EUNSEO CHOI

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Center for Earthquake Research and Information ◇ University of Memphis
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EDUCATION

Ph.D. in Geophysics
California Institute of Technology, Pasadena, CA, 2008.
Advisor: Michael Gurnis
Thesis title: *Computational approaches to localized deformation within the lithosphere and for crust-mantle interactions*
http://resolver.caltech.edu/CaltechETD:etd-09212008-122525

B.Sc. in Geology
Seoul National University, South Korea, 1999.
Advisor: Moonsup Cho
Thesis title: *Petrogenesis of Amphibolite in Yeon-cheon and Cheon-gok Area (South Korea).*

POSITIONS HELD

Professor

- September 2024 - Present. Center for Earthquake Research and Information, the University of Memphis,

Associate Professor

- September 2018 - August 2024. Center for Earthquake Research and Information, the University of Memphis,

Assistant Professor

- January 2013 - August 2018. Center for Earthquake Research and Information, the University of Memphis,

Postdoctoral Research Scientist

- Institute for Geophysics, University of Texas, Austin, 2012.2 to 2012.12. Advisor: Luc Lavier
- Lamont-Doherty Earth Observatory of Columbia University, 2008.10 to 2012.1. Advisor: W. Roger Buck

RESEARCH INTERESTS

Overview of public projects on Open Science Framework

- https://osf.io/wd6jz/

On-going and recent research topics

- Faults formation and evolution associated with plate boundary processes
- 3D structures at mid-ocean ridges including oceanic core complexes
- Seismo-tectonics of intra-plate seismic zones

- Postseismic deformation in the Korean Peninsula using geodetic data and numerical modeling
- Fully coupled thermo-mechanics and effects of thermal stresses on the deformation of cooling oceanic lithosphere.
- Applying advances in computational techniques (e.g., high-order finite element, adaptive mesh refinement, acceleration using co-processors): GeoFlac, a GitHub organization; DynEarthSol3D (Dynamic Earth Solver in 3D); and LAGHOST (LAGrangian High-Order Solver for Tectonics)
- Coupling tectonic models to surface processes: DES3D-CHILD coupling

PUBLICATIONS

Journal articles

- Choi, E., & Tominaga, M. (2023). A Thin Elastic Plate Model for Thermally Contracting Young Oceanic Lithosphere: Insights From Comparison With Modern Seafloor Observations. Geophysical Research Letters, 50(15), e2023GL103511. doi:10.1029/2023GL103511
- Lee, S., Choi, E., & Scholz, C. H. (2023). Do Subducted Seamounts Act as Weak Asperities? Journal of Geophysical Research: Solid Earth, 128(11), e2023JB027551. doi:10.1029/2023JB027551
- Yang, D.-Y., Han, M., Yoon, H. H., Kim, J. C., Choi, E., Shin, W.-J., et al. (2023). Holocene relative sea-level changes on the southern east coast of the Yellow Sea. Palaeogeography, Palaeoclimatology, Palaeoecology, 629, 111779. doi:10.1016/j.palaeo.2023.111779
- Lee, S., Song, J.-H., Heo, D., Rhie, J., Kang, T.-S., Choi, E., et al. (2023). Crustal and uppermost mantle structures imaged by teleseismic P -wave traveltime tomography beneath the Southeastern Korean Peninsula: implications for a hydrothermal system controlled by the thermally modified lithosphere. Geophysical Journal International, 235(2), 1639–1657. doi: 10.1093/gji/ggad319
- Choi, E., & Tominaga, M. (2023). A Thin Elastic Plate Model for Thermally Contracting Young Oceanic Lithosphere: Insights From Comparison With Modern Seafloor Observations. *Geophysical Research Letters*, 50(15), e2023GL103511. doi:10.1029/2023GL103511
- Yang, D.-Y., Han, M., Yoon, H. H., Cho, A., Kim, J. C., Choi, E., & Kashima, K. (2022). Early Holocene relative sea-level changes on the central east coast of the Yellow Sea. *Palaeogeography, Palaeoclimatology, Palaeoecology*, 603, 111185, doi:10.1016/j.palaeo.2022.111185
- Abbey, A. L., Choi, E., Neumann, F., Ortiz-Guerrero, C., & Tondi, R. (2022). Tectonophysics Perspectives on Integrated, Coordinated, Open, Networked (ICON) Science. *Earth and Space Science*, doi: 10.1029/2021EA002144
- Scholz, C.H., Choi, E. (2022). What comes first: The fault or the ductile shear zone? *Earth Planet. Sci. Lett.*, 577, 117273, doi:10.1016/j.epsl.2021.117273
- Lee, S., Saxena, A., Song, J.-H., Rhie, J., Choi, E. (2021). Contributions from lithospheric and upper-mantle heterogeneities to upper crustal seismicity in the Korean Peninsula. *Geophys. J. Int.*, doi:10.1093/gji/ggab527
- Saxena, A., Choi, E., Powell, C. A., and Aslam, K. S. (2021). Seismicity in the central and southeastern United States due to upper mantle heterogeneities. *Geophys. J. Int.*, 225(3), 1624–1636. doi:10.1093/gji/ggab051.
- Fadugba, O. I., E. Choi, and C. A. Powell (2019), Effects of Preexisting Structures on the Seismicity of the Charlevoix Seismic Zone, *J. Geophys. Res. Solid Earth*, 124(7), 2019JB017831, doi:10.1029/2019JB017831.

- Perrin, C., F. Waldhauser, E. Choi, and C. H. Scholz (2019), Persistent fine-scale fault structure and rupture development: A new twist in the Parkfield, California, story, *Earth Planet. Sci. Lett.*, 521, 128–138, doi:10.1016/j.epsl.2019.06.010.
- Tian, X., and E. Choi (2017), Effects of axially variable diking rates on faulting at slow spreading mid-ocean ridges, *Earth Planet. Sci. Lett.*, 458, 14-21, doi:10.1016/j.epsl.2016.10.033.
- Logan, L. C., L. L. Lavier, E. Choi, E. Tan, and G. A. Catania (2016), Semi-brittle rheology and ice dynamics in DynEarthSol3D, *The Cryosphere*, 11, 117-132, doi:10.5194/tc-11-117-2017.
- Hong, T.-K., E. Choi, S. Park, and J. S. Shin (2016), Prediction of ground motion and dynamic stress change in Baekdusan (Changbaishan) volcano caused by a North Korean nuclear explosion, *Sci. Rep.*, 6, 21477, doi:10.1038/srep21477.
- Choi, E., and K. D. Petersen (2015). Making Coulomb angle-oriented shear bands in numerical tectonic models. *Tectonophysics*, 657, 94–101. doi:10.1016/j.tecto.2015.06.026
- Wu, G., L. Lavier and E. Choi (2015). Modes of continental extension in a crustal wedge, *Earth Planet. Sci. Lett.*, 421, 89-97, doi:10.1016/j.epsl.2015.04.005.
- Ta, T., K. Choo, E. Tan, B. Jang and E. Choi (2015). Accelerating DynEarthSol3D on Tightly Coupled CPU-GPU Heterogeneous Processors, *Comp. & Geosci.*, 79, 27-37, doi:10.1016/j.cageo.2015.03.003.
- Feng, L., M. J. Bartholomew, E. Choi (2015). Spatial arrangement of décollements as a control on development of thrust fault systems,*J. Struct. Geol*, 75, 49-59, doi:10.1016/j.jsg.2015.03.002.
- Choi, E., W. R. Buck, L. L. Lavier, and K. D. Petersen (2013), Using core complex geometry to constrain fault strength, *Geophys. Res. Lett.*, 40, doi:10.1002/grl.50732.
- Logan, L., Catania, G., Lavier, L., and Choi, E. (2013). A novel method for predicting fracture in floating ice. Journal of Glaciology, 59(216), 750–758, doi:10.3189/2013JoG12J210.
- Choi, E., Tan, E., Lavier, L. L., and Calo, V. M. (2013). DynEarthSol2D: An efficient unstructured finite element method to study long-term tectonic deformation. Journal of Geophysical Research: Solid Earth, 1–16, doi:10.1002/jgrb.50148.
- Choi, E. and W. R. Buck (2012). Constraints on the Strength of Faults from the Geometry of Rider Blocks in Continental and Oceanic Core Complexes, *J. Geophys. Res.*, 117, B04410, doi:10.1029/2011JB008741.
- Choi, E., L. Seeber, M. S. Steckler, and R. Buck (2011). One-sided transform basins and "inverted curtains": Implications for releasing bends along strike-slip faults, *Tectonics*, 30, TC6006, doi:10.1029/2011TC002943.
- Choi, E. and W. R. Buck (2010). Constraints on shallow mantle viscosity from morphology and deformation of fast-spreading ridges, *Geophys. Res. Lett.*, 37, L16302, doi:10.1029/2010GL043681.
- Choi, E. and M. Gurnis (2008). Thermally-induced brittle deformation in mid-ocean ridge systems, *Earth Planet. Sci. Lett.*, 269 (1-2), 259-270, doi:10.1016/j.epsl.2008.02.025.
- Choi, E., L. Lavier, and M. Gurnis (2008). Thermomechanics of the mid-ocean ridge segmentation, *Phys. Earth Planet. Int.*, 171, 374-386, doi:10.1016/j.pepi.2008.08.010.
- E. Tan, E. Choi, and others (2006). GeoFramework: Coupling multiple models of mantle convection within a computational framework, *Geochem. Geophys. Geosyst.*, 7, Q06001, doi:10.1029/2005GC001155.
- Choi, E. and M. Gurnis (2003). Deformation in transcurrent and extensional environments with widely spaced weak zones, *Geophys. Res. Lett.*, 30(2), 1076, doi:10.1029/2002GL016129.

Non-peer reviewed publications

- Barnhart, K., Becker, T. W., Behn, M. D., Brown, J., Choi, E., Cooper, C., et al. (2018). Whitepaper Reporting Outcomes from NSF-Sponsored Workshop: CTSP: Coupling of Tectonic and Surface Processes, April 25–27, 2018; Boulder CO (p. 41).

TEACHING EXPERIENCE

- *Global Geophysics*: Undergraduate/graduate level course taught annually at U. of Memphis.
- *Computational Methods for Geodynamics*: Graduate level course taught biennially at U. of Memphis.
- *Geodynamics*: Graduate level course taught biennially at U. of Memphis.
- *Seminar in Earth Science: Machine Learning with Python*: Graduate level seminar course co-taught with Thomas Göebel at U. of Memphis, Fall 2021.
- *Honors Forum: How the Earth Works through Hands-on Experiments*: A course for freshman honors student. To be taught in Fall 2017.

ADVISING AND MENTORING

Post-Doctoral Researcher Mentoring

- Dr. Sungho Lee. CERI. 2022.09 - 2024.06. Now a senior researcher at KIGAM, South Korea.
- Jae-Yoon Keum. CERI. 2024.1 - 2025.01. Now a postdoctoral fellow at Gyeongsang National University, South Korea.

