

Museum of Geosciences Annual Report 2019-20

In March 2020 the world and Virginia Tech entered the era of COVID-19. Our operations and metrics will no doubt change.

The Museum of Geosciences (MoGs) is a tangible way the Department of Geosciences fulfills Virginia Tech's Land Grant mission to create, preserve, and provide information about science and technology for the public. Exhibits and programs are open to the public free of charge.

As of March 2020 during the 2019-20 academic year, the Museum has hosted around **5560 visitors**, including many Virginia Tech faculty and students, pK-12 school groups, 4H youth, homeschoolers, families, campus visitors, and community members. Programmatic contacts reached nearly **2700 people** including **1517 pK-12 youth**, and **156 teachers**. In that number, **18** on-site guided visits with over 324 pK-12 youth and 24 teachers from 9 different schools were facilitated by **15 trained Museum volunteers** along with head interpreter, Sarah Windes.

There were **15 uses of kits and materials** through loans and on-site visits.

Academic visits brought 2475 VT students to the Museum from **17** different courses in **5** departments. Many students, not just from Geosciences, use the Museum for group project meetings or as a pleasant on-campus study space. Mineralogy, GEOS 3504, used the collection each week as they studied the different compositional groups of minerals.

Donations

Cash donations including the GeoFair, the Roanoke Gem and Mineral Club, annual donors, memorial donations, matching, and earmarks in GiveBigVT, total over **\$10,000**. (GeoFair alone brought in \$6500 this year.)

In-kind donations from Don Dalton, including specimens and a vehicle, had a value over \$6000.

Collections Highlights

The Natural History Collections Club is a student organization at Virginia Tech, sponsored by Jordan Metzgar in the Massey Herbarium. They displayed museum specimens at the Hokie Showcase.

Information and Collections Management

The Museum Collection Database is housed on Excel through Office 365, so it is backed up, version controlled, and cloud available. Public and staff accessible versions of the "Museum Mothership Database" are available by security-edited exports to

Google Sheets. Exhibit and storage inventories and data cleanup are ongoing to provide better Collections Management.

Exhibit Highlights

Program Highlights (see complete programs list in appendix)

Sterling Nesbitt and **Michelle Stocker** again conducted a program to unpack some of their field material, including an “Open House” to share discoveries and preparation methods. This is the fourth time they have led this citizen science activity. There were 28 people who took part, including 5 kids. (lower enrollment could have been due to the later time of year)

Museum Public Lectures and **Special Events** featured meet-the-scientist receptions, as well as the main programs. We were lucky to again host a world premiere fossil revelation: “The oldest green seaweed: come and taste one billion years of evolution” with Dr. Qing Tang and Dr. Shuhai Xiao.

The TECHtonic Newsletter regularly features a “Museum Piece”. This year the Fall topic was *The 25th GeoFair and Mineral Sale* and, in Spring 2020, *Growing Collections: 50 years in Derring Hall*.

People

Museum Outreach and Collections Committee: Mark Caddick, Gary Glesener, Neil Johnson, Scott King, Sterling Nesbitt (chair)
Undergrad rep David Bunin. Grad rep Alix Ehlers and Priya Bose. Staff Camille Do (student wage), Llyn Sharp, Sarah Windes.

Board of Curators: Sterling Nesbitt, Rick Law, Mark Caddick, Neil Johnson, Shuhai Xiao. Staff Llyn Sharp.

Staff this year: about 1.0 FTE. Llyn (.66 FTE sal), Sarah Windes (.15 FTE wage), no GTA in Fall or Spring, and Camille Do (.15 FTE student wage Fall 19 and Spring 20)

Volunteers:

We have over 70 people who have volunteered in some way with the Museum this year; we don't track hours, but a conservative estimate would exceed 500 hours.

GeoFair 2019 had a total of 43 people who worked contributing over 250 total hours.

Paleo Events called upon their Lab Group and Lab Night volunteers, at least 8 people.

Group visit leaders (docents) had 15 volunteers conducting numerous tours.

