

Minutes
Saturday May 2, 2020
GGE Advisory Board

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In attendance via ZOOM technology (teleconference):

Advisory Board: Andrew Farke; William Siok; Janet Carter; David Hammond; Jeanne Goodman; Joy Lester; Barbara Nielsen; Paul Murphey; Scott Cooper; Sherwin Artus; Steve O'Rourke; Stuart Buchholz; Tim Wilcox;

GGE Department: Laurie Anderson; Arden Davis; Ed Duke; Kurt Katzenstein; Sarah Keenan; Liangping Li; Tim Masterlark; Darrin Pagnac; Chris Pellowski; Curtis Price; Foster Sawyer; Larry Stetler; Gokce Ustunisik; Nuri Uzunlar; Kevin Ward

Foundation and Administration: Jim Rankin; Lance Roberts; Sharon Chontos; Elizabeth Sailer;

Guests: Ann Brentlinger; Charles M. Ray; Lynn Taylor Rick

1. Welcome, Introduction, Minutes and Agenda review Anderson

2. Comments and Q&A with:

Jim Rankin, President SD Mines:

- Upon onset of CV19 restrictions, MINES was not equipped for on-line course offerings. Within two weeks, a functional on-line system was in-place.

- In-person classes will resume in the fall of 2020.

- On May 1, Gov. Noem issued an order to resume campus work.

- MINES has been assisting local health agencies in support of CV19 response.

- MINES has issued \$1.6 million refunds in tuition and boarding fees.

Lance Roberts, Interim Provost and VP of Academic Affairs:

- Re-enforced the plan to re-establish a full activity schedule by fall.

- Establishing on-line curricula has been a significant challenge.

- Sturgis motorcycle rally 2020 is not definite at this point.

- A task force for on-line course work is developing a system for better synchronization between instructor and student.

- Currently negotiating with a candidate for Chair of the Mining Engineering and Management Dept.

Sharon Chontos, Interim President SD Mines Foundation:

- For Liz Sailer: Gave an Update on Student Relief Fund and CARES Act.

- Announced the merger of the MINES Alumni Association and the Foundation.

3. Department, Museum, and Field Station Updates: Anderson, Uzunlar

-Anderson: ABET and Geology

Program Educational Objectives

Constituencies

Assessment of Student Outcomes and Performance Indicators

(Refer to slides entitled: Geology and Geological Engineering, Museum of Geology, Advisory Board Meeting; ANSAC Assessment Summary for GEOL BS SD Mines;)

-Discussed Role of Advisory Board in advancing GGE and University's Strategic Plan.

Fostering Recruiting Efforts, developing plans including:

>Marketing and Communications Strategies for Social Media (Brentlinger, Ray, Taylor Rick)

>Alumni involvement in Outreach and Recruiting

>Professional Development for Teachers

>Balance Message of Resource Extraction and Environmental Protection

4. IAB Business Meeting Board

Election of Officers

-Nomination for Board Membership

Bill Eldridge – approved.

-Nomination of renewing member

John Chandler – approved.

-Old Business

-Short discussion on the role of Advisory Board in advancing GGE and University's Strategic Plan.

-New Business

-None brought forward.

-Schedule for next Advisory Board Meeting set for Sat. September 19, 2020 at MINES.

Committee breakouts followed Via Zoom (invitation email sent separately).