Chair of Graduate Student Committee

- Md. Sabber Ahamed, Ph.D., 2013-2017
- Hee Choi, M.Sc., 2018-2019
- Arushi Saxena, Ph.D., 2016-2020
- Kuruvitage Chameera Chathuranga Silva, Ph.D., 2021-present
- Ensie Teymouri, Ph.D., 2023-present
- Xiaochuan Tian, M.Sc., 2014-2015

External Committee Member for Graduate Students

- Carlos D. Gomez, Ph.D., Southern Illinois University. 2021 - present
- Sungho Lee, Ph.D., Seoul National University, South Korea. 2019.08 - 2022.07
- Xinyue Dennis Tong, Ph.D., U. Texas Austin, 2014 - 2019

Graduate Student Mentoring

- Sangjin Park, Ph.D., Kangwon National University, South Korea. 2022.04 - 2023.07

Undergraduate Mentoring

- Hokyum Kim, Seoul National University, South Korea. 2014.01-2015.01
- Julia Schwartz, The University of Memphis. 2019.05 - 2019.12
- Erika Storvick, William Jewell College. GLADE REU program, 2017.07-2017.08

Highschool Student Mentoring

- Justin Pyun, Hunter College High School, New York City, NY. 2022.06.29-2022.07.20, 2023.07.19-2023.07.28

RESEARCH GRANTS

- Korea Institute for Geoscience and Mineral Resources *Viscoelastic numerical modeling of crustal deformaton in the Korean Peninsula after the 2011 Tohoku earthquake*, 03/01/2021 - 12/31/2024.
- NSF CSSI *Elements: Developing an integrated modeling platform for tectonics, earthquake cycles and surface processes*, 05/01/2021-04/30/2025.
- NSF EarthCube *Workshop proposal: Analog Modeling of Tectonic Processes 2020*, March 22-24, 2020.
- SCEC Award 18095 *The influence of rheology on post-seismic and interseismic deformation on rough faults* (PI: Eric Daub), 2018-2019.
- FedEx Institute of Technology Corps of Research Scientists grant *Development of Online Course for High Performance Computing Best Practices* (PI: Nathan de Yonker), 2018-2020
- NSF MGG *Fully three-dimensional numerical models for along-axis variations in magmatic and tectonic processes at slow-spreading mid-ocean ridges* (PI: Choi), 3/15/17-3/14/19.
- NSF Earth Cube Building Blocks:*Collaborative Proposal: GeoTrust: Improving Sharing and Reproducibility of Geoscience Applications* (PI: Malik), 10/01/16-9/30/18.
- NSF Earth Cube *Earth System Bridge: Spanning Scientific Communities with Interoperable Modeling Frameworks* (PI: Pecham), 9/17/13-9/16/16.
- NSF EAR 12-27083 *Landslide dynamics from seismic wave inversion, satellite remote sensing, and numerical modeling* (PI: Ekstrom, G.; CO-PI: Choi, E. and Stark, C.), 9/1/12-8/31/15.
- NSF EAR 09-11565 *3D Models of Faulting during Oblique Continental Extension* (PI: Buck, W. R.; CO-PI: Choi, E.), 7/1/09-6/30/12.

Computing Resource Allocations

- XSEDE Preliminary 3D Models for the Formation of Oceanic Core Complexes. TG-EAR150025 10/01/2017-09/30/2018.
- XSEDE Fully three-dimensional numerical models for along-axis variations in magmatic and tectonic processes at slow-spreading mid-ocean ridges. TG-OCE170013 02/01/2016-01/31/2017.
- TeraGrid (now XSEDE) Research Allocation, 1.7 million cpu-hours, 6/30/10-12/31/11.

Outreach

- Selected for UofM STEM Pipeline Partners Program, 2023-present.
- Earth Day 2023: Celebrate the Earth Day and provide hands-on learning experiences for 92 local middle school students.
- Earth Day 2022: Celebrate the Earth Day and engage with 70 local middle school students. Supported by the University of Memphis Campus Community Fund Award, December 13, 2021.

