

Stephanie E. Suarez

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RESEARCH INTERESTS

Broadly, chronology and petrology of extraterrestrial and terrestrial materials. Investigating the nature and timing of Martian magmatism through isotopic analyses of Martian meteorites. Determining ages of volcanic ashes surrounding early land biotas to evaluate the rate and character of land colonization.

EDUCATION

PhD., Geology	University of Houston , Dept. of Earth and Atmospheric Sciences	<i>In Progress</i>
M.Sc., Geology	University of Houston , Dept. of Earth and Atmospheric Sciences	2019
B.Sc., Geology	The University of Texas at Austin , Jackson School of Geosciences	2017

PUBLICATIONS

(Submitted to Journal of the Geological Society) – Zircon ages from the Ludlow and Downton Bone Beds, Welsh Basin, UK- Catlos, E. J., **Suarez, S. E.**, Brookfield, M. E., Miller, C.G., Schmitt, A.K.

Suarez, S. E., Brookfield, M. E., Catlos, E. J., & Stöckli, D. F. (2017). A U-Pb zircon age constraint on the oldest-recorded air-breathing land animal. PLOS ONE, 12(6), e0179262.

HONORS AND AWARDS

University of Houston

Graduate Tuition Fellowship	2019
(NSF) EarthRates Travel Award- Gordon Research Conference- Geochronology	2019
(NSF) Graduate Research Fellow Program- GRFP	2019
(NSF) UCLA Ion Microprobe Student Workshop Awardee	2019
The Carl Storm Underrepresented Minority Fellowship- Geochronology	2019
(GSA)(NSF) Professional Pathways Travel Award	2019
(NASA)Texas Space Grant Consortium Graduate Fellowship	2018
Graduate School Texas Fund Recipient	2018
Department of Earth and Atmospheric Sciences Master's Excellence Scholarship	2018
Natural Sciences and Mathematics Alumni Scholarship	2018
Gerson Garcia Endowed GeoForce Scholarship	2017

University of Texas at Austin

(GSA) On To the Future Program (OTF) Travel Grant Recipient	2016
(GSA) South-Central Section Student Travel Grant	2016
(GSA) Minority Student Scholarship Award	2016
(AGU) Fall Meeting Student Travel Grant	2016
Kuhn Family IE Award	2016
Jackson Undergraduate Support Fund Scholar	2015
(GSA) South-Central Section Student Research Grant	2015
Longhorn Scholars Research Award	2014
Glenn and Martha Vargas Gemological Scholar	2014
Milby Hispanic Alumni Association Scholar	Annual
Texas Student Housing Authority Scholar	Annual
GeoForce Texas Graduate Scholar	Annual
Houston Livestock Show and Rodeo Scholar	Annual
Longhorn Scholars Opportunity Scholar	Annual

CONFERENCE ABSTRACTS

- Kring, D.A., Angotti, L., Bouchard, M., Byron, B., Chinchalkar, N., De Graaff, S., Déhais, T., Glaspie, L., Hedgepeth, J., Hughes, M., Kaskes, P., MacArthur, J., McGregor, M., Ross, C., Stacey, K., **Suarez, S.E.**, Verhagen, C., Erickson, T.M., (2019), Traces of Fallback Breccia on the Rim of Barringer Meteorite Crater (a.k.a Meteor Crater), Arizona, #1835, 50th Lunar and Planetary Science Conference
- Suarez, S.E.**, Lapen, T.J., Righter, M., Beard, B.L., Irving A.J., (2019), Assessing the Heterogeneity of the Tissint Shergottite Strewnfield Using Rb-Sr, Sm-Nd, and Lu-Hf Isotope Systematics, #3028, 50th Lunar and Planetary Science Conference
- Lapen T.J., **Suarez S.E.**, Righter M., Irving A.J., Righter K., (2019) Trace Element and Pb Isotope Geochemistry of Tissint Impact Melt Glass and Sulfide Reveal No Contamination by Martian Soil #2921, 50th Lunar and Planetary Science Conference
- Suarez, S.E.**, Catlos, E.J., Brookfield, M., Stockli, D.F., Batchelor, R.B., (2016), Precise U-Pb Zircons Dates of Bentonites in Upper Ordovician and Lower Silurian Reference Sections in North America and Britain: American Geophysical Union Annual Meeting
- Suarez, S.E.**; Catlos, E.J.; Brookfield, Michael; Stockli, Daniel F., (2016), U-Pb Age of the Oldest Air-Breathing Land Animal: Geological Society of America Annual Meeting
- Duval, C.L., **Suarez, S.E.**, Murowchick, J.B., (2016), Mineralogical Evidence of an Epithermal Exhalative Origin of the Boleo Cu-Zn-Mn-Co mantos, Santa Rosalia, Baja California Sur, Mexico: Geological Society of America Annual Meeting
- Suarez, S.E.**, Catlos, E.J., Brookfield, M., (2016), Constraining Episodes of Late Ordovician Volcanism Through U-Pb Dating of K-Bentonites: Geological Society of America South Central Section Meeting

