



January 9, 2023

# Environmental Health and Safety (EHS)

Presented by:

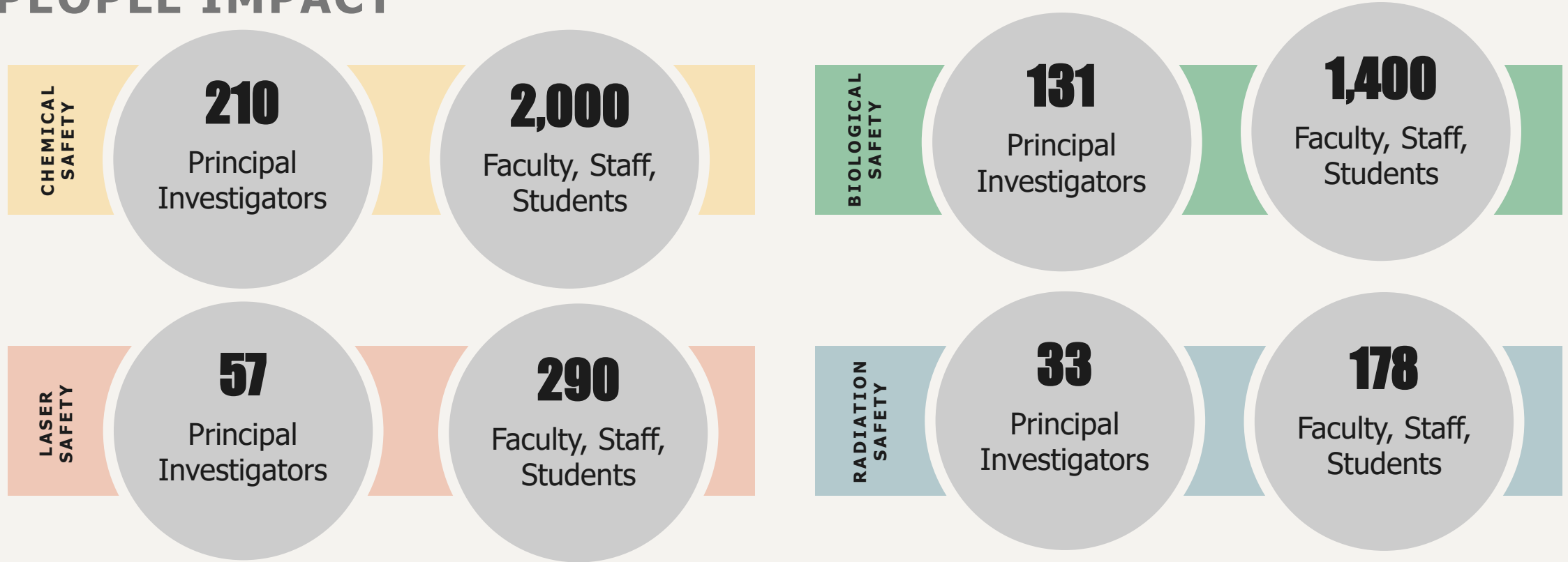
Andrea George, PhD, PMP, CHMM, BCEEM  
Assistant Vice Chancellor for  
Environmental Health, Safety, and Sustainability  
Adjunct faculty, CEE  
Co-leader, Covid command center



# Research EHS

## Programmatic impact

### PEOPLE IMPACT



### FUNDING IMPACT

**\$258M**

Sponsored research program awards  
(FY22)

# Dare to Grow

Ultimate goal of any safety program is for every person to leave as healthy as they were when they got to campus!

## 2016

Research EHS function outsourced to VUMC.

## 2016 to 2022

VU research grew in volume, complexity, and risk.

VUMC EHS support for VU research waned over time and no longer meets VU's research support needs.

## 2022 to 2023

VU chose to redevelop internal research-focused EHS function and fund 12 new staff.

Goals are to:

**Better align** EHS support with VU vision and culture;

**Improve collaboration and communication** between EHS and research community;

**Improve administrative burden and data transparency** through use of improved IT;

Support development of a best-in-class research **safety culture**.



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# Achievements to date

- ✓ **Transitioned** EHS department from Facilities to **Health and Wellness** to better align with university needs.
- ✓ **Recruited** 9 of 12 new technical staff for biological safety and chemical safety/hazardous waste teams.
- ✓ Negotiated new VUMC **SLA terms** to allow separate 30-day glidepaths for each function.
- ✓ Formed **advisory focus groups** which include lab managers, administrative officers, and school facilities managers.
- ✓ Launched **awareness campaign** with a planned series of 6 MyVU stories, a new website, monthly updates to safety committees and focus groups, and periodic updates for Deans' offices, school and departmental faculty groups.
- ✓ Secured approval from G2 to implement new **EHS information management system**:
  - Goal is to improve researchers' data transparency and ability to manage their hazardous materials, training, and safety risks.
  - VUIT is leading the implementation. Server installation, system integration, and data integration are complete.
  - User interface design, focus group, and launch planning underway.
- ✓ **Laser safety program and Laser Safety Committee** developed since 2020 and functioning well.
- ✓ **Biological safety program** officially transitioned from VUMC to VU on November 30, 2022.
  - This does not include animal care as that remains with VUMC Animal Care and Use Program.

