

# CURRICULUM VITAÉ: ARUSHI SAXENA

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EDUCATION	<b>Center for Earthquake Research and Information</b>	University of Memphis
	<i>PhD in Geophysics</i>	Aug. 2015 – May 2020
	<ul style="list-style-type: none"><li>• Advisor: Dr. Eunseo Choi</li><li>• Thesis Title: Intraplate seismicity in the Central and Eastern US: Linking observations and numerical models</li></ul>	
	<b>Indian Institute of Technology</b>	Roorkee, India
	<i>Integrated M.Tech in Geophysics</i>	Aug. 2009 – Aug. 2014
PROFESSIONAL POSITIONS	<ul style="list-style-type: none"><li>• Advisor: Dr. Rambhatla G. Sastry</li><li>• Thesis Title: Non invasive hydraulic conductivity estimation using microgravity survey</li></ul>	
	<b>Assistant Project Scientist</b>	Aug, 2024 – Present
	<i>Computational Infrastructure for Geodynamics, UC Davis</i>	
	<b>Research Mentor</b>	Jun, 2024 – Aug, 2024
	<i>SETI Institute</i>	
	<b>Post-doctoral Fellow</b>	Jul, 2023 – Jun, 2024
	<i>Math and Statistical Sciences, Clemson University</i>	
PUBLICATIONS	<b>Post-doctoral Fellow</b>	June, 2020 – Jun, 2023
	<i>Geological Sciences, University of Florida</i>	
	<b>Geophysicist</b>	July, 2014 – July, 2015
	<i>Sterling Oil and Gas, Nigeria</i>	
1. Fraters, M.R., Billen, M.I., Gassmöller, R., <b>Saxena, A.</b> , Heister, T., Li, H., Douglas, D., Dannberg, J., Bangerth, W. & Wang, Y. (2024). The Geodynamic World Builder: A planetary structure creator for the geosciences. <i>J. of Open Source Software</i> , 9(101), p.6671.		
	2. <b>Saxena, A.</b> , Dannberg J., Gassmöller, R., Fraters, M., Heister, T., & Styron, R. (2023). High-resolution mantle flow models reveal importance of plate boundary geometry and slab pull forces on generating tectonic plate motions. <i>J. of Geophys. Res.: Solid Earth</i> , 128(8)	
	3. Lee, S., <b>Saxena, A.</b> , Song, J. H., Rhie, J., & Choi, E. (2022). Contributions from lithospheric and upper-mantle heterogeneities to upper crustal seismicity in the Korean Peninsula. <i>Geophys. J. Int.</i> , 229(2)	
	4. Chatterjee, A., <b>Saxena, A.</b> , Aslam, K., van Alstine, A., & Zeb, M. S. (2022). The variation of b-Value of earthquakes during COVID-19 lockdown: Case studies from the Cascadia Subduction Zone and New Zealand. <i>J. of Info. Manag.</i>	
	5. <b>Saxena, A.</b> , & Langston, C. A. (2021). Detecting lithospheric discontinuities beneath the Mississippi Embayment using S-wave receiver functions. <i>Geophys. J. Int.</i> , 228(2)	
	6. <b>Saxena, A.</b> , Choi, E., Powell, C. A., & Aslam, K. S. (2021). Seismicity in the central and southeastern United States due to upper mantle heterogeneities. <i>Geophys. J. Int.</i> , 225(3)	

PUBLICATIONS 7. Geng, Y., Powell, C. A., & **Saxena, A. (2020)**. Joint local and teleseismic tomography in the central United States: exploring the mantle below the upper Mississippi Embayment and the Illinois Basin. *J. of Geophys. Res.: Solid Earth*, 125(10)

OTHER PUBLICATIONS

- **Saxena, A.. (2024)**. <https://geodynamics.org/highlight-november2024> Examining plate-mantle coupling using global mantle flow models in ASPECT *Computational Infrastructure for Geodynamics Research Highlight*
- **Saxena, A., Heister, T. (2023)**. Mantle flow model *Interactive visualization of our global mantle flow models*
- **Saxena, A., Fraters, M. (2021)**. Earthquakes within plates *blog of the Geodynamics Division of the European Geosciences Union*
- **Saxena, A., Heister, T. (2021)**. Starting Earth Models *blog on Integrated Geodynamic Earth Models*,
- **Saxena, A., Fraters, M. (2020)**. Across Borders and Sectors *blog on Geodynamics Division of the European Geosciences Union*

ONGOING PROJECTS

- **Saxena, A., Dannberg J., Gassmöller, R., Fraters, M., & Heister, T.,** From data to dynamics: Integration of geophysical constraints in global mantle circulation models
- **Saxena, A., Hwang, L., Naliboff, J. & Heister, T.,** Geodynamic modules for education and training across the geoscientific community
- Dannberg, J., Fraters, M., Gassmöller, R., Li., R. & **Saxena, A. ,** Continental collapse due to plunge in grain size

