

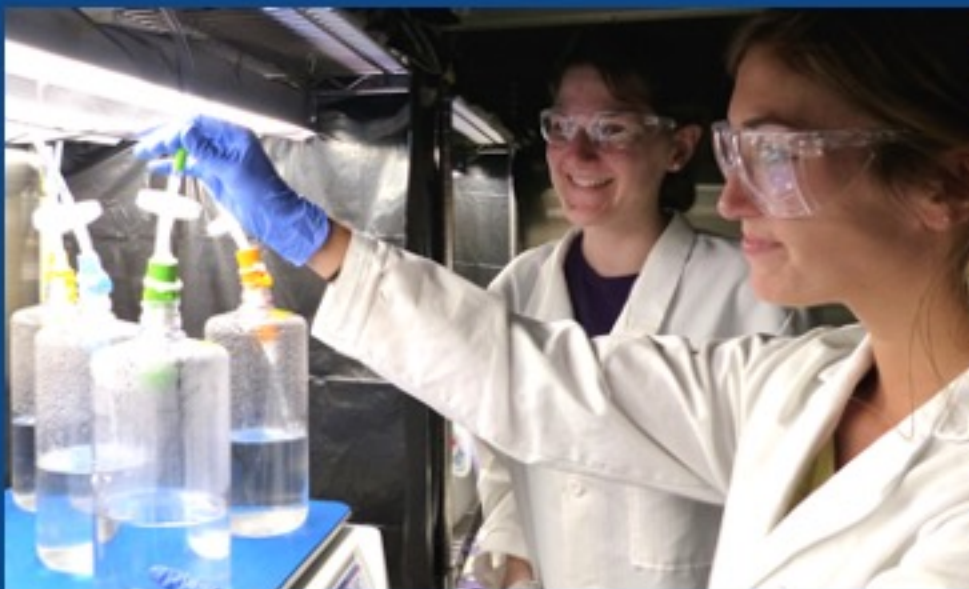


Women in Science at Lamont

Women in Science at Lamont

At Lamont, our **pioneering women scientists** do important, fascinating, and exciting work, and serve as **role models** for the next generation.

Learn more about our amazing **women in science**.



Einat Lev

Einat is a volcanologist. **She studies volcanoes** and has traveled the world examining how they erupt and how hot lava flows from deep inside the earth across the landscape.

Einat seeks to understand the physical processes influencing the **impact and force of volcanic eruptions.**



Einat Lev

As a girl, Einat wanted to be a photographer for **National Geographic**; now she is an expert in a field very relevant to it! Einat has visited various volcanