural Electric Co-operative 2014  
[Developed a community solar proposal for a rural electric co-operative utility \(OCREA\).](#)
- U.P. Energy Newsletter** | U.P. Economic Development Alliance 2014  
Grid reliability forced an aging U.P. coal plant to remain open as national stakeholders negotiated a solution. My bi-weekly updates provided businesses with a policy analysis of the evolving situation.

## **TEACHING EXPERIENCE**

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- Coursework Development** | University of Guelph 2016  
*Geography Majors* - Python based Geomatics modules in ArcPy.
- Lab Instructor** | Michigan Tech 2015  
*First Year; All Majors* - Introduction to object-oriented programming languages.
- Course Instructor** | Keweenaw Bay Ojibwe Community College 2014  
*Summer Youth Programs* - Developed an experiential learning course on renewable energy technology.
- Teaching Assistant** | Extraordinary Concepts in Physics 2013  
*All Years; All Majors* - Assisted with coursework development for a blended learning course
- Lab Instructor** | Introduction to Physics 2010  
*First Year; All Majors* - Discovery-based learning of introductory physical concepts.

## **RELEVANT GUEST LECTURES**

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- Geomatics** | 2 hour workshop 2016  
*Fourth Year; Geography Majors*; - Hands-on GIS programming training
- Environmental Governance** | 3 hour lecture 2016  
*Fourth Year; Geography Majors*; - Collective Impact & Intermediaries
- Sustainability and Civil Engineering Practice** | 1.5 hour lecture 2015  
*First Year; Civil Engineering Majors*; - History of energy use in the United States
- Sustainable Energy System** | 1 hour lecture 2015  
*Junior Year; Environmental Engineering Majors* - The Changing Future of Energy
- Solar Engineering** | 1 hour lecture 2014  
*Graduate; Materials Engineering Majors* - Challenges to Net-Metering Policy

## **EXTERNAL GRANTS SECURED**

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- Ontario Ministry of Housing** | Principal Investigator | \$ 69,300 2018  
Building capacity for energy retrofits in Northern Ontario's social housing sector.
- US Federal EDA** | Technical Lead | \$ 51,000 2015  
[Developing technical and policy solutions for energy retrofits in Michigan industrial parks.](#)
- Joyce Foundation** | Project Manager | \$ 30,000 2015  
Community-based approaches to energy efficiency.
- Keweenaw Community Foundation** | Instructor | \$ 1,800 2014

## **JOURNAL PUBLICATIONS**

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**Kantamneni, Abhilash**, Richelle Winkler, Lucia Gaucia, and Joshua M Pearce. “Emerging economic viability of grid defection in a northern climate using solar hybrid systems.” *Energy Policy* 95 (August 2016): 378–389. doi:[10.1016/j.enpol.2016.05.013](https://doi.org/10.1016/j.enpol.2016.05.013).

**Impact Factor: 3.09, Citations: 8** *Quantifies the economic viability of grid defection using hybrid photovoltaic (PV) systems with batteries and combined heat and power (CHP).*

**Kantamneni, Abhilash**, Laura E Brown, Gordon Parker, and Wayne W Weaver. “Survey of multi-agent systems for microgrid control.” *Engineering Applications of Artificial Intelligence* 45 (October 2015): 192–203. doi:[10.1016/j.engappai.2015.07.005](https://doi.org/10.1016/j.engappai.2015.07.005).

**Impact Factor: 3.18, Citations: 61** *Reviews Multi-Agent Systems designs, concepts, architectures, development platforms, applications, and limitations in the decentralized control of microgrids.*

Prehoda, Emily, **Kantamneni, A**, and C Schelley. “Placing Residential Solar Technology Adoption in Situated Policy Context - A Case Study of Michigan Adopters.” *Energy Research and Social Science*, 2017.

Submitted, under review.

## **CONFERENCES**

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**Kantamneni, Abhilash**, I McVey, Kirby Calvert, and Patrick Wittman. “Going Green to Save you Green: Retrofitting Social Housing in Ontario.” In *Ontario Non-Profit Social Housing Conference*. 2017.

**Kantamneni, Abhilash**, I McVey, and Kirby Calvert. “Governance of Energy Retrofits in Social Housing.” In *Ontario Sustainable Energy Policy Conference*. 2017.

**Kantamneni, Abhilash** and R Winkler. “Exploring Energy Justice in Rural America- Mapping Utility Rates, Social Inequality and State Policy.” In *Rural Sociological Society Conference*. 2016.

Prehoda, Emily, **Kantamneni, A**, and C Schelley. “Understanding Homeowner Motivations to Adopt Residential Solar Electric Technology: What Predicts Adoption?” In *Rural Sociological Society Conference*. 2016.