INVITED TALKS

- University of California Davis, *Linking Mantle Dynamics with Surface Tectonics at Regional and Global Scales*, **Fall 2024**
- Frontera User Meeting, *Integration of Geophysical Constraints in Global Mantle Flow Models for Insights Into Plate Tectonics*, **Summer 2024**
- Seismological Society of America Annual Meeting, *Integration of Geophysical Constraints in Global Mantle Flow Models*, **Spring 2024**
- ASPECT User Meeting, *From Data to Dynamics: Integration of Geophysical Constraints in Global Mantle Circulation Models*, **Spring 2024**
- ASPECT User Meeting, *High-resolution mantle flow models reveal importance of plate boundary geometry and slab pull forces on plate motions* , **Spring 2023**
- Pennsylvania State University, *Developing Geodynamic Models to Investigate Intraplate Tectonics and Global Plate-driving Forces*, **Spring 2023**
- Center for Earthquake Research and Information, University of Memphis, *Developing Geodynamic Models to Investigate Intraplate Tectonics and Global Plate-driving Forces*, **Fall 2022**
- Indian Institute of Science Education and Research, *Developing Geodynamic Models to Investigate Intraplate Tectonics and Global Plate-driving Forces*, **Spring 2022**

## INVITED TALKS

- University of Florida, *Investigating intraplate seismicity in the Central and Eastern US using seismology and numerical models*, **Fall 2021**
- GFZ Postdam, Germany. **Spring 2021**

## FELLOWSHIPS & AWARDS

<b>Research Fellowship</b>	<b>\$20000</b>
<i>Frontier Development Lab, SETI Institute</i>	2024
<b>Travel grant</b>	<b>\$500</b>
<i>Eastern Section of Seismological Society of America</i>	2019
<b>Travel grant</b>	<b>\$500</b>
<i>American Geophysical Union</i>	2017
<b>Graduate Research Scholarship</b>	<b>INR 12,000</b>
<i>Graduate Aptitude Test in Engineering</i>	2013–2014
<b>Summer Research Fellowship</b>	<b>INR 6,000</b>
<i>Indian Academy of Sciences</i>	2011

## GRANTS

<b>Co-PI</b> “CIG Science Gateway and Community Codes for the Geodynamics Community”	<b>\$45,509.40</b>
<i>NSF—ACCESS Allocation Review Committee</i>	Oct 2024–Sep 2025
<b>Co-PI</b> “Computational Infrastructure for Geodynamics - Community Code Scaling”	<b>\$72,504</b>
<i>Texas Advanced Computing Center</i>	Aug 2023–Aug 2024
<b>Co-PI</b> “Computational Infrastructure for Geodynamics - Community Code Scaling”	<b>\$67,813.2</b>
<i>Texas Advanced Computing Center</i>	Aug 2022–Aug 2023
<b>Co-PI</b> “Computational Infrastructure for Geodynamics - Community Code Scaling”	<b>\$63,173.70</b>
<i>Texas Advanced Computing Center</i>	Jun 2021–Aug 2022
<b>Collaborator</b> “CIG Science Gateway and Community Codes for the Geodynamics Community”	<b>\$38,261.40</b>
<i>NSF—ACCESS Allocation Review Committee</i>	Aug 2022–Aug 2024
<b>Collaborator</b> “Improving and Bringing the Geodynamic World Builder into the CIG community”	<b>\$49,768.67</b>
<i>Computational Infrastructure for Geodynamics</i>	Jan 2022–July 2022

## ACADEMIC SERVICE

**Panelist:** NSF-Geophysics Spring Proposal Panel

**Reviewer for:** Geochemistry, Geophysics, Geosystems (2),  
NSF-Geophysics Proposals (4),  
Geophysical Journal International (2)

**Volunteer Judge:** Outstanding Student Presentation Award, AGU Fall Meeting (2020–2024)

**Session convener:** Exploring Multiscale Solid-Earth Dynamics Using Computational Methods and High-Performance Computing, AGU Fall Meeting (2021)

**Blog Editor:** European Geophysical Union: Geodynamics (2020–2022)

TEACHING	<b>Course Instructor</b> <i>GLY 4450, GLY 5455: Introduction to Geophysics</i>	Spring 2022 University of Florida
MENTORING	Kate Schert <i>Undergraduate student</i> Sungho Lee <i>Graduate student</i>	2020–2021 University of Florida Summer 2021 University of Memphis
SOFTWARE DEVELOPMENT	Contributor of <b>ASPECT</b> <i>Community geodynamic modeling software which has been used in over 200 publications</i>  Contributor of <b>GeodynamicWorldBuilder</b> <i>Software used for describing complex initial conditions in geodynamic models</i>	2017–Present  2020–Present
FIELD EXPERIENCE	Nodal Seismometers in Iris Community Wavefields Experiment, Oklahoma, US Gravimeter at Indian Institute of Technology, Roorkee, India GPR, Institut national de la recherche scientifique, Quebec, Canada	Summer 2016  2013–2014 Summer 2013
OUTREACH	<b>Guest Speaker</b> <i>Scientist in Every Florida School</i> <b>Volunteer</b> <i>Can you Dig it? : A partner event with University of Florida to showcase Earth Science to general public</i>	2020–2022 Middle Schools in Florida 2022–2023 Florida Museum