CONFERENCE PRESENTATIONS AND INVITED TALKS

(: invited)*

Talks

- *Do subducted seamounts act as weak asperities? The University of Memphis EERI Student Chapter Seminrar Series, October 25, 2024.
- What comes first: The Fault or the Ductile Shear Zone? Eunseo Choi and Christopher Scholz, Abstract S43B-05 presented at 2021 AGU Fall Meeting, 13-17 Dec, 2021. (virtual)
- Deformation rates in the Korean Peninsula after the 2011 Tohoku Earthquake. KIGAM Annual Funded Project Meeting, November 1, 2021 (virtual)
- *Software Clinic: DynEarthSol3D, Yang Yang and Eunseo Choi. CSDMS Annual Meeting, May 21-23, 2019, Boulder, CO
- *2019 CIG Webinar series https://geodynamics.org/cig/events/webinars/, https://youtu.be/qRPV17Xx2aQ
- *Improving Reproducibility of Numerical Tectonic Models. Workshop on Analog Modeling of Tectonic Processes, Austin TX, May 17-19, 2017.
- *3D numerical models for variable modes of faulting along slow spreading mid-ocean ridges. Dept. of Earth Sciences, Texas A&M, Feb. 3, 2017.
- *Quantity make Quality: Advances enabled by HPC in Geodynamics. Dept. of Earth Sciences, Undergraduate and Graduate class, Texas A&M, Feb. 2, 2017.
- Effects of axially variable diking rates on faulting at slow spreading mid-ocean ridges. E. Choi and X. Tian. AGU Fall Meeting T32A-07, Dec. 12-16, 2016, San Francisco, CA.
- Coupled Flow and Geomechanical Study of Intraplate Seismicity in the New Madrid Seismic Zone. R. Asaithambi, B. Jha and E. Choi. AGU Fall Meeting T54B-07, Dec. 12-16, 2016, San Francisco, CA.
- *3D numerical models for variable modes of faulting along slow spreading mid-ocean ridges. Dept. Geology, Southern Illinois University, Nov. 3, 2016.
- *3D numerical models for variable modes of faulting along slow spreading mid-ocean ridges. Wednesday Luncheon Seminar, School of Earth and Environmental Sciences, Seoul National University, South Korea. June 8, 2016.
- *Along-axis variations in diking rates and faulting styles at slow-spreading mid-ocean ridges. Seminar series in the Department of Geological and Environmental Sciences, Chonnam National University, South Korea. June 1, 2016.
- **Strong ground motions and dynamic stress changes around Baekdu (Changbai) volcano induced by nuclear explosions*. Department of Earth Sciences Colloquium, the University of Memphis, February 8, 2016.
- *Strong ground motions and dynamic stress changes around Baekdu (Changbai) volcano induced by nuclear explosions* by Choi et al., ES-SSA meeting September 6-7, 2015 in Memphis, TN.
- *Magma explains low estimates of lithospheric strength based on flexure of ocean island loads* by W. Roger Buck et al., EGU Annual Meeting 2015.
- *Making SNAC, StGermain and Pyre interoperable through BMI* at EarthCube workshop: Numerical Model Metadata for Solid Earth Sciences, April 30 - May 2, 2015. Portland State University, Portland, OR.
- **Quantity makes quality: Advances in geodynamics enabled by large-scale parallel computing*. Guest lecture in an undergrad earth science class for the civil engineering department at Michigan State University. April 14, 2015.