**Kantamneni, Abhilash**. “Rethinking Energy Poverty and Security in Midwestern America.” In *International Symposium on Society and Resource Management*. 2016.

**Kantamneni, Abhilash**, C Green, and J Meldrum. “Barriers to energy efficiency in industrial parks.” In *International Symposium on Society and Resource Management*. 2016.

Wilson, Teresa, **Kantamneni, A**, JL Bartlett, and RJ Nemiroff. “Timing Sunsets with Smartphones: Proof of concept for a citizen science project that quantifies the atmosphere and supports astronomical observations.” In *American Astronomical Society Meeting Abstracts# 223*, vol. 223. 2014.

**Kantamneni, Abhilash**, RJ Nemiroff, and C Brisbois. “Proof of concept for a simple smartphone sky monitor.” In *American Astronomical Society Meeting Abstracts# 221*, vol. 221. 2013.

## **TECHNICAL REPORTS**

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- TRCA. *Review of Renewable Energy Investments in Social and Affordable Housing*. Technical report. Toronto and Region Conservation Authority Under the Sustainable Technologies Evaluation Program, May 2017.
- Calvert, Kirby, I McVey, and **Kantamneni, A**. *Placing Community in Community Energy Planning*. Technical report. Community Energy Knowledge-Action Partnership, March 2017. doi:[10.13140/RG.2.2.22817.30562](https://doi.org/10.13140/RG.2.2.22817.30562).
- Fazer, Nathan, **Kantamneni, A**, C Green, and M Meldrum. *Generating Economic Development: An Energy Study of U.P. Industrial Parks*. Technical report. CUPPAD, & Michigan Tech Keweenaw Research Center, March 2016. doi:[10.13140/RG.2.1.1930.2804](https://doi.org/10.13140/RG.2.1.1930.2804).
- Kantamneni, Abhilash**, M Cook, A Hirzel, G Parker, and LE Brown. *Survey of solar irradiance models for emergency PV deployment*. Technical report. 2015.
- Louie, Edward, B Barnett, B Burns, and **Kantamneni, A**. *Houghton County Community Energy Plan*. Technical report. HEET, & Michigan Tech, December 2014. doi:[10.13140/RG.2.1.4895.5763](https://doi.org/10.13140/RG.2.1.4895.5763).

## **UNIVERSITY SERVICE**

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- Faculty Hiring Committee** | University of Guelph, Department of Geography  
Committee hiring new Assistant Professor 2016-2017
- Advisory Committee** | Michigan Tech Academic and Community Conduct  
Advisory body that developed a code of conduct for Michigan Tech student community. 2015-2016
- Board of Conduct** | Michigan Tech Academic Integrity  
Decision-making body to address issues and resolve incidents in the University community, including academic integrity and professional conduct. 2014-2016
- Technical Advisor** | Michigan Tech Alternative Energy Enterprise  
Mentoring multidisciplinary undergraduate teams on university-community partnership for alternative energy. 2014-2016
- Staff Hiring Committee** | Michigan Tech International Programs and Services  
Graduate student member on a committee hiring an Executive Director. 2010-2011

## **SELECT WORKSHOPS CONDUCTED**

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- Upper Peninsula Public Planners Network** | Calumet, MI  
*Community Energy Management and Planning Workshop* 2015
- Keweenaw Bay Indian Community** | Baraga, MI  
*Energy Efficiency and Solar Training Workshop* 2015
- Michigan Home Builder's Association** | Hancock, MI  
*Solar Ready Homes Workshop* 2015
- Teacher Training Institute** | Houghton, MI  
*Designing Sustainable Futures Workshop* 2015
- Lake Superior Stewardship Initiative** | Houghton, MI  
*Six Steps to Solar, One Step to Efficiency* 2015
- Lake Superior Celebration** | Houghton, MI  
*Sustainability in the Great Lakes Region* 2014

## **SELECT INVITED TALKS**

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- Ontarion Non-Profit Housing Association** | Niagara, ON  
*Governing Energy Retrofits in Social Housing* 2017
- Ontario Climate Symposium** | York, ON  
*Barriers to Energy Sustainability in Social Housing* 2017

