

# TIA SCARPELLI

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Department of Earth & Planetary Sciences  
Harvard University  
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## EDUCATION

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- 2016 - 2021 **Harvard University, USA**  
PhD Earth & Planetary Sciences  
Thesis Advisor: Prof. Daniel J. Jacob
- 2015 - 2016 **Michigan Technological University, USA**  
MS Environmental Engineering  
Thesis: The role of amino acids in the nitrogen cycle of peatlands  
Thesis Advisor: Prof. Paul V. Doskey
- 2011 - 2015 **Michigan Technological University, USA**  
BS Environmental Engineering (*Summa Cum Laude*)

## RESEARCH INTERESTS

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Regional and local emissions of atmospheric pollutants  
Remote sensing, data science, and GIS tools for atmospheric science applications  
Public health and environmental justice  
National emissions and climate policy

## FELLOWSHIPS AND AWARDS

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- 2017 - 2021 National Defense Science and Engineering Graduate Fellowship  
2019 Harvard Bok Center *Certificate of Distinction in Teaching*  
2013 - 2014 EPA Graduate Research Opportunity Fellowship  
2014 Michigan Tech Nicole Bloom Award for Environmental Sustainability  
2014 Civil & Environmental Engineering Departmental Scholar Award  
2011 - 2014 Michigan Tech Leading Scholar

## PUBLICATIONS

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- 2020 **Scarpelli, T.R.**, D.J. Jacob, C.A. Octaviano Villasana, I.F. Ramirez Hernandez, P.R. Cardenas Moreno, E.A. Cortes Alfaro, M.A. Garcia Garcia, D. Zavala-Araiza, A gridded inventory of anthropogenic methane emissions from Mexico based on Mexico's national inventory of greenhouse gases and compounds, *Environ. Res. Lett.* 15, 105015, <https://doi.org/10.1088/1748-9326/abb42b> (highlighted on North American Carbon Program website, "What we are reading" October 2020)
- 2020 **Scarpelli, T.R.**, D.J. Jacob, J.D. Maasackers, M.P. Sulprizio, J.X. Sheng, K. Rose, L. Romeo, J.R. Worden, G. Janssens-Maenhout, A global gridded (0.1° x 0.1°) inventory of methane emissions from oil, gas, and coal exploitation based on national reports to the United Nations Framework Convention on Climate Change, *Earth Syst. Sci. Data*, 12, 563–575, <https://doi.org/10.5194/essd-12-563-2020>

## TIA SCARPELLI

- 2019 Varon, D.J., J. McKeever, D. Jervis, J.D. Maasakkers, S. Pandey, S. Houweling, I. Aben, **T.R. Scarpelli**, D.J. Jacob, Satellite discovery of anomalously large methane point sources from oil/gas production, *Geophys. Res. Lett.*, 46, <https://doi.org/10.1029/2019GL083798>
- 2019 Maasakkers, J.D., D.J. Jacob, M.P. Sulprizio, **T.R. Scarpelli**, H. Nesser, J. Sheng, Y. Zhang, M. Hersher, A.A. Bloom, K.W. Bowman, J.R. Worden, G. Janssens-Maenhout, R.J. Parker, Global distribution of methane emissions, emission trends, and OH concentrations and trends inferred from an inversion of GOSAT satellite data for 2010-2015, *Atmos. Chem. Phys.*, 19, 7859-7881, <https://doi.org/10.5194/acp-19-7859-2019>
- 2019 Zhang, Y., R. Gautam, D. Zavala-Araiza, D.J. Jacob, R. Zhang, L. Zhu, J. Sheng, **T.R. Scarpelli**, Satellite-observed changes in Mexico's offshore gas flaring activity linked to oil/gas regulations, *Geophys. Res. Lett.*, 46, 1879-1888, <https://doi.org/10.1029/2018GL081145>

## PRESENTATIONS

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- 2018 **Scarpelli, T.R.**, D.J. Jacob, J.D. Maasakkers, M.P. Sulprizio, J.X. Sheng, K. Rose, L. Romeo, J.R. Worden, G. Janssens-Maenhout, A Global Gridded Inventory of Methane Emissions from Fuel Exploitation including Oil, Gas, and Coal, American Geophysical Union Fall Meeting, Washington D.C.

## TEACHING

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- 2020 Undergraduate Student Advisor (Shayna Grossman '23)
- 2019, 2020 Teaching Fellow for GENED 1085 - Energy Resources and the Environment
- 2017 Teaching Fellow for EPS 133 - Atmospheric Chemistry

## PROFESSIONAL/FIELD EXPERIENCE

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- 2015 USDA Forest Service *PEATcosm* Lab Technician (e.g. methane flux, ion chromatography)
- 2014 EPA Region 8 Internship (oil/gas air pollutant emissions data collection and analysis)
- 2014 Michigan Tech water distribution network design project, Panama
- 2012-2014 Michigan Tech Undergraduate Research (lab analysis of agricultural soil samples)
- 2012 EPA ORISE Internship at National Vehicle Fuel Emissions Laboratory

## SERVICE

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- 2020 Diversity, Inclusion, and Belonging Graduate Student Recruitment Subgroup member
- 2020 Atmospheric & Environmental Chemistry and Society Seminar organizer
- 2020 Reviewer for Environmental Science & Technology
- 2019 - 2020 Earth and Planetary Sciences Graduate Student-Postdoc Seminar organizer
- 2019 - 2020 Atmospheric Chemistry and Modeling Group Climate Survey co-lead
- 2019 Graduate Student Field Trip Leader (8 day department trip to Pacific Northwest)
- 2018 Earth Stories at the Harvard Museum of Natural History
- 2016 Harvard *Sit'N Listen* podcast on Climate Change and Urban Planning