RESEARCH EXPERIENCE

University of Houston Main Campus – Graduate Researcher 2017-Present

Advisor: Dr. Thomas Lapen Houston, TX

Assessing the Heterogeneity of the Tissint Shergottite Strewnfield Using Rb-Sr, Sm-Nd, and Lu-Hf Isotope Systematics

- Conducting geochronology study on Martian meteorite (Tissint) through Lu-Hf, Rb-Sr, and Sm-Nd isotopic systems
- Performing Ion-Exchange Chromatography and assisting with daily operations in a class 500 clean lab
- Obtained Sm-Nd and Lu-Hf concentrations Nu Plasma II (MC-ICP-MS) with assistance from lab technician
- Obtained Rb-Sr concentrations on VG Instruments Sector 54 (TIMS) at University of Wisconsin- Madison

Trace Element and Pb Isotope Geochemistry of Tissint Impact Melt Glass and Sulfide Reveal No Contamination by Martian Soil

- In-situ study of Pb isotopes and Highly Siderophile Elements (HSE) within Martian meteorite (Tissint) impact glass.
- Data Acquisition through Varian 810 Q-ICP-MS and reduction through GLITTER software.

The University of Texas at Austin – Undergraduate Researcher 2014-2017

Advisor: Dr. Elizabeth Catlos Austin, TX

U-Pb Age of the Oldest Air-Breathing Land Animal

- Conducted heavy mineral separation using bromoform on three samples from the Cowie, Aberdeenshire, Scotland
- Mounted and analyzed 80 zircon grains from two volcanic tuffs using HR-LA-ICP-MS at UT Austin for U-Pb ratios
- Reduced data using Igor Pro and Iolite software, Published findings to *Plos One*

Constraining Episodes of Late Ordovician Volcanism Through U-Pb Dating of K-Bentonites

- Developed separation method using a sonicator apparatus to extract zircon grains from cohesive K-bentonites
- Extracted and analyzed 500 zircon grains from 15 samples using HR-LA-ICP-MS at UT Austin for U-Pb ratios
- Presented findings at GSA South Central Meeting 2014 and AGU Annual Meeting 2016

*Other Notable Projects: *U-Pb age of the Ludlow Bone Bed-Wales, U-Pb age of Silurian Inliers-Scotland*

Baja Basins REU-NSF- Undergraduate Researcher

Jan 2016- Jul 2016

Advisor: Jim Murowchick

Kansas City, MO

Mineralogical Evidence of an Epithermal Exhalative Origin of the Boleo Cu-Zn-Mn-Co mantos, Santa Rosalia, Baja California Sur, Mexico

- One of 10 students selected to conduct rigorous field work in an active mine, Minera Boleo for one month
- Modeled fluid geochemistry from mineral assemblages contained in copper mineral deposits with SEM and XRD at University of Kansas City, Missouri. Used data to create model of hypothesized epithermal exhalative process
- Presented findings at GSA Annual Meeting 2016

TEACHING EXPERIENCE

GeoFORCE/STEMFORCE

Jun 2019-July 2019

Educational Coach in Training

Austin, TX

- Assisted Educational Coach in administering and evaluating formative and summative assessments
- Supported field learning by leading stations and activities in the field
- Lead students in hands-on activities and demonstrations in the classroom

The University of Houston- Dept. of Earth and Atmospheric Sciences

Aug 2017- Dec 2017

Teaching Assistant-GEOL 3373

Houston, TX

- Assisting students in two laboratory sections with weekly lab assignments covering topics in igneous petrogenesis
- Tutored students one on one and in small groups in Geoscience Learning Center

The University of Texas at Austin-Jackson School of Geosciences

Jan 2017- May 2017

Teaching Assistant-GEO 193T

Austin, TX

- Communicating daily with administrative staff, supervisor, guest speakers and enrolled students
- Taking attendance, entering grades, compiling speaker evaluations, and ensuring the lecture runs smoothly
- Trusted with department credit card to adequately cater each speaking event

PRESS

University of Houston

Geology Graduate Student Receives NSF Graduate Research Fellowship

<http://www.uh.edu/nsm/students/graduate/student-accomplishments/profiles/stephanie-suarez/>

Graduate Students Attend Sequence Stratigraphy Field Course

<http://www.uh.edu/nsm/earth-atmospheric/news-events/stories/2018/0601-field-course.php>

As Good as Old: The Age of Martian Meteorites Gives Clues to the Makeup of Mars

<https://www.uh.edu/news-events/stories/2018/february-2018/02232018-uh-researchers-receive-grant-to-study-martian-meteorite.php>

NASA Grant Funds Martian Volcano Research

<http://www.uh.edu/nsm/earth-atmospheric/news-events/stories/2018/0214-volcano-research.php>

Independent Petroleum Association of America: Education Center IPAA/PESA Energy Education Center Spotlights

Stephanie Suarez

<https://education.ipaa.org/ipaa-pesa-energy-education-center-spotlights-stephanie-suarez/>**University of Texas at Austin**

Kuhn Scholar Aims to Inspire Next Generation of STEM Researchers

<http://diversity.utexas.edu/2017/01/25/kuhn-scholar-aims-to-inspire-next-generation-of-stem-researchers/>

Celebrating the Class of 2017: Stephanie Suarez

<http://diversity.utexas.edu/2017/05/02/celebrating-the-class-of-2017-stephanie-suarez/>

Ancient Animal Thought to be First Air Breather on Land Loses Claim to Fame

<https://news.utexas.edu/2017/07/05/animal-thought-to-be-first-air-breather-loses-claim-to-fame>

Ancient Scottish millipede WASN'T the first air breathing land animal, Texas undergrad proves

<http://www.dailymail.co.uk/sciencetech/article-4669222/Ancient-millipede-not-air-breather-land.html>

SERVICE

- Guest graduate student panelist during Q&A session for UH Urban Experience Program undergraduate interns
- Alumni essay reviewer and point of contact for University of Houston's NSF GFRP peer writing group
- Student Committee member for 2019 Student Research Conference Alumni & Industry Open House at Univ. Houston
- Student Chair and Organizer for EU-IN-TIME Martian Geochronology Workshop at University of Texas at Austin
- Represented GeoForce as a keynote speaker at Chevron, Shell, Conoco Phillips fundraising events
- Spoke at IPAA/PESA Education Advisory Board and Alumni Network meeting
- Panel member in graduate school planning workshop hosted by Jackson School of Geosciences Career Center
- Introduced new society members at Jackson School of Geosciences' annual Evening of Thanks
- Exploring the Earth Through the Geosciences panel member at Houston Hispanic Forum's Career and Education day
- Junior division Earth Science Judge for 58th annual Science and Engineering Fair of Houston sponsored by Chevron
- Panel member at Transition to College Workshop for 11th graders at HISD's Hattie Mae White Education Center.
- Alumni judge for the Houston Livestock Show and Rodeo annual scholarship at NRG center
- Served as a graduate mentor preparing undergraduate students for SACNAS' National Diversity in STEM Conference
- Tour guide and drilling competition judge at University of Houston's Energy Summer Camp

FIELD EXPERIENCE

- Six week field course from Texas to Montana. Areas covered include Guadalupe Mountains National Park, White Sands National Park, Book Cliffs, Montana Fold-Thrust Belt, Rio Grande Rift, and Valles Caldera. Led by instructors at the University of Texas' Jackson School of Geosciences.
- Four day sequence stratigraphy field seminar examining clastic deposits in present day Bookcliffs, Utah. Led by Dr. Julia Wellner (University of Houston) and Dr. Robert Wellner (Exxon Mobil)
- Weeklong Field Training and Research Program at Barringer Meteorite Crater, Arizona led by Dr. David Kring (Lunar and Planetary Institute). Examined preserved ejecta at cratersite to understand cratering impacts throughout the solar system.
- Weeklong trip as educational coach in training with GeoForce Texas to multiple locations around the Texas Hill Country including Pedernales Falls, Enchanted Rock and Inks Lake. Integrated knowledge of Texas Geology at these locations to assist high school students in interpretations and reinforce principles of geology.
- Weeklong trip with GeoPlaNet analogue Field School organized by the Laboratoire de Planétologie et Géodynamique. Visited various planetary analogs, with focus on fluid-rock interactions, along the Pyrenees in Spain and France.