

Congratulations, Class of 2020!

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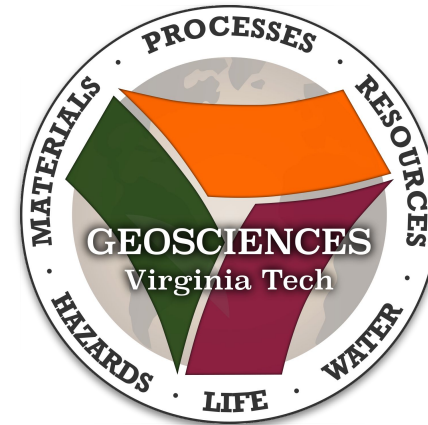
@vtgeosciences



@vt\_geosciences



## Department of Geosciences Commencement



**Virginia Polytechnic  
Institute and State University**

Virtual  
May 16, 2020  
12:00 noon EST

A1

Welcome to the 2020 Virtual Commencement Ceremony for the Department of Geosciences at Virginia Tech!

As you all know, this year’s ceremony is, well, not like our usual commencement. The ongoing pandemic has impacted the entire world, and VT-Geosciences is no exception. Over the past two months just about everything has changed — how we teach our classes, how we communicate, how we conduct science... and, today, how we celebrate.

Even though the Class of 2020 won’t be able to walk down the aisle today in their caps and gowns, with their family and friends snapping photos and clapping, we honor and celebrate them no less than we have every other class of graduates. The achievements of the Class of 2020 are just as meaningful as every other class’s — perhaps even a bit more so, given the challenges these students have had to overcome in their last few months at Virginia Tech.

So, today, let’s all try to imagine that we’re gathered together in the auditorium in Hancock Hall, just a stone’s throw from Derring, where these graduates have toiled, learned, and grown over the past few years. I hope that today’s virtual program provides at least a reasonable simulacrum of our typical commencement ceremony.

Congratulations, Class of 2020! We salute your achievements, your resilience, and your Ut Prosim spirit!

W. Steven Holbrook  
Department Head

## Emeriti

R. Bambach	G.V. Gibbs*	J.F. Read
G.A. Bollinger	G.C. Grender	E.S. Robinson
C. Coruh	D.A. Hewitt	A.K. Sinha
J.R. Craig	M.F. Hochella, Jr.*	J.A. Snoke

\* University Distinguished Professor Emeritus

## Administrative Staff

S.J. Collins	Program Support Technician
M. Cuskovic	Business Manager
A.M. Newcomer	Advising & Enrollment Manager
S.L. Sharp	Museum Coordinator
M.J. Smith	Program Support Technician

## Technical Staff

J.R. Dunson	Unix System Administrator
J.B. Langridge	Sr. Electronic Technician & IT Support
M.L. Lemon	Computer Support Specialist
G.S. Norris	Electronics Technician

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## Faculty

S. Bemis	Lab Manager
R.J. Bodnar	C.C. Garvin Professor*
T.J. Burbey	Professor
M.J. Caddick	Associate Professor
M.C. Chapman	Research Professor
J.A. Chermak	Collegiate Associate Professor
P.M. Dove	C.P. Miles Professor of Science* **
M.S. Duncan	Assistant Professor
T. Dura	Assistant Professor
K.A. Eriksson	Professor
L. Fedele	Research Associate
B.C. Gill	Associate Professor
G.B. Glesener	Administrative and Professional Faculty
W.S. Holbrook	Department Head and Professor
J.A. Hole	Professor
N.E. Johnson	Senior Instructor
S.D. King	Professor
R.D. Law	Professor
F.M. Michel	Associate Professor
L.R. Moore	Lab Manager
S.J. Nesbitt	Assistant Professor
R.M. Pollyea	Assistant Professor
R.E.B. Reid	Research Associate
B.W. Romans	Associate Professor
N.L. Ross	Professor
M.E. Schreiber	Professor
J.A. Spotila	Professor
D.S. Stamps	Assistant Professor
M.R. Stocker	Assistant Professor
R. Weiss	Professor
S. Xiao	Professor
V. Yarborough	Lab Manager
Y. Zhou	Associate Professor