- *A new set of focal mechanisms and a geodynamic model for the Eastern Tennessee Seismic Zone* by M. Cooley et al., GSA Southeastern Section - 64th Annual Meeting (19–20 March 2015) Paper No. 6-10, Chattanooga, TN.
- **Development of Core Complex Domes Due to Along-Axis Variation in Diking* Buck, W. R., E. Choi and X. Tian. Abstract T53D-05 presented at 2014, Fall Meeting, AGU, San Francisco, CA, 15-19 December.
- *Linking Tectonics and Surface Processes through SNAC-CHILD Coupling*. CERI Colloquium, 2014.08.29.
- **DynEarthSol3D: An Unstructured-Mesh Finite Element Solver for Long-Term Tectonic Deformations Involving Strain Localization*. 2014 CIG Crustal Deformation Modeling Workshop, Li Ka Shing Conference Center, Stanford University, June 23-27, 2014.
- **SNAC Clinic*.
  CSDMS Annual Meeting 2014, Boulder, Colorado. May 20-22, 2014.
- **Fault strength and the formation of rider blocks and domes in continental and oceanic core complexes* by W. Roger Buck and Eunseo Choi. Geophysical Research Abstracts, Vol. 16, EGU2014-13046, EGU General Assembly 2014, Vienna, Austria, April 27 – May 02, 2014.
- **Constraining Normal Fault Strength Using Rider Blocks*
  Dept. Earth and Env. Sci., Tulane Univ. Jan. 25, 2013.
- *Bridging Surface and Tectonic Processes with SNAC and CHILD*
  Frontiers in Computational Physics: Modeling the Earth System, Boulder, Colorado, 2012.12.20.
- *Finite Element Analysis of Lithospheric Deformation: Introduction to DynEarthSol2D*
  Frontiers in Computational Physics: Modeling the Earth System, Boulder, Colorado, 2012.12.19.
- **Constraining Normal Fault Strength with the Geometry of Rider Blocks*
  CIG Workshop on Mantle and Lithospheric Dynamics, Davis, California, USA, 2012.07.30-08.01.
- **Bridging surface dynamics and tectonic modeling with SNAC*
  CSDMS 2011 Annual Meeting: Impact of time and process scales, Boulder, Colorado, USA, 2011.10.28.
- *Diking as an integral part of rifting process*
  2011 SIAM Conference on Mathematical & Computational Issues in the Geosciences, Long Beah, CA, 2011.3.24.
- *Axial morphology and shallow mantle viscosity at fast-spreading ridges. 2. "Inverted Curtains": Why some continental transform basins are asymmetric?*
  Geochemistry and Geodynamics Friday Seminar, Woods Hole Oceanographic Institute, 2010.10.8.
- **SNAC Tutorial*.
  GLADE 2010: From grains to global tectonics, Scripps Institution of Oceanography, La Jolla, CA, 2010.07.29.
- *A numerical approach to localized deformations in oceanic lithosphere*.
  Joint MG&G and SG&T Seminar, Lamont-Doherty Earth Observatory, 2009.1.09.

Posters

- *Linear viscoelastic modeling of true postseismic deformations in the southern Korean peninsula following the 2011 Tohoku-Oki earthquake*, Choi, E., Lee, S., Song, S. G., Son, M. and Gómez, D. (2024). Abstract T43A-3296, presented at AGU24, 9-13 Dec.

- *Three-dimensional numerical models for metamorphic core complexes coupled with surface processes*, Keum, J., Kim, H.-I., Choi, E. and So, B.-D. (2024). Abstract T31E-3181, presented at AGU24, 9-13 Dec.
- *Exploring the Relationship between Time-Dependent Driving Forces and the Fate of Continental Rifts*, Silva, K. C. C. and Choi, E. (2024). 2024 Ada Lovelace Workshop on Modelling Mantle and Lithosphere Dynamics, Domaine du Lazaret, Sète, France, 1-6 September.
- *A new high-order finite element solver for Lagrangian thermomechanical simulations of long-term tectonic processes*, Lee, S. and Choi, E. (2023). Abstract T11B-0167, presented at AGU23, 11-15 Dec.
- *Do Subducted Seamounts Act as Weak Asperities?* Lee, S., Choi, E. and Scholz, C. H. (2023). Abstract T41D-0268, presented at AGU23, 11-15 Dec.
- *Modeling Multiphase Rifting as an Evolving Balance between Internal structure of Lithosphere and Driving Forces*, Silva, K. C. C. and Choi. E. (2023). Abstract T11B-0172, presented at AGU23, 11-15 Dec.
- *Introducing effective medium theory to tectonic modeling: the role of pre-existing cracks in normal fault formation*, Lam, R. C. and Choi, E. (2023). Abstract T11B-0171, presented at AGU23, 11-15 Dec.
- *Developing an integrated modeling platform for tectonics, earthquake cycles and surface processes*, Choi, E. and Pyun, J. (2022). Abstract EP25D-1427 presented at 2022 AGU Fall Meeting, 12-16 Dec.
- *Numerical Modeling of Transient Crustal Deformation in the Korean Peninsula after the 2011 Tohoku Earthquake*, Choi, E., Lam, R., Nadimi, K., and Song, S. G. (2022). Abstract T42C-0139 presented at 2022 AGU Fall Meeting, 12-16 Dec.
- *Assessing the role of effective medium theory in the formation of primary low-angle normal faults*, Lam, R., and Choi, E. (2022). Abstract T55C-0070 presented at 2022 AGU Fall Meeting, 12-16 Dec.
- *Unusual high-heat flux on the surface in the southeastern Korean Peninsula and inferring its origin from P-wave travel-time tomography and a tectonic process associated with the back-arc opening of the East Sea (Sea of Japan) in the Cenozoic era*, Lee, S., Heo, D., Song, J.-H., Rhie, J., Kang, T.-S., Choi, E., et al. (2022). Abstract T42C-0141 presented at 2022 AGU Fall Meeting, 12-16 Dec.
- *Elements: Developing an integrated modeling platform for tectonics, earthquake cycles and surface processes* Choi, E. 2022 NSF CSSI PI Meeting, Alexandria, VA, 25-26 July, 2022.
- *Tectonic Modeling Code as Community Service: Is DES3D a Candidate?* Choi, Eunseo, Tan, Eh, Lavier, Luc, 2020, AMTP2020 Workshop. https://doi.org/10.6084/m9.figshare.12939869.v1
- *A numerical modeling study on origin of a circular Pn anisotropy in the Mississippi Embayment* Saxena, A, E. Choi, C. Powell, 2020, AMTP2020 Workshop. https://doi.org/10.6084/m9.figshare.12962018.v2
- *How corrugated surfaces form at ultraslow spreading ridges*, Lu, H., E. Choi, T026-0019 presented at 2020 Fall Meeting, AGU, 1-17 Dec, 2020.
- *Geodynamic modeling for stress in the southern Korean Peninsula driven by lateral variation of lithospheric thickness and plate kinematics and its implication for seismicity*, Lee, S., A. Saxena, J.-H. Song, J. Rhie and E. Choi, the 75th Annual Meeting of the Geological Society of Korea and 2020 Fall Joint Conference of the Geological Sciences, 27-29 Oct., 2020.
- *Geodynamic modeling for stress and seismicity in the southern Korean Peninsula driven by lateral variations of lithospheric thickness and plate kinematics*, Lee, S, A. Saxena, J.-H. Song, J. Rhie and E. Choi, T034-0019 presented at 2020 Fall Meeting, AGU, 1-17 Dec, 2020.

- *Origin of Circular Pn Anisotropy in the Mississippi Embayment*, Arushi Saxena, Christine Ann Powell, Eunseo Choi. AGU Fall Meeting Abstract DI21B-0019, December 9-13, 2019, San Francisco, CA.
- *New numerical mid-ocean ridge models for interactions between plate-driving and resistant forces*, Hee Choi and Eunseo Choi. AGU Fall Meeting Abstract T13I-0281, December 9-13, 2019, San Francisco, CA.
- *Evolution of lithospheric drip and its impact on the seismicity in the Central and Southeastern US*, Arushi Saxena et al., Abstract T33C-0417 presented at 2018 AGU Fall Meeting, Washington D.C., 10-14 Dec 2018.
- *Sciunits: Reusable Research Objects*, Tanu Malik et al., Abstract N34B-10 presented at 2018 AGU Fall Meeting, Washington D.C., 10-14 Dec, 2018.
- *Time-variable strength of axial lithosphere at slow-spreading ridges and the lifespan of oceanic core complexes*, Hao Lu and Eunseo Choi, Abstract T33G-0498 presented at 2018 AGU Fall Meeting, Washington D.C., 10-14 Dec, 2018.
- *Modeling interactions between plate-boundary forces and evolving resistance at mid-ocean ridges as the origin of non-uniform seafloor growth*, Hee Choi et al., Abstract T33G-0495 presented at 2018 AGU Fall Meeting, Washington D.C., 10-14 Dec, 2018.
- *Coupling long-term and short-term physics of an earthquake on complex fault*, Khurram Aslam et al., Abstract T11F-0218 presented at 2018 AGU Fall Meeting, Washington D.C., 10-14 Dec, 2018.
- *Modeling damage evolution of the near-fault region as a result of rupture on a geometrically complex fault*. Khurram S. Aslam et al., Poster presented at Workshop on Modeling Earthquake Source Processes, October 8-10, 2018, Pasadena, CA.
- *GeoTrust: A Integrated Workbench for Publishing, Sharing, and Reproducing Geoscience Applications*. Tanu Malik et al., 2018 EarthCube All Hands Meeting, 6-8 June, 2018, Washington D.C.
- *GeoTrust: Improving Sharing and Reproducibility of Geoscience Applications (geotrusthub.org)*. Tanu Malik et al., Poster presentation at Workshop on Coupling of Tectonic and Surface Processes. April 25-27, 2018, Boulder, CO. AGU
- *DI43A-0335 Modeling Submarine Lava Flow with ASPECT*. Erika Regan Storvick et al., presented at 2017 Fall Meeting, AGU, New Orleans, LA, 11-15 Dec.
- *T33D-0749 Combined effects of along-axis and temporal variations in diking rates on faulting styles at slow spreading ridges*. Hao Lu et al., presented at 2017 Fall Meeting, AGU, New Orleans, LA, 11-15 Dec.
- *IN43A-0068 GeoTrust Hub: A Platform For Sharing And Reproducing Geoscience Applications*. Tanu Malik et al., presented at 2017 Fall Meeting, AGU, New Orleans, LA, 11-15 Dec.
- *T51A-0445 Effects of Pre-existing Structures on the Seismicity of the Charlevoix Seismic Zone*. Oluwaseun Idowu Fadugba et al., presented at 2017 Fall Meeting, AGU, New Orleans, LA, 11-15 Dec.
- *T54A-05 Stress concentration on Intraplate Seismicity: Numerical Modeling of Slab-released Fluids in the New Madrid Seismic Zone*, Arushi Saxena et al., presented at 2017 Fall Meeting, AGU, New Orleans, LA, 11-15 Dec.
- *T51D-0504 A bottom-driven mechanism for distributed faulting: Insights from the Gulf of California Rift*, Patricia Persaud et al., presented at 2017 Fall Meeting, AGU, New Orleans, LA, 11-15 Dec.
- *Paper No. 29-4 Possible causes of low velocity in the upper mantle benearth the Mississippi Embayment*, Christine Powell et al., presented at GSA Annual Meeting in Seattle, Washington, USA, 2017.

Geological Society of America Abstracts with Programs. Vol. 49, No. 6 doi:10.1130/abs/2017AM-305499.

- *Enhancing Reproducibility of Geoscience Applications using GeoTrust*. E. Choi, presented at 2017 Crustal Deformation Modeling Tutorial and Workshop, Monday, June 26 - Friday, June 30 Colorado School of Mines, Golden, Colorado
- *Calving Geometry of Thwaites Glacier Linked to Semi-brittle Ice Dynamics*. Liz C. Logan et al. AGU Fall Meeting P31A-2085, Dec. 12-16, 2016, San Francisco, CA.
- *Oedometer test as a benchmark for geodynamic models involving strain-weakening plasticity*. C. Lee and E. Choi. AGU Fall Meeting T23C-2952, Dec. 12-16, 2016, San Francisco, CA.
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