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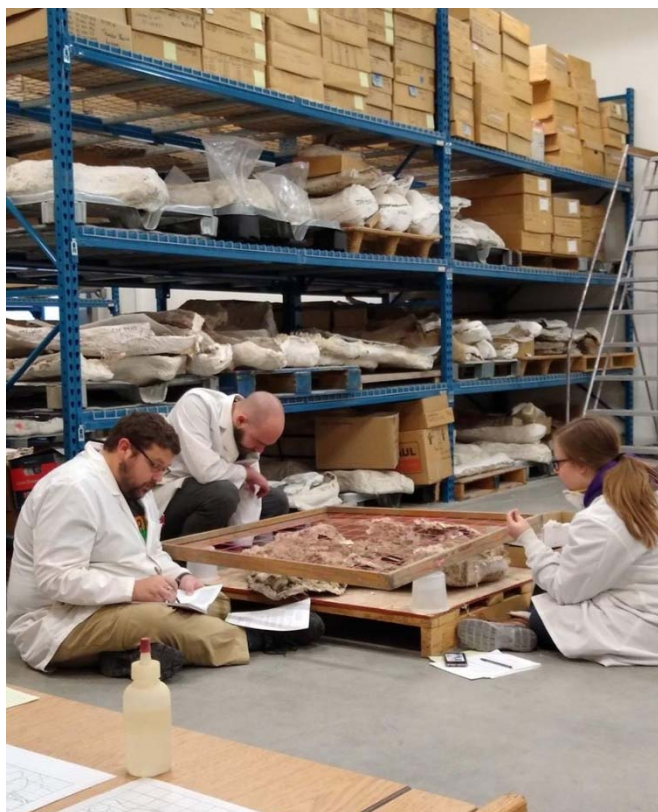
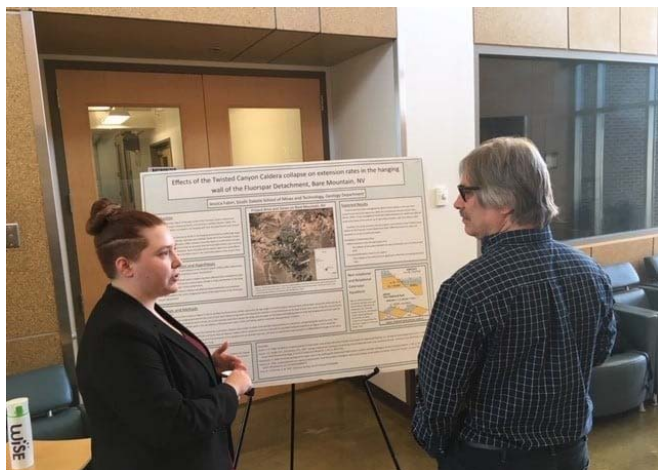
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Museum Committee (Laurie, Sarah, Darrin, Andy, Jim, Paul): 1:00-2:00

Field Station (Nuri, Dave, Steve, Scott): 1:00-2:00

GEOL Committee (Laurie, Andy, Bill, Nuri, Barbara, Scott): 2:00-3:00

Copies of slides attached.



Geology & Geological Engineering Museum of Geology Advisory Board Meeting

May 2, 2020

GGE: Covid-19

- Spring Break Extended March 16-20
- Museum closed March 16-June 30
 - Passport in Time Cancelled
- All classes online March 23 for remainder of semester
- Work from home March 16-May 31
- No classes on campus thru June 30
- High School Camps cancelled
- Field Camps delayed until at least early July
 - Contingency plans for online instruction of graduating seniors
- Research access to campus restricted starting March 16
- Operating Budget Reductions
- Defenses (online) still a go!
- Student Emergency Fund +\$200k
- CARES Act: SD Mines \$1.5 M
- Internship Coop offer: some rescinded



Museum of Geology, SDSM&T

April 7 at 11:42 AM · 🌐

There are lots of ways to stay engaged with learning about geology and science even while the Museum is closed. We will be sharing at home discovery resources throughout this time, starting with this resource full of activities from NASA <https://www.nasa.gov/nasa-at-home-for-kids-and-families>

If you are a teacher or parent facilitating at home learning please connect with us regarding any resources that could be helpful. Our staff at the Museum are experts in STEM education ... [See More](#)



NASA.GOV

NASA at Home -- For Kids and Families

NASA.gov brings you the latest images, videos and news from America's space agency. Get the latest updates on NASA missions, watch NASA...



Museum of Geology, SDSM&T

23 hrs · 🌐

Today's at home learning about geology is all about the minerals used to make bicycles! Do you think a United States Bicycle manufacturer could source all their materials from within in the US? Do this lesson with your at home learners to find out.

<https://mineralseducationcoalition.org/education-database/bicycle-minerals-minilesson/>

If there are topics or activities you would like to see please contact us at museum@sdsmt.edu or via message.



MINERALS EDUCATION COALITION.ORG

Bicycle Minerals Mini-Lesson | Minerals Education Coalition

GGE: Awards, Updates



Michael Cyrier: GSA Rocky Mtn Section UG Research Grant



Jichao Bao: SD Mines Ivanhoe Fellowship



Fleford Redoloza: SD Mines Kate Simmons Teskey Fellowship



Perrin Salonek: SD Mines Leadership Hall of Fame



Disha Gupta: AAPG Student Research Grant



Grace DeVault: Charles Sternberg Scholarship (AAPS)

GGE: Outstanding Student Awards 2019-20

Geology & Geological Engineering

- Jack A. Redden Award, Outstanding Geology Senior: Michael Cyrier
- Edward L. Tullis Award, Outstanding Geological Engineering Senior: Wyatt Tatge

Graduate Education

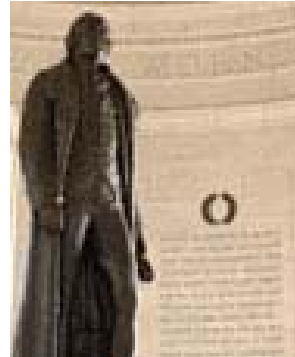
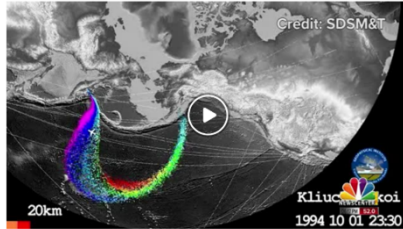
- Outstanding Geology and Geological Engineering MS Student: (GEOE) Todd Anderson
- Outstanding Geology and Geological Engineering MS Student: (GEOL) Kristen Lewis
- Outstanding Paleontology MS Student: Grace DeVault

GGE and Museum: In the News

Jefferson Science Fellow 2020-21

Colorful sunsets and powerful volcanoes — the link between geology and weather

October 18, 2019 by Brant Beckman, NewsCenter1 Staff



SDPB/SD Mines
STEAM Café
October 2019



Museum of Geology, SDSM&T

February 24 · 🌐

Some Museum of Geology staff were interviewed last week by KOTA Territory about campus programs to support women in science. Here at the Museum we are proud to be a female led department!



KOTATV.COM

Tech makes moves to get more women in science

The School of Mines is working to improve the number of women ...



Museum of Geology, SDSM&T

October 23, 2019 · 🌐

Our Forest Service work in the Paleo Resource Management class last spring.



KOTATV.COM

School of Mines gets an animal bone collection

A collection of animal bones ranging from bison and elk to mounta...

Department Strategic Plan

Academic & Co-Curricular Excellence

- Initiative 1: ABET Accreditation GEOL BS, Reaccreditation GEOE BS
- Initiative 2: UG Recruiting: Evaluate current initiatives and continue innovation

Research & Innovation

- Initiative 1: Increase external grant funding for RAs to attract strong graduate candidates
- Initiative 2: Assess our graduate program offerings to meet current trends in geoscience graduate education (non-thesis MS, hybrid courses, recruiting, employment)

Outreach & Engagement

- Initiative 1: Funding for Geo-EPICS, Geo-PATHS
- Initiative 2: Engage Outstanding Alumni with students

Campus Culture

- Initiative 1: Department Salons with Strategic Plan themes
- Initiative 2: Free Mini-Camps for regional high school students



GGE: Admissions (as of 4/15/20)

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Applications	Fall 2018	Fall 2019	Fall 2020	Change ('19-'20)
GEOE	34	25	20	-20%
GEOL	50	59	55	-6.8%

Acceptances	Fall 2018	Fall 2019	Fall 2020	Change ('19-'20)
GEOE	28	22	15	-31.8%
GEOL	40	41	42	2.4%

Course Registrations	Fall 2018	Fall 2019	Fall 2020	Change ('19-'20)
GEOE	3	3	6	100.0%
GEOL	13	8	14	75%

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Applications	Fall 2018	Fall 2019	Fall 2020	Change ('19-'20)
GRAD Programs*	33	29	35	+20%

Acceptances	Fall 2018	Fall 2019	Fall 2020	Change ('19-'20)
GRAD Programs*	10	10	18	+80%

Commits	Fall 2018	Fall 2019	Fall 2020	Change ('19-'20)
GRAD Programs*	6	6	11 (1 pending)	+83%

*Excluding
MEM
specialization

Recruiting Efforts

Social Media: This week in lab...

Geomicrobiology



Surveying for Geological & Mining Engineers



Groundwater



Swag for Visiting Prospective Students



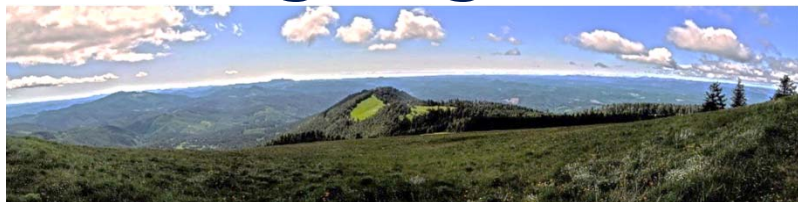
Social Media: This month in research...



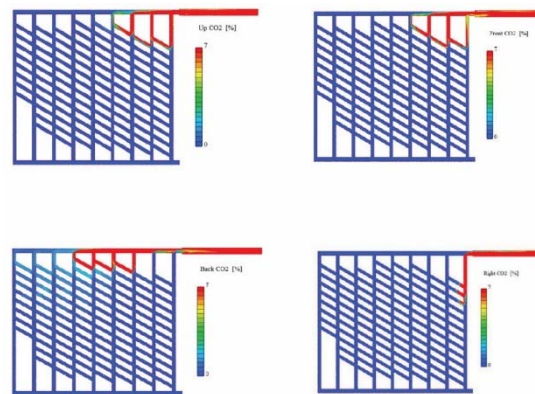
Exhibit Booth GSA & AGU



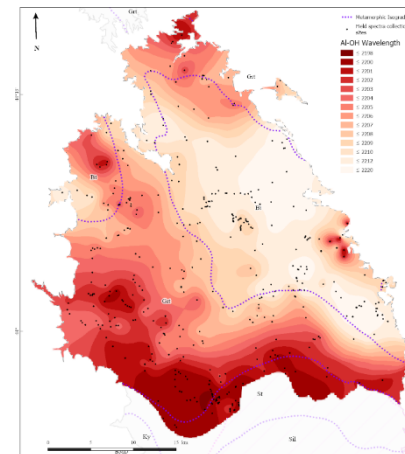
Research Highlights



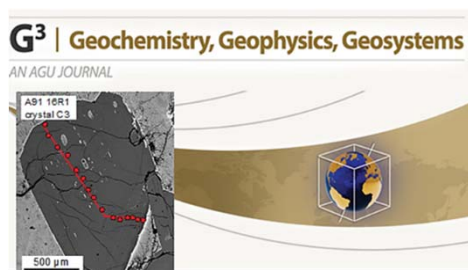
Ward (2020) NSF: *Cascadia2020 Investigating subduction zone segmentation with a 3D high-resolution Vp model*



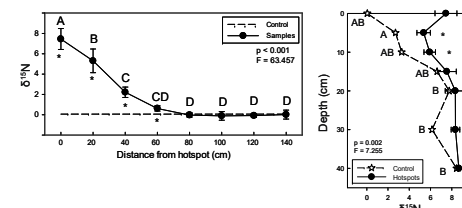
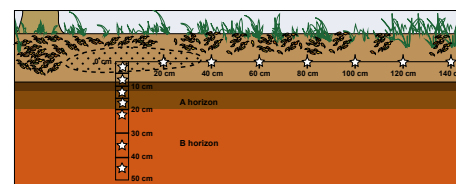
Tukkaraja and Katzenstein NIOSH: *Ventilation in block cave mines*



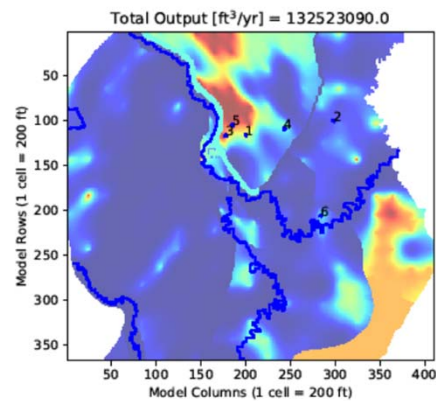
Day and Duke Field NIR spectroscopy white mica and metamorphism, Black Hills



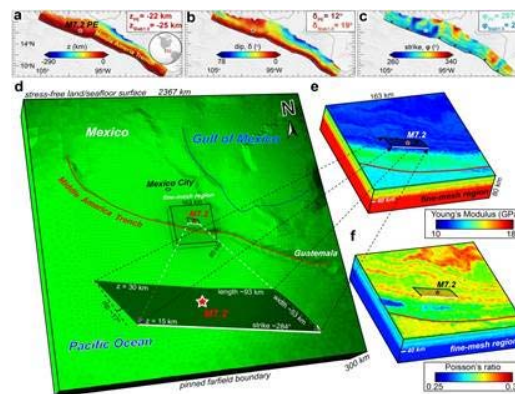
Nielsen, R.L., Ustunisik, G., et al., 2020 *Trace element and isotopic characteristics of plagioclase megacrysts in MORB plagioclases ultraphyric basalts (PUBs)*



Keenan (2019) Biogeosciences *Soil Stable Isotopic Changes After Decomposition*



Redoloza and Li (2020) Advances in Water Resources: *Extremal optimization for well design*



Masterlark (2020) USGS NEHRP *library of earthquake deformation models for North America*

FY20 Operating Budget

FY 20 Geology & Geological Engineering (as of March 31, 2020)

Index	Description	Type	Budget Start FY20	Budget Adjusted	% Remaining	Revenue	Claim on Cash	NOTES
4GGE02	O/H Recovery	O&E	\$5,000	\$2499	99.93%	\$7,525	\$71,239	Covid -\$2499
4GGE12	Equipment Use						\$1,046	
4GGE13	Geology Map Fund	O&E	\$75		100%	\$203	\$5,288	
4GGE15	ESRI-ALC	Personal Services	\$0	\$2129	52%			
4GGE15	ESRI-ALC	O&E	\$15,000	\$11436	12.55%		\$103,832	Covid -\$1435
4GGE18	Tuition & Fees	Personal Services	\$1,205,642	\$1,223,910	23.88%			Moved O&E to PS for TAs (\$18,267)
4GGE18	Tuition & Fees	O&E	\$34,917	\$20,228	-60%			Accounts for voluntary budget reduction of \$1,800 for FY20; Covid -\$467.26
4GGE18	Tuition & Fees	Startup	\$40,000	\$29,766	50%			
4GGE23	Foundation Clearing	Personal Service	\$140,050	\$222,327	27.37%			
4GGE28	ESRI Software	O&E	\$100		100%		\$836	Typically rebudgeted to \$1000 at end of FY
4GGE37	Special Disc Fee	Personal Services	\$17,548		60%			
4GGE39	Special Disc Fee	Personal Services	\$213,265		24.34%			
4GGE52	GIS Workshops	O&E	\$4,425	\$6,153	20.66%		\$5,802	Budget increase \$3000 in Jan; Covid \$1272

FY21 Operating Budget

- Typical Expenditures (\$34,917)

- Rebudget to personal services to help cover TAs
- Office operations
- Office supplies
- Field trips
- Supplies/equipment for classes
- Equipment rental for classes
- Staff computers
- Plotter rental and usage
- Faculty travel for professional development
- Guest speakers
- Grad student recruiting at professional meetings

- Budget Model Impact on Strategic Initiatives (+\$11,585)

- Defray costs of GAs until Assistantship Budget Model implemented
- Faculty searches
- GGE teaching lab improvements: chairs, white boards, LCD projector upgrades
- High Resolution GPS rentals
- Online advertising of programs
- Updates to new brand



Resource Needs

- **FY21**

- Permission to search for 2 faculty members
 - to replace Dr. Sawyer, who plans to retire in June 2021
 - to replace Dr. Baran

- **FY22**

- Hire faculty replacements for Drs. Sawyer and Baran
 - Partial start-up support
- Areas under discussion by faculty
 - Geologist with specialization in tectonics
 - Teach Structural Geology
 - Advise and fund graduate students in ...
 - Geological Engineer
 - Open specialization
 - Distribute soft-rock courses among existing (and new?) faculty members

- **Salary Compression and Inversion**

Black Hills Natural Sciences Field Station

Credit Hours Generated

2014	2015	2016	2017	2018
968	1027	1386	1200	1378



2018-19 in Numbers

Total number of courses offered: 21

Number of Locations: 16

Total number of Students: 276

Total number of credits: 1378

Total Revenue: \$1.324 Million





Grant support:

- NSF DBI (2), BIO, GOLD
- Bureau Land Management
- US Army Corps of Engineers
- National Park Service

Museum of Geology FY19

Collections:

- 5 Federal Agencies Served; Bureau of Land Management, Bureau of Reclamation, National Park Service, Army Corps, Forest Service
- 6 RAs & 11 Student Workers

Student Projects

- 5 Senior Research/Indep. Studies
- 11 MS or PhD projects

Exhibit Hall:

- 24,380 visitors
- \$69,160 sales and free-will donations

Outreach, Tours, Public Programs:

- 67 tours
- 138 fossil and rock ID requests

Volunteers PRL:

- 27 volunteers logged 2,383 hours in Prep Lab

Informal STEM Education Training

- 22 Museum Student Workers

Exhibit Hall



Paleontology Lab



Museum Strategic Plan

Academic & Co-Curricular Excellence

- Initiative 1: Teach a new field methods course for GGE
- Initiative 2: Add field experiences to GGE graduate course

Research & Innovation

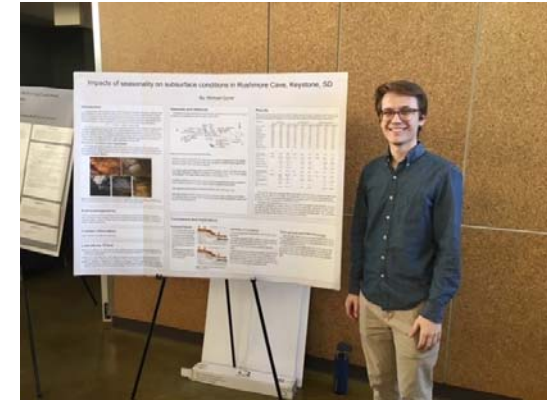
- Initiative 1: Achieve new grant funding (IMLS)
- Initiative 2: Hire Collections Manager/Associate Director

Outreach & Engagement

- Initiative 1: Achieve AAM accreditation
- Initiative 2: Increase outreach with Native American Community

Campus Culture

- Initiative 1: Field and ethics training for Paleo Club
- Initiative 2: Enhance security of Museum and PRL



Weekly Story Hour

- Thursdays at 10am in the Kids Zone
- Hosted by Assistant Director, Emily
- Story and activity
- All ages welcome (even stressed college kids who need a break from studying)



FY20 Operating Budget

FY 20 Museum of Geology (as of March 31, 2020)

Index	Description	Type	Budget Start FY20	Budget Adjusted	% Remaining	Revenue	Claim on Cash	Notes
4MSM01	General Fund	Personal Services	\$151,318		35.23%			
4MSM03	O/H MSM	O&E	\$2,000	\$1,000	100%	\$1,079	\$20,640	Covid -\$1,000
4MSM06	Store	Personal Services	\$10,022	\$30,247	14%			\$20,225 budget increase
4MSM06	Store	O&E	\$9,000	\$18,000	1.16%	\$41,341	\$16,640	\$9,000 budget increase;
4MSM08	Fdn Clearing	Personal Services	\$53,470		47.01%			
4MSM12	Tuition & Fees	Personal Services	\$12,954	\$18,059	32.9%			\$5,106 moved O&E to PS for student workers
4MSM12	Tuition & Fees	O&E	\$27,179	\$20,494	7.71%			Covid -\$11,580
4MSM15	Curation Services	O&E	\$13,000	\$6,500	100%		\$17,905	Covid -\$6,500

• Typical PRL Expenses

- Fossil preparation lab materials
- Curation materials
- 3 new laptops for collections work by students
- Students workers
- Software subscriptions for collections

• Exhibits Expenditures

- Merchandise for resale
- Signage, stands, and fabric for display improvements
- Marketing
- Student workers

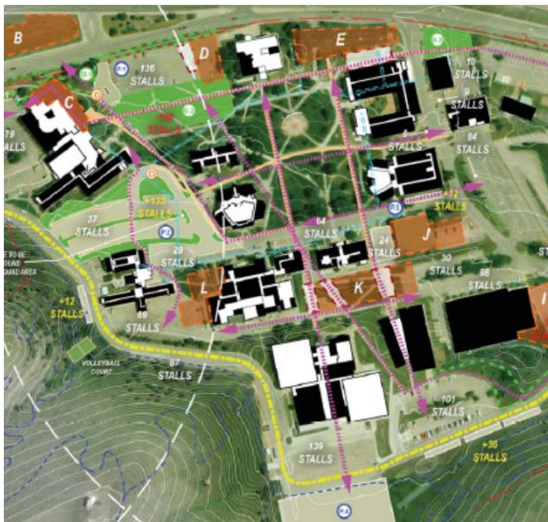
Resource Needs

- **New Associate Director/Collections Manager: Nathaniel Fox**
 - PhD Environmental Systems, UC Merced (August 2020)
 - MS Geosciences, East TN State Univ
 - BS in Biology from U Mass Amherst
 - Museum experience
 - Mammoth Site
 - Denver Museum of Nature and Science
 - La Brea Tar Pits
 - Mitigation paleontologist, SWCA Environmental Consultants
 - Starting in August 2020
 - Duties:
 - Collections Management
 - Database Administration
 - Teaching/Training
 - Partnership Development



Revenue Positive Initiatives

- **Add security cameras (9 @~\$500 each; ~\$4,500)**
 - 4 in Exhibit Hall, 5 in PRL
 - Safety, theft, vandalism prevention, and liability mitigation
 - Allows back door of PRL to be open during business hours
 - More visitor access to PRL
 - Potential to exhibit higher value items
- **Radioactive room shielding (~\$20,000)**
 - Health of staff and students





Thank You!