In addition to staff and committee members, many Friends of the Museum and members of the Natural History Collections Club have continuously volunteered expertise and effort throughout the year: (alphabetic order by last name, apologies to anyone we miss)

Priya Bose, Mark Caddick, John Chermak, Sharon Collins, Don Dalton, Camille Do, Megan Duncan, James Dunson, Tina Dura, Grant Euen, Ben Gill, Gary

Glesener, Thomas Hale, Rebecca Hawkins, Bill Henika, Aly Hoeher, Devin Hoffman, Steve Holbrook, Neil Johnson, Scott King, Brenna Knight, Jim Langridge, Mark Lemon, Jordan Metzgar, Lowell Moore, Sterling Nesbitt, Morrison Nolan, Greg Norris, Philip Prince, Nancy Ross, Eszter Sendula, Mary Jane Smith, Sarah Stamps, Michelle Stocker, Qing Tang, Kelsey Tate, Khanh To, Gabbi Troia, Natalia Varela, Shuhai Xiao, (also the names from GeoFair report q.v.)

Social Media and Website

With help from **James Dunson and Greg Norris**, Llyn was able to keep the website updated to communicate with the public. We also have posted databases of some of our collections online. Without a designated media marketing manager, we have minimal Facebook, Twitter, and Instagram presence, but the opportunity is there!

Goals for next few years - exhibit refresh, developing brain trust, other curators, developing role of museum in dept and MEDL, student involvement (responsibility ladder), collection management (inventories, documentation, backups, database solution, preservation and access), security (new alarm system).

Appendices:

1. Program/Events report (Llyn)
2. Guided Visits report (Sarah)
3. GeoFair report (Erin)

1. Programs and Events Report--CHECK and RE-PASTE more recent version in May

Museum of Geosciences

Academic Year 2019-2020 Programs and Events

Events are free and take place in the Museum of Geosciences, 2062 Derring Hall, unless noted otherwise. No parking permit needed after 5:00 or on weekends. Handicap spaces located adjacent to the building.

Fall 2019

The fall schedule includes the 25th!! GEOFAIR and Mineral Sale, youth programs, teacher professional development, public programs, student exhibits, Earth Science Week, and Women in Geosciences events. Follow [@hokiesaurus](https://twitter.com/hokiesaurus) on twitter for quick reminders!

GeoFair and Mineral Sale

Saturday, September 21, 2019, 10:00 am - 4:00 pm. 2062 Derring Hall.

Join us for this popular event: hands-on family-friendly activities, 9 learning stations about geosciences, and beautiful minerals for sale priced for teachers and students (cash or check best). Open to the public and Family Day visitors.

Free admission and parking. (575 attendees, including 160 kids, 43 vols donating total over 250 hours)

Paleo Open House

Wednesday, October 16, 2019 from 7:00-8:30pm Lecture in 4069 Derring at 7:00 followed by activities in the Museum, 2062 Derring.

Join our Paleontology faculty and their students on [National Fossil Day](#). This is a chance for the public to learn about exciting field work, see new discoveries, tour the preparation lab, help process fossils, and talk with the scientists.

We will meet first in the lecture hall, 4069 Derring, for a brief presentation about these discoveries, then move to the Museum and lab rooms for hands-on, citizen science opportunities. Free. All are welcome! (28, 5 kids)

[Earth Science Week](#) “Geoscience is for Everyone”

October 13-19, 2019. National event also celebrated in Virginia.

[Focus Days](#) include EarthCache Day, Earth Observation Day, National Fossil Day, Geologic Map Day, Archaeology, Earth Science Literacy, as well as [National Fossil Day](#) (October 16) and [The Great ShakeOut](#) (October 17)

[Virginia Association of Science Teachers \(VAST\)](#) Conference in Roanoke

Thursday-Saturday, November 14-16, 2019.

Students and faculty from **Geosciences will be presenting 4 professional development sessions** at this conference. There will be teachers from across Virginia attending.

[VT Science Festival](#) at the Moss Arts Center in downtown Blacksburg.

Saturday, November 16, 2019, from 10AM to 4PM, immediately followed by the Nutshell Games at 4:30PM. All festival events are free.

Geoscience exhibits are part of this big event. The Museum and Geology Club will have a station: Come explore creations that took millions of years to be cultivated into the captivating spectacles they are today. Stunning minerals like pyrite, amethyst, and quartz will be on display for the public to admire, with a mineral identification activity available for all to participate in.

Dream Big! Montgomery County 7th grade visits

Tuesday, December 3, 2019, at 11:00, 12:00, and 1:00

The Graduate School sponsors this campus visit for all Montgomery County Schools 7th graders to encourage them to think about careers, college, and graduate school. They visit many locations around campus in small groups. Our graduate student volunteers will lead several groups in the museum this year.

Spring 2020:

[Virginia Tech SCIENCE OLYMPIAD](#)

not held at Museum, but on campus. Saturday, January 25, 2020

Events like the Science Olympiad are a good way for interested high school students to learn more about Virginia Tech Geosciences. ()

[Kids Tech University \(KTU\)](#)

February, ~~March, April~~ dates on Saturdays.

Kids Tech University hosts 450 kids and their families for a day of college STEM (Science, Technology, Engineering, and Math) awareness. They attend a lecture designed to excite interest in STEM, get information about academics, have lunch in a dining hall, and then spend the afternoon visiting a wide range of learning stations--including Geosciences!-- staffed by VT students with fun hands-on activities. Use the title link above to register.

In ?February? we will highlight the XXX group at a station?

International [Darwin Day](#)

Wednesday, February 12, 2020

Spring Break March 7-15. Reduced public hours.

Museum Public Lecture: Fossil Discovery

“The oldest green seaweed: come and taste one billion years of evolution”

March 5, 2020, 7:00-8:30 Dr. Qing Tang and Dr. Shuhai Xiao

Lecture in the Museum, room 2062 Derring, followed by hands-on meet-the-scientists activities, including specimens from the Massey Herbarium and edible seaweed. .

Kindergarten-to-College (K2C)

February, ~~March, April~~ dates on Mondays and Fridays

K2C brings over 1200 5th graders and 220 teachers from all over Virginia to campus to explore college and encourage learning. They visit activities in small groups of 10-20. The Museum of Geosciences is always a favorite because of our enthusiastic Geosciences student hosts.

ICAT Day

May 4, 2020. Virtual.

~~Geosciences Graduation Open House~~

~~Saturday, May 16, 2020, in the Museum, 2062 Derring.~~

~~An opportunity for students to bring their families by the Museum. Many students have studied and done group work for classes in the Museum, some have also worked on exhibits, conducted outreach programs, or led group visits, and they like sharing this with their loved ones. {~~

~~Alumni Open House at the Museum of Geosciences~~

~~Friday, June 5, 2020. Alumni Weekend is June 4-7~~

~~In cooperation with the Virginia Tech Alumni Reunion, join us for an open house at the Museum in 2062 Derring Hall. See some of our new exhibits and acquisitions and talk with geoscientists about their research.~~

The Museum has restricted hours during the VT Summer Break

***Hokiesaurus Presents:** Youth programs led by students to give kids a chance to do hands-on activities, meet a geoscientist, and learn more about geosciences as an academic and career path. Our Geosciences students decide topics and activities that

are exciting to them, then work on their presentations in consultation with Museum staff and faculty members.

2. Museum of Geosciences Group Visit Report August 2019 through

Number of groups visiting – xx visits from xx different schools (some were larger classes split up into smaller groups)

preschool - x

4th grade - x

4th and 5th grade together – x

5th grade – x

middle school –x

high school –x

Total numbers – x visitors,
including x students

x adults, including at least x teachers

x trained volunteers put in a total of x+ hours helping to lead the visits

Priya Bose

Grant Euen

Morrison Nolan

Kelsey Tate

Khanh To

Natalia Varela

Content –

5th grade SOL-based scavenger hunt – x visits

shorter basic scavenger hunt -- x visits

rock cycle activity geared to 5th grade – x visits

mineral properties -- x visits

Virtually all groups see the fluorescent exhibit and discuss fossils.

All groups but preschool use the OmniGlobe.

3. GeoFair report

Scroll down for GeoFair Report

GeoFair 2019

Internal Report

By Camille Do (2019 GeoFair Coordinator)



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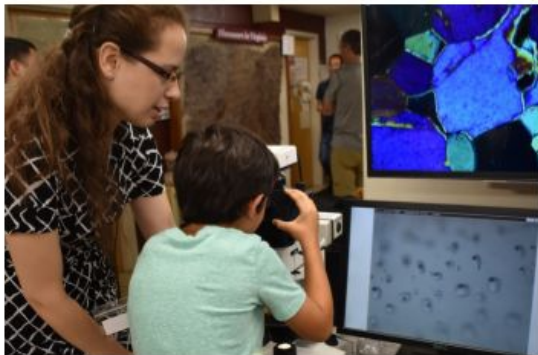
2019 GeoFair Summary

The 2019 GeoFair and Mineral Sale had around **600 guests** of all ages who participated in 9 learning and craft stations related to geosciences. There were about 160 kids. It was an overall great time for Family Weekend visitors and the community to come out and support the Virginia Tech Museum of Geosciences and Geology Club.