\* University Distinguished Professor

\*\* National Academy of Science

## Program

Graduation Processional: Virtual Faculty Processional

Presiding: **Dr. W. Steven Holbrook** - Department Head

Introduction of Faculty & Staff

Congratulatory Remarks: **Dr. Sally Morton** - Dean, College of Science

Undergraduate Student Address: **Omar Mohammed Ghamedi**

Graduate Student Address: **Joshua Robert Jones**

Acknowledgement of Undergraduate Honors and Awards

Acknowledgement of Graduate Honors and Awards

Presentation of Undergraduate Degrees

Presentation of Graduate Degrees

Closing Remarks: **Dr. W. Steven Holbrook**

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## Undergraduate Awards

Outstanding Service Recognition Award:  
**Michelle Marie Worek**

Outstanding Senior Award:  
**Jordan Alexandria Pritchard**

Sigma Gamma Epsilon W.A. Tarr Award:  
**Cameron Robert Chambers**

Wallace Lowry Scholarship:  
**Camille Thy Do**

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## Graduate Awards

Geosciences Outstanding Service Recognition Award:  
**Alexandria Janson Hoeher, Selva Mariana Marroquín**

Tillman Awards for Teaching Excellence:

**Maxwel Fredrick Schwid** - Introductory Courses

**Nathan David Roethlisberger**- Advanced Courses

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## Class of 2020 Doctor of Philosophy



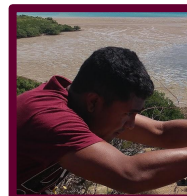
**Selva Mariana Marroquín**

*"Evaluating Geochemical Cycling Across an Early Jurassic Oceanic Anoxic Event with Implications for Paleo-environmental Reconstructions across Biotic Crises"*  
Advisor - B. C. Gill



**Emmanuel Atem Njinju**

*"Lithospheric-Modulated Convection and Plume-Lithosphere Interactions: Implications for Melt Generation Beneath the Rungwe Volcanic Province and the Malawi Rift, East Africa"*  
Advisor - D.S. Stamps



**Tahiry Andriantsoa Rajaonarison**

*"Driving Forces of the East African Rift Deformation from 3D Geodynamic Modeling"*  
Advisor - D.S. Stamps



**Eszter Sendula**

*"Role of Fluids in the Geochemical Evolution of Earth Systems"*  
Advisor - R.J. Bodnar



**Hao Wu**

*"Numerical Investigations of Geologic CO<sub>2</sub> Sequestration Using Physics-based and Machine Learning Modeling Strategies"*  
Advisor - R. M. Pollyea

## Class of 2020 Doctor of Philosophy



**Kirkland Smith Broadwell**

*"From the Appalachians to the Alps: Constraints on the Timing, Duration, and Conditions of Metamorphism at Convergent Margins"*

Advisor - M. J. Caddick



**Christopher Thomas Griffin**

*"The Influence of Developmental Patterns on Vertebrate Evolution, with the Evolution of the Sacrum and Pelvis as a Case Study"*

Advisor - S.J. Nesbitt



**Alexandria Janson Hoeher**

*"Chemical Controls on the Formation of Amorphous Calcium Phosphate"*

Advisor - F. M. Michel



**Joshua Robert Jones**

*"Investigating Volcano-Tectonic Interactions in the East African Rift System and Low-Latency Data Applications"*

Advisor - D.S. Stamps



**Shangxin Liu**

*"Dynamics of the North American Plate"*

Advisor - S. D. King

## Graduate Awards (continued)

Graduate Student Doctoral Assistantships (GSDA):

**Hao Wu, Emmanuel Atem Njinju, Eszter Sendula**

Multicultural Academic Opportunities Program (MAOP) Scholarship:

**Selva Mariana Marroquín, Joshua Robert Jones**

### Endowed Scholarships

Chinese Geosciences Scholarship:

**Hao Wu, Shangxin Liu**

Matthew J. Mikulich Geophysics Scholarship:

**Joshua Robert Jones**

Charles Sears Scholarship:

**Selva Mariana Marroquín**

RJ Tracy Research Award:

**Eszter Sendula**

David R. Wones Geological Scholarship:

**Eszter Sendula**

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## Class of 2020 Bachelor of Science

Kevin Andres Bueno	Geology
Cameron Robert Chambers* ****	Geology
Camille Thy Do****	Geology
Omar Mohammed Ghamedi*	Geology
Roberto Carlos Gorjon-Andujar	Geology
Michael Austin Harman	Geology
Zach Tyler Lester****	Geology
Timothy James Makee	Geology
Jacob Daniel Pegelow	Geology
Jacob Wheeler Perkins	Geology
Jordan Alexandria Pritchard** ***	Geology
Patrick Russell Riles****	Geology
Kelsey Moore Tate****	Geology
Taylor Aubrey Warburton	Geology
Michelle Marie Worek* ****	Earth Science Educ., Geology

\*cum laude \*\*summa cum laude \*\*\*Phi Beta Kappa Member \*\*\*\*Sigma Gamma Epsilon Member

## Class of 2020 Master of Science



**Joshua Robert Benton**

*"Temporal Dynamics of Groundwater Flow Direction in a Glaciated, Headwater Catchment"*

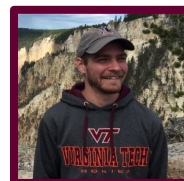
Advisor - M.E. Schreiber



**Graydon Leo Konzen**

*"Regional Scale Impacts of High-Density Wastewater Injection Disposal"*

Advisor - R.M. Pollyea



**Nathan David Roethlisberger**

*"Analysis of the Multi-Aquifer System of the Southern Coastal Plain of Virginia by Inverse Modeling"*

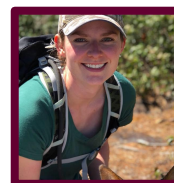
Advisor - T. J. Burbey



**Maxwel Fredrick Schwid**

*"Sedimentology and Diagenesis of Ediacaran Phosphorites from South China"*

Advisor - S. Xiao



**Laura Danielle Szczyrba**

*"Quantifying the Role of Vulnerability in Hurricane Damage via a Machine Learning Case Study"*

Advisor - R. Weiss

C2

# Assembly Instructions

Follow these instructions to print the PDF and assemble a program booklet:

Each of the six PDF pages has an alphanumeric indicator in its center (e.g. “A1”, “B2”, etc.). The goal is to have A1 and A2 as front and back of the same sheet of paper; B1 and B2 should be on the same sheet of paper; C1 and C2 should be on the same sheet of paper. How to do this depends on the capability of your printer.

For a two-sided printer:

1. Print the PDF using front-and-back mode.
2. Place the C sheet on a surface with C1 face up so that you can read it.
3. Place the B sheet on top of the C sheet with B1 face up so that you can read it.
4. Place the A sheet on top of the B sheet with A1 face up so that you can read it.
5. Pick up the stack of pages and fold in half so that the “A” is on the left of the fold and the “1” is on the right of the fold.
6. Staple at the seam.

For a one-sided printer:

1. Print only page 1 of the PDF (it should say “A1” in the center).
2. Place this sheet back into the printer with the blank side facing the direction that will have it printed on next (see your printer’s instructions if necessary).
3. Print only the next page (A2).
4. Repeat this process for B1 and B2, then C1 and C2.
5. Place the C sheet on a surface with C1 face up so that you can read it.
6. Place the B sheet on top of the C sheet with B1 face up so that you can read it.
7. Place the A sheet on top of the B sheet with A1 face up so that you can read it.
8. Pick up the stack of pages and fold in half so that the “A” is on the left of the fold and the “1” is on the right of the fold.
9. Staple at the seam.