**Transition is progressing well, on time, and in budget!**





# Transition next steps

## ➤ Communications:

- Summer 2023 MyVU story on EHS Assistant software launch
- Summer 2023 MyVU story on chemical safety/hazardous waste team and Chemical Safety Committee
- Summer 2023 MyVU story on radiation safety team and Radiation Safety Committee
- Ongoing Updates provided to Deans and at safety committee and faculty meetings

## ➤ Staff recruitment:

- Complete recruitment process for remaining 3 radiation safety positions

## ➤ EHS Assistant software implementation:

- Advisory focus groups and safety committees will preview test environment to provide feedback prior to launch
- User interfaces, reports, and dashboards will be customized using researcher feedback
- Chemistry graduate students working with EHS can assist with chemical inventory or other EHS data updates

## ➤ Chemical safety/hazardous waste and radiation/X-ray safety programs transition:



SLA termination target is June 30, 2023.

- VUMC Office of Clinical and Research Safety will continue involvement in these programs until then.



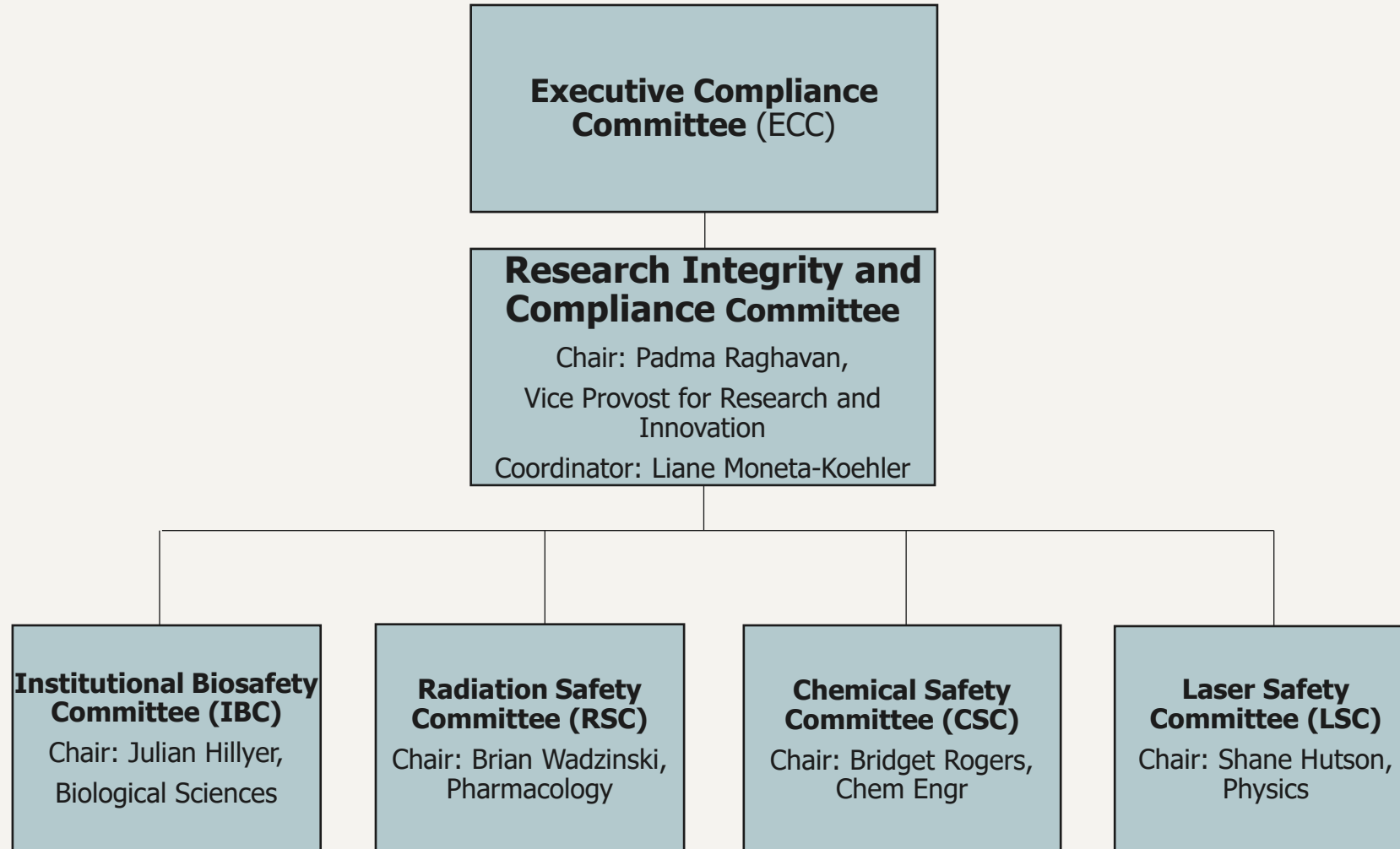
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Research EHS

Governance  
and  
Program Overview

# Governance

## EHS Committees



# Governance

## Committee Involvement

### **RESEARCH INTEGRITY & COMPLIANCE COMMITTEE**

**9** Faculty

**8** Staff

### **INSTITUTIONAL BIOSAFETY COMMITTEE\***

**6** Faculty

**7** Staff

### **RADIATION SAFETY COMMITTEE**

**5** Faculty

**6** Staff

### **CHEMICAL SAFETY COMMITTEE**

**8** Faculty

**9** Staff

### **LASER SAFETY COMMITTEE**

**5** Faculty

**9** Staff

Faculty span the following departments:

- Biochemistry
- Biological Sciences
- Biomedical Engineering
- Cell and Developmental Biology
- Chemical and Biomolecular Engineering
- Chemical Engineering
- Chemistry
- Earth and Environmental Sciences
- Electrical Engineering and Computer Science
- Molecular Physiology and Biophysics
- Pharmacology
- Physics
- Sociology
- Teaching and Learning

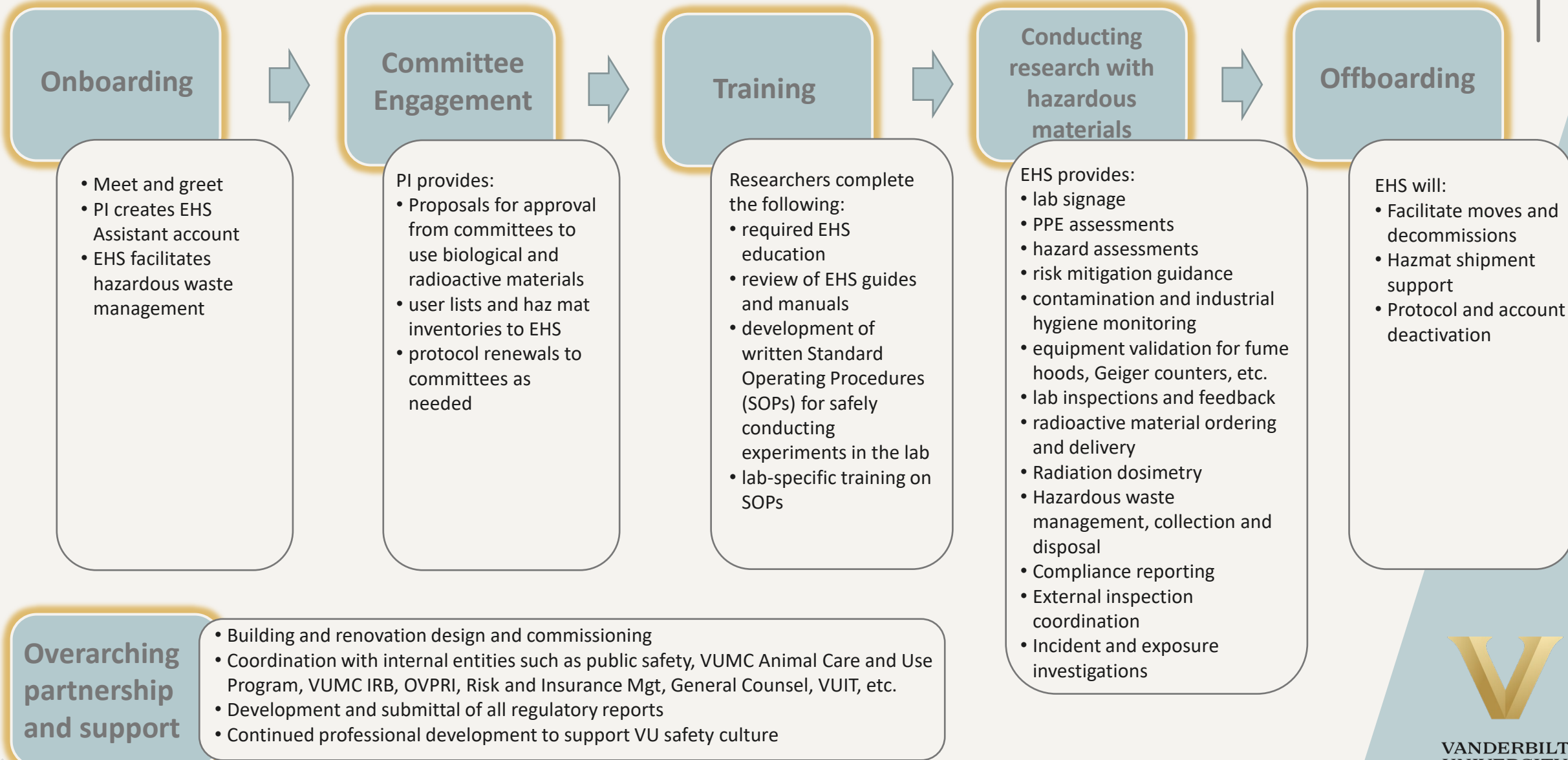
Staff represent VU and VUMC departments:

- Research Integrity and Compliance
- Office of Vice Provost for Research and Innovation
- Environmental Health, Safety, and Sustainability
- Facilities
- Risk and Insurance Management
- Information Technology
- General Counsel
- VUMC Animal Care and Use Programs
- VUMC Occupational Health
- VUMC OCRS
- VUMC Office of Animal Welfare Assurance
- Various Dean's offices

*\*Committee also includes 2 community members*



# EHS and research lifecycle engagement



# Health and Wellness

Environmental Health, Safety, and Sustainability

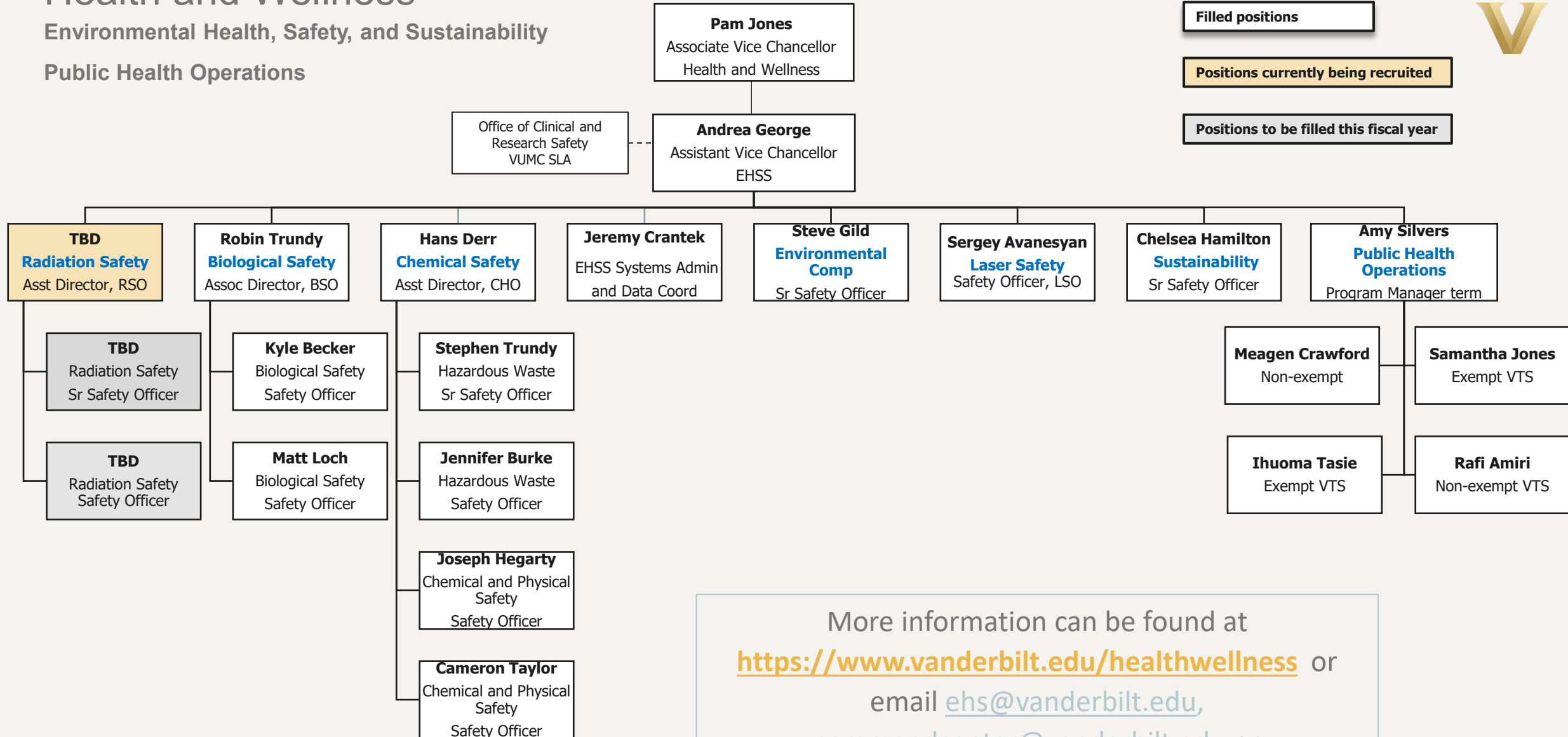
Public Health Operations



Filled positions

Positions currently being recruited

Positions to be filled this fiscal year



More information can be found at  
<https://www.vanderbilt.edu/healthwellness> or  
email [ehs@vanderbilt.edu](mailto:ehs@vanderbilt.edu),  
[commandcenter@vanderbilt.edu](mailto:commandcenter@vanderbilt.edu) or  
[futurevusustainability@vanderbilt.edu](mailto:futurevusustainability@vanderbilt.edu)

# Leadership Team



## **Pam Jones DNP, RN, NEA-BS, FAAN**

Associate Vice Chancellor, Health and Wellness

Associate Professor, VU School of Nursing

- Co-chair, VU Public Health Central Command Center since 2020
- 2021 Chancellor's Award for University Service
- Former VUSN Senior Associate Dean for 7 years
- Former VUMC Chief Nursing Officer
- More than 30 years experience leading health, safety and wellness programs for various organizations
- BS, MS, DNP – Vanderbilt University



## **Andrea George PhD, BCEEM, CHMM, PMP**

Assistant Vice Chancellor, Environmental Health, Safety, and Sustainability

Adjunct Faculty, VU Civil and Environmental Engineering

- Co-chair, VU Public Health Central Command Center since 2020
- 2021 University Excellence Award and Service Champion Award
- Former VU Sustainability and Environmental Mgt Director for 6 yrs
- Former VEHS Associate Director for VU and VUMC for 19 yrs
- More than 25 years experience leading health, safety and sustainability programs for VU, ORNL, Bechtel National, and others
- PhD –VU School of Engineering; BS – Western KY University
- Can be reached at [andrea.george@vanderbilt.edu](mailto:andrea.george@vanderbilt.edu) or 615.322.4551



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# Chemical Safety

- Partners with researchers to ensure that chemicals are used in ways that reduce risk and exposure as well as compliance with Occupational Safety and Health Administration, Environmental Protection Agency, TN OSHA, TN Dept of Environment and Conservation
- Chemical safety team:
  - Assists with initial laboratory design, set-ups, moves and close-outs
  - Assists with chemical inventory management
  - Provides chemical and physical lab safety and hazardous waste training through Oracle Learn
  - Provides safety guidance or policies such as the Chemical Hygiene Plan
  - Assists with development of standard operating procedures
  - Conducts safety and compliance inspections/audits
  - Conducts injury, exposure, industrial hygiene, and indoor air quality evaluations in research areas
  - Collects and disposes of chemical and pharmaceutical waste from research areas
  - Responds to emergencies or spills involving chemicals in research areas
- Coordinates and supports the activities of the Chemical Safety Committee (CSC)
- More information can be found at <https://www.vanderbilt.edu/healthwellness/ehs/chemical-safety/> or email [ehs@vanderbilt.edu](mailto:ehs@vanderbilt.edu)



# Chemical safety team



**Hans Derr, BS, CIH**

Assistant Director, Chemical Safety  
Institutional Chemical Hygiene Officer

- Joined VU in Sept. 2022
- 9 years as EHS Manager at Penn State University
- 25+ years as an industrial hygiene manager and project manager in a variety of power companies and consulting organizations
- Certified Industrial Hygienist
- BS – Chemistry/Biology, Stephen F. Austin State University



**Stephen Trundy, BS, CHMM**

Senior Safety Officer, Hazardous Waste

- Joined VU in Sept. 2022
- 6 years at VUMC OCRS managing VU's hazardous chemical waste
- 18+ years safety and environmental coordinator at universities
- 7 additional years in industry
- Certified Hazardous Materials Manager
- BS – Biology/Chemistry, University of Arkansas



**Cameron Taylor, MS**

Safety Officer, Chemical Safety

- Joined VU in Sept. 2022
- 8 years as safety, health and environmental coordinator in industry
- MS –EHS, University of Wisconsin,
- BS – Environmental Health, Illinois State University



**Joe Hegarty, BS**

Safety Officer, Chemical Safety

- Joined VU in Sept. 2022
- 3 years as Occupational Safety Specialist at TN Occupational Safety and Health Administration
- Over a decade as a lab chemist and research assistant in industry
- BS –Chemistry, Temple University

**Jennifer Sanford-Burke, MS, CSP**

Safety Officer, Hazardous Waste

- Joining VU in Jan. 2023
- 8 years as plant safety manager at Schneider Electric, Nissan, and other manufacturing facilities
- 12 years in the Army Chemical Corps
- MS –Environmental Mgt, Webster University
- BS – Agriculture Science, Cal Poly

More information can be found at <https://www.vanderbilt.edu/healthwellness/ehs/chemical-safety/> or email [ehs@vanderbilt.edu](mailto:ehs@vanderbilt.edu)



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# Biological Safety

- Partners with researchers to ensure that biomaterials are used in ways that reduce risk and exposure and compliance with National Institutes of Health, Centers for Disease Control, and U.S. Dept of Agriculture
- Research involving any of the materials below must be approved through the Institutional Biosafety Committee (IBC):
  - recombinant or synthetic nucleic acid molecules
  - Human-derived materials
  - Nonhuman primate-derived materials
  - Agents infectious to humans, animals or plants
  - Acutely hazardous biological toxins
- Biological safety team:
  - Assists with initial laboratory design, set-ups, moves and close-outs
  - Provides biological safety and biological waste training through Oracle Learn
  - Provides biological safety guidance and policies
  - Assists with development of standard operating procedures
  - Conducts injury and exposure evaluations in research areas
  - Responds to emergencies or spills involving biological materials in research areas
  - Partners with Animal Care and Use Program to support biomaterial use in animal models
- More information can be found at <https://www.vanderbilt.edu/healthwellness/ehs/biological-safety/> or by emailing [VUBiosafety@vanderbilt.edu](mailto:VUBiosafety@vanderbilt.edu)





# Biological safety team



## **Robin Trundy MS, RBP, CBSP**

Associate Director, Biological Safety

Institutional Biological Safety Officer

- 11 years leading Vanderbilt's biological safety program as BSO at both VU and VUMC
- 15 additional years in biosafety at other universities and contract research labs
- Registered Biosafety Professional and Certified Biological Safety Professional (ABSA)
- Mentor in the Department of Defense sponsored Middle Eastern and Northern African twinning program
- MS – Environmental Health Mgt, Oregon State University, BS – Biology, Gannon University



## **Kyle Becker, MS**

Safety Officer, Biological Safety

- 12 years at Vanderbilt as graduate student and research assistant in VUSE
- 14 journal publications
- Eagle Scout and National Distinguished Service Award
- MS – Microbiology and Immunology, Vanderbilt University; BS – Biochemistry/Genetics, University of Minnesota



## **Matt Loch, BS**

Safety Officer, Biological Safety

- 8 years as research assistant and then lab manager at Vanderbilt's Warren Center for Neuroscience Drug Discovery and SOM-BS
- Over a decade experience in university and industry analytical labs
- 13 journal publications
- Eagle Scout
- BS – Chemistry, University of Pittsburgh

More information can be found at <https://www.vanderbilt.edu/healthwellness/ehs/biological-safety/>  
or by emailing [VUBiosafety@vanderbilt.edu](mailto:VUBiosafety@vanderbilt.edu)



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# Laser Safety

- Partners with researchers to ensure that Class 3B and 4 lasers and UV-emitting LEDs are used in ways that reduce risk and exposure and in compliance with American National Standards Institute (ANSI) standards and best practices
- Laser safety team:
  - Manages registrations and inventories for Class 3B/4 lasers and UV-emitting LEDs
  - Authorizes laser users and provides laser safety training through Oracle Learn
  - Assists with initial laboratory design, set-ups, moves and close-outs
  - Provides safety guidance and policies via the VU Laser Safety Manual
  - Assists with development of standard operating procedures
  - Conducts lab safety audits
  - Conducts injury and exposure evaluations
  - Assists with disposal of unwanted lasers
  - Responds to emergencies involving lasers
- Coordinates and supports the activities of the Laser Safety Committee (LSC)
- More information can be found at <https://www.vanderbilt.edu/healthwellness/ehs/laser-safety/> or email [lasersafety@vanderbilt.edu](mailto:lasersafety@vanderbilt.edu)



# Radiation and X-ray Safety

- Partners with researchers to ensure that radioactive materials (RAM), ionizing radiation-emitting equipment or sources, and X-ray devices are used in ways that reduce risk and exposure and in compliance with Nuclear Regulatory Commission, TN Dept of Radiological Health, and VU Broadscope License requirements
- Radiation safety team:
  - Manages the university's Broadscope License and X-ray device registrations
  - Assists researchers with application to the Radiation Safety Committee (RSC) for approval to use RAM
  - Orders, receives, surveys and delivers all RAM to researchers
  - Manages RAM inventory
  - Provides radioactive material and X-ray safety training in-person and through Oracle Learn
  - Assists with initial laboratory design, shielding designs, set-ups, moves and close-outs
  - Provides safety guidance and policies via the VU Radiation Safety Manual
  - Assists with development of standard operating procedures
  - Administers the dosimetry, RAM ordering, meter calibration, Trustworthy and Reliability security, and As Low As Reasonably Achievable (ALARA) programs
  - Conducts radiation safety surveys of RAM labs and equipment and safety audits
  - Conducts injury and exposure evaluations in research areas
  - Collects and disposes of radioactive waste and unwanted X-ray machines from research areas
  - Responds to emergencies or spills involving RAM or lasers in research areas
  - Partners with Animal Care and Use Program to support radioactive material use in animal models
- Coordinates and supports the activities of the RSC
- More information can be found at <https://www.vumc.org/safety/rad> or email [radsafety@vumc.org](mailto:radsafety@vumc.org)



# Radiation and laser safety team

## Radiation and X-ray Safety is currently managed by VUMC Office of Clinical and Research Safety

More information can be found at <https://www.vumc.org/safety/rad> or email [radsafety@vumc.org](mailto:radsafety@vumc.org)



**Sergey Avanesyan, PhD, CLSO**

Laser Safety Officer

- Joined VU as Laser Safety Officer in July 2020
- 10 years previously at Vanderbilt as an engineer in the Free Electron Laser Center and a research assistant professor in Physics and Astronomy department.
- 5 years at Fisk University as manager of the Tunable Femtosecond Laser Facility.
- Certified Laser Safety Officer
- MS – Laser Physics and Nonlinear Optics, Yerevan State University
- PhD – Laser Physics, Moscow State University

More information can be found at <https://www.vanderbilt.edu/healthwellness/ehs/laser-safety/> or email [lasersafety@vanderbilt.edu](mailto:lasersafety@vanderbilt.edu)



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# Other team members



**Chelsea Hamilton, MS, LEED AP BD+C**

Senior Safety Officer, Sustainability

- Joined VU in Oct. 2014
- Undergraduate intern in VU sustainability office
- Previously worked at Village Real Estate's Go Green Program
- BA – Biology/Anthropology, Vanderbilt University
- MS – Sustainability, Lipscomb University



**Jeremy Crantek**

Systems Administrator, Training, and Data Coordinator

- Joining VU in Jan. 2023
- 13 years supporting engineering firms as an analyst, IT project manager, and data warehouse administrator
- BS – Data Analytics and Data Management, Western Governor's University



**Steve Gild, MS, CHMM**

Senior Safety Officer, Environmental Compliance

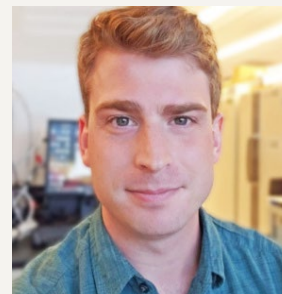
- Joined VU in 2007
- 25+ years in environmental management of corporations and manufacturers such as General Electric, NBC/Universal, Johnson Controls and Carrier.
- Certified Hazardous Materials Manager
- BS – Natural Resource Management, Michigan State University
- MS – Environmental Science, Tennessee State University



**Lexie Koziel, BS**

Student Intern

- Joining EHS in Jan.2023
- PhD candidate in Chemistry, Macdonald lab
- Internships in materials science and performance coatings
- BS – Chemistry, Case Western Reserve



**David Koomen, MS**

Student Intern

- Joining EHS in Jan.2023
- PhD candidate in Chemistry, McLean lab
- Research assistant and internships in microbiology and biotechnology
- MS – Biotechnology, University of South Florida
- BS – Microbiology, University of Tennessee

# EHS website

## Health and **Wellness**

Environmental Health and Safety Department



Biological Safety



Chemical Safety & Hazardous Waste



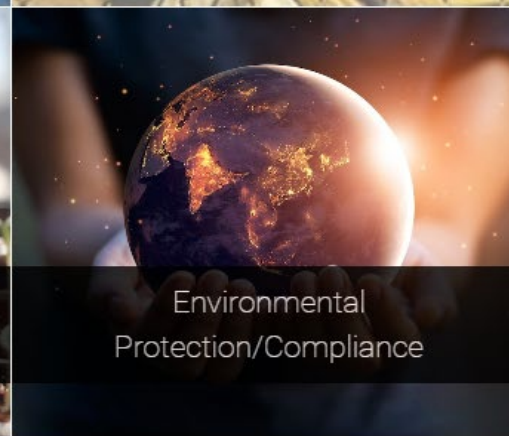
Radiation Safety



Laser Safety



Environmental Health and Safety Governance Committees



Environmental Protection/Compliance

<https://www.vanderbilt.edu/healthwellness/ehs>





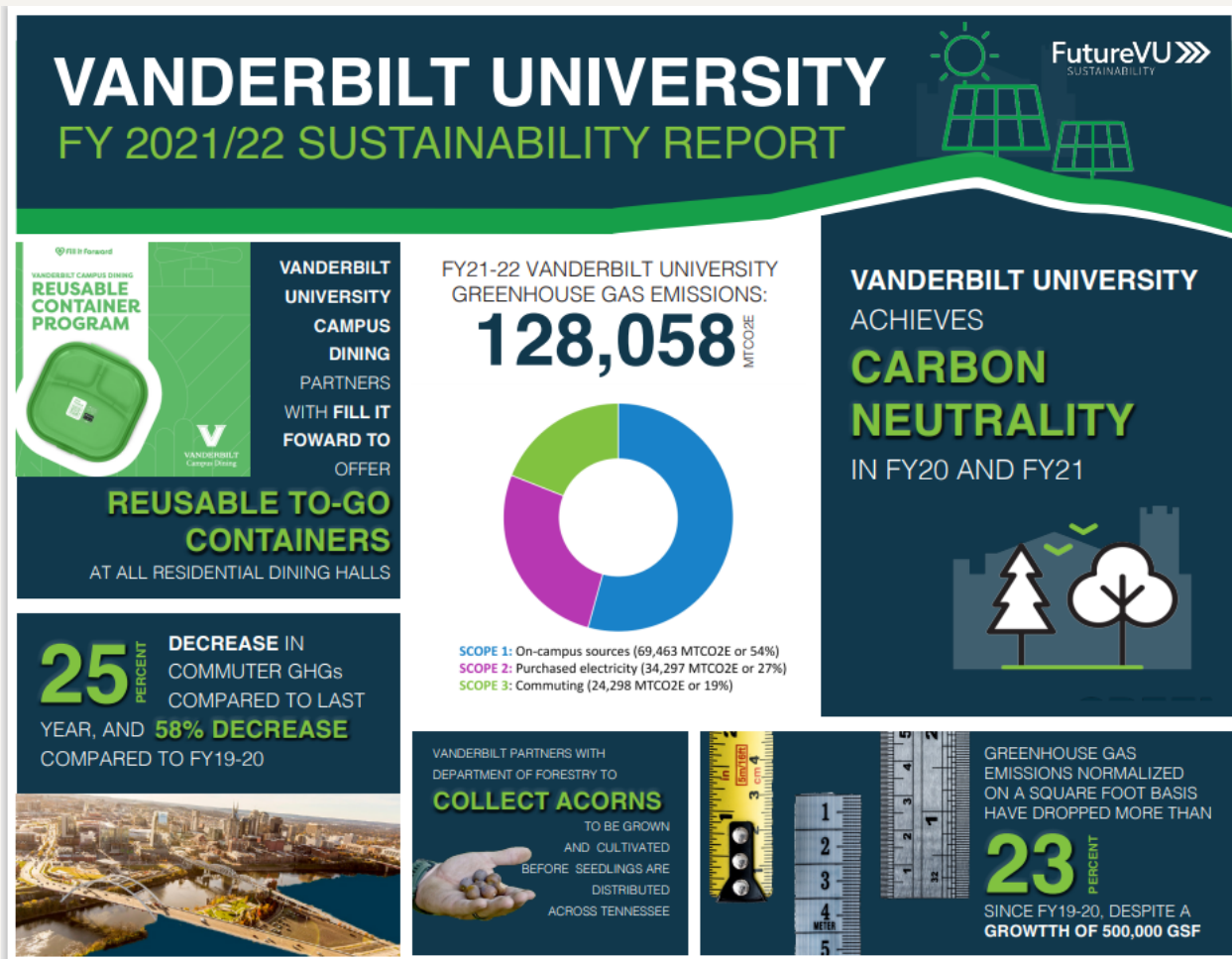
# Ranked 7<sup>th</sup> by Princeton Review's Green Colleges Guide

- #1 **College of the Atlantic**  
Bar Harbor, ME • 366 Full-Time Enrollment
- #2 **Dickinson College**  
Carlisle, PA • 2,173 Full-Time Enrollment
- #3 **State University of New York - College of Environmental Science and Forestry**  
Syracuse, NY • 1,595 Full-Time Enrollment
- #4 **Emory University**  
Atlanta, GA • 7,130 Full-Time Enrollment
- #5 **Colorado State University**  
Fort Collins, CO • 25,362 Full-Time Enrollment
- #6 **Williams College**  
Williamstown, MA • 2,166 Full-Time Enrollment
- #7 **Vanderbilt University**  
Nashville, TN • 6,886 Full-Time Enrollment



Featured

**Vanderbilt University**  
Nashville, TN •  
6,886 Full-Time Enrollment



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# FutureVU

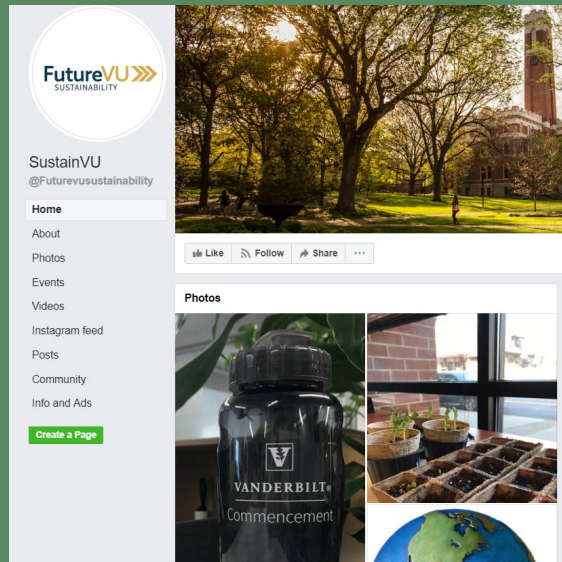
SUSTAINABILITY

<https://www.vanderbilt.edu/sustainability/>

Email [FutureVUSustainability@vanderbilt.edu](mailto:FutureVUSustainability@vanderbilt.edu)  
if you have any questions

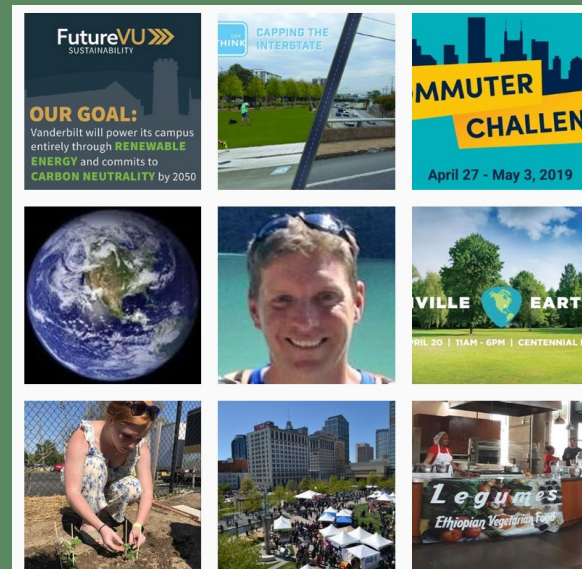
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@FutureVUsustainability



**Discussion and Questions?**

**Thank you so much  
for your time!**