Laura Szczyrba teaching the youth of America through a hands-on flood model demonstration!

Grant Euen fascinating young children with the solar system scale model.



Eszter Sendula wowing a kid with a thin section of bubbles in rocks!

Shuyang Sun educating a small child on minerals!



2019 Learning Stations

1. **AR Sandbox**- learn about contour lines and elevation through a hands-on experience
2. **Geodesy and Tectonophysics Laboratory**- learn how very small earth movements are measured and how they can show activity from volcanoes
3. **Flood Model**- hands-on plastic model showing how land use in the watershed affects flood volume in the stream.
4. **Bubbles in Rocks**- learn how to identify fluid and melt inclusions using a microscope
5. **Petrographic Microscope**- learn about minerals and different rock types by looking through a lens at a thin slice of rock
6. **Fossils and Dinosaurs**- learn about paleontology and examples of different fossils. Come visit our very own dinosaur, “Hokiesaurus”!
7. **Omniglobe and Solar System Scale Visualization**- learn about the solar system and planetary data
8. **Rock Pets Craft Station**- fun craft to unleash creativity while making your own care-free pet
9. **Gumdrop Crystallography**- learn about crystal structures while making your own sweet crystal out of candy and toothpicks

Passport Pamphlet

We did pamphlets again this year, and it was extremely popular among all the guests. Everyone wanted free lucky stones!

Get stamped at 3 stations, and then find the event coordinator at the entrance of the museum to get a lucky stone!



Interested in Geology Club?

Drop by Rm. 4045 in Derring Hall or contact vtgeoclub-president@vt.edu for more information!

Geology Club Activities:

- Hiking and caving
- Mineral/fossil dig trips
- Social events
- Guest lectures
- "Geo"-party

Come rock out with us!



GeoFair and Mineral Sale 2019

Learning Stations

1. **AR Sandbox**- learn about contour lines and elevation through a hands-on experience

2. **Geodesy and Tectonophysics Laboratory**- learn how very small earth movements are measured and how they can show activity from volcanoes



3. **Flood Model**- hands-on plastic model showing how land use in the watershed affects flood volume in the stream.

4. **Bubbles in Rocks**- learn how to identify fluid and melt inclusions using a microscope

5. **Petrographic Microscope**- learn about minerals and different rock types by looking through a lens at a thin slice of rock



6. **Fossils and Dinosaurs**- learn about paleontology and examples of different fossils. Come visit our very own dinosaur, "Hokiesaurus"!

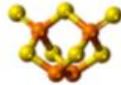


7. **Omniglobe and Solar System Scale Visualization**- learn about the solar system and planetary data



8. **Rock Pets Craft Station**- fun craft to unleash creativity while making your own care-free pet.

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Sales Rooms

Don Dalton Sales Room- Sales hosted by Virginia Tech Geosciences alumnus and avid rock and mineral collector, Don Dalton. Items for sale range from small minerals to stone bookends and much more. (Cash or check only)



Geology Club Sales Room- Sales hosted by members of Geology Club. Items for sale range from small fossil and mineral samples to Geology Club T-Shirts. (Venmo, cash, and check accepted)

Volunteers

Students

Alix Ehlers
Aly Hoehner
Brenen Wynd
Chris Griffin
Devin Hoffman
Emmanuel Njinju
Eszter Sendula
Grant Euen
Josh Murphy
Josh Jones
Jun-Whan Lee
Khanh To
Laura Szczyrba
Priyanka Bose
Natalia Varela
Shuyang Sun
Tahiry Rajaonarison
Amna Ali
Brenna Knight
Camille Do
Caroline Bilich
David Bunin
Emily Patellos
Gabby Troia
Hannah-Marie Eddins
Ian McTarsney
Mason McCabe
Michael Zigah
Shea Ruyak
Steven Watson
Shelly Worek
Zach Lester
Michael Mellett

Faculty/Staff/Others

Llyn Sharp
Don Dalton
Geno Iannacone
Gary Glesener
Sarah Windes
Dr. Bob Bodnar
Dr. Megan Duncan
Reilly Henson
Dr. Scott King
Mr. Steven Watson

Notes: We had a total of 43 people help out this year at the GeoFair! This is great considering how much sooner we had to begin planning for the event.

Sales Rooms

Proceeds from sales support the Museum of Geosciences' education and public outreach efforts. For 2019, the net contributions from this event were over **\$6,544**.