<b>Northern Ontario Service Deliverers Association</b>   Sudbury, ON	2017
<i>Social Innovation for Energy Upgrades</i>	
<b>Midwest Renewable Energy Association Energy Fair</b>   Custer, WI	2015,2016
<i>Geography of Energy Poverty in the Midwest</i>	
<b>Green Lecture Series</b>   Center for Science and Environmental Outreach	2015
<i>Rethinking Local Energy Choices: Alternative and Efficient</i>	
<b>GLREA Energy Fair</b>   Lansing, MI	2015
<i>Solar and Energy Efficiency Opportunities in Michigan</i>	
<b>U.P Economic Development Alliance</b>   Marquette, MI	2014
<i>Michigan Energy Update: Resources for Businesses</i>	
<b>Green Lecture Series</b>   Center for Science and Environmental Outreach	2014
<i>History of Michigan Energy Policy and Electric Rates</i>	
<b>Michigan Interfaith Power and Light</b>   Marquette, MI	2014
<i>Solar and Sustainability for Faith Based Community Stewardship</i>	
<b>Grow Solar Conference</b>   Traverse City, MI	2014
<i>PV Return on Investment in Michigan Markets</i>	

## **SELECT MEDIA**

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<b>Upper Michigan Source</b>   TV	2016
<i>"Senate Bill may change solar power credit rules"</i>	
<b>Keweenaw Now</b>   Online Media	2015
<i>"Local clean energy guru to work with Canadian cities"</i>	
<b>Canada Globe and Mail</b>   Print	2016
<i>"Letters to the Editor - Future studies of energy conservation programs."</i>	
<b>Daily Mining Gazette</b>   Print	2015
<i>"A most excellent season to be Abhi"</i>	
<b>Mining Journal</b>   Print	2015
<i>"Copper Country Electric"</i> - Geography and economics of municipal electric utilities	
<b>CleanTechnia</b>   Web Media	2014
<i>"Solar Calculator For Michigan And Comprehensive Solar Guidebook"</i>	
<b>Midwest Energy News</b>   Web Media	2014
<i>"Michigan Goes Head to Head with its Energy Future"</i> - Community energy planning	
<b>Michigan Land Use Institute</b>   Web Media	2014
<i>"Say Ya to Da Up Sunshine eh"</i> - Bottom-up approach to solar energy transition	
<b>Rocky Mountain Institute Blog</b>   Web Media	2014
<i>"The Opportunity to Transform the Energy System in Michigans Upper Peninsula"</i>	
<b>Midwest Energy News</b>   Web Media	2014
<i>"Biomass key to U.P. Future Renewable Portfolio"</i> - Phased deployment key to integrating renewables	
<b>Milwaukee Journal Sentinel</b>   Print	2014
<i>"In Michigan's Upper Peninsula, customers to pay more for power plant"</i>	
<b>Copper Country Report</b>   Radio	2014
<i>"Copper Country Report on Houghton Energy Efficiency Team"</i> - Community energy efficiency	

## **AWARDS AND HONORS**

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<b>SSHRC Storyteller Award</b>   Social Sciences and Humanities Research Council of Canada <i>“Award recognizing researchers that demonstrate public engagement and research communication skills”</i>	2017
<b>BGS Fellowship</b>   University of Guelph <i>“Awarded to graduate students that demonstrate research and academic excellence.”</i>	2017
<b>Teaching and Career Development Fellowship</b>   University of Guelph <i>“Award for doctoral students to teach a course focused on interdisciplinary and experiential learning”</i>	2017
<b>Kiyoko Miyanishi Graduate Scholarship</b>   University of Guelph <i>“Award for incoming graduate students made on the basis of high academic achievement”</i>	2016
<b>3MT Thesis Award</b>   Michigan Tech <i>Effectively explain research to a non-specialist audience in three minutes</i>	2015, 2016
<b>40 Under 40 Energy Leader</b>   Midwest Energy News <i>“Young leaders helping America transition into a clean energy economy”</i>	2015
<b>Hearts &amp; Hands Award</b>   Floyd Society <i>“Provide recognition to service of peace, justice, or the environment”</i>	2015
<b>Byron Fellowship</b>   Byron Educational Foundation <i>Academic, civic, and professional sustainability leadership</i>	2015
<b>University Innovation Fellowship Candidate</b>   Epicenter <i>“Campus champion for innovation and entrepreneurship”</i>	2015
<b>Exceptional Leader</b>   Michigan Tech <i>“Standard bearer of integrity”</i>	2015
<b>Exceptional Community Service</b>   Michigan Tech <i>“Enhanced the quality of life and made a significant improvement to the community”</i>	2014
<b>Finalist</b>   Michigan Clean Energy Venture Challenge <i>Clean-tech business innovation competition</i>	2013
<b>Elevator Pitch Award</b>   Bob Mark Competition <i>Succinct and persuasive communication of complex ventures in 90 seconds</i>	2012, 2013

## **REFERENCES**

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Available upon request.