Don Dalton Sales Room- Sales hosted by Virginia Tech Geosciences alumnus and avid rock and mineral collector Don Dalton. Items for sale ranged from small minerals to stone bookends and much more. Don Dalton made a donation of **\$4,400** to the Museum of Geosciences account in the Virginia Tech Foundation. (waiting to confirm)

Geology Club Sales Room- Sales hosted by members of Geology Club. Items for sale ranged from small fossil and mineral samples to some of Don Dalton's minerals from previous years. The Geology Club made a donation of **\$2,144** to the Museum of Geosciences account in the Virginia Tech Foundation.

Donations- We had a donations options to support Geosciences undergraduates this year, and visitors donated \$60.

Reflections

"I spent a few hours at our "bubbles" exhibit in the morning and was very much impressed with the organization, turnout, and enthusiasm of the many volunteers (even though I never did find out who was in the dinosaur costume!). This was a great advertisement and outreach activity for our department." - Bob Bodnar

"Overall, the GeoFair went smoothly! We had some trouble with volunteers calling out and issues with not knowing what was going on at each station, since that was up to the station leaders to decide. We did have new stations this year though, Bubbles in Rocks, Solar System Scale Model, and the Ward's Flood Model, which seemed like a hit! Things to add next year should be having each station leader prepare a short, simple instruction/station description to pass on for shift changes." - Camille Do

"There was plenty of time for set up on Friday, snacks for volunteers were good, and the stamps for pamphlet books encouraged kids to visit multiple science stations. Things could get a bit cramped in the museum itself, but that is hard to avoid." - Devin Hoffman

"I think the flow was good. Some people were confused about the two paying areas in Don's room. Maybe add a sign? Maybe have a general instruction write up for booths for when volunteers switch to other booths." - Emily Patellos

"The floodplain demonstration was a huge hit! That should definitely be included again in years to come." -Gabbi Troia

Further Info:

Almost 600 visitors (~200 kids estimate from passports).
43 volunteers, representing approximately 250 staff-hours
9 learning stations. 2 rooms of sales items.

Advertising:

Our primary strategy is to hold the GeoFair on VT Family Weekend and work with them to be included on the Family Weekend Program of Events (web and paper schedules) with our rackcards at their main information table.

Also: MoGs website; Geos website; Twitter; Email to the 700+ people on FriendsOfMoGs Contact List; Department G-lists; VT Event Calendar listing; Roanoke.com Event Calendar listing; "Peachbowl" email flyer to households of Montgomery County Schools; Rackcards at VT Visitor Center; Tablecards at VT Dining Halls.

We can expect earlier Family Weekends now: they will usually be in the first 6 weeks of the semester.

All files relating to GeoFair 2019 can be found in the GeoFair 2019 folder under GeoFairAndMineralSale in MoGsSTAFF-SHARED files on google drive. The folder has sub-folders titled "PR", "Admin", and "Signs".

There is a hard copy notebook in the Museum Collections Office 2062B that has copies of signage and other handy information. Includes a copy of this report.

Don Dalton: DltnDnld6060@aol.com 520-297-3001 PO Box 36180 Tucson Arizona 85740.

More Notes:

-All station, wayfinding, and sales room signs in GeoFair binder behind safe that holds keys

-Name tags can include how to support the museum (donations) and what the volunteers study

-Survey on how people found out about the GeoFair

-Over 10% of sales were from Venmo (mention how only Don Dalton takes checks)

Add on credit card capability also.

-Officers in geology club primarily in charge of helping with geology club sales rooms (especially treasurer) setup AND cleanup - only four people stayed behind to help clean up everything else and that took a long time

-Have station leaders required to write up a station description/instruction list to pass on to later shifts

-Each station should hold at least one brief meeting with their volunteers to discuss plans, rather than plan last minute activities

-The plan was to have the children find the event coordinator when their pamphlet was stamped three times like last year, but then there was confusion when the lucky stones ended up in a sales room, which caused kids to wait in line for a free stone. **Have lucky stones available at each station next year.**

-New addition to sales room this year was the donation to geosciences undergraduate students for their studies

-Confusion with prices when additional Don Dalton sales items (\$\$\$) were among the Geology Club sale items (\$). Due to the lack of extra space in the Don Dalton sales room, this year we had to put some of those items in the Geology Club sales room, and this became difficult for the cashiers to determine the total price for customers to pay. In the future, have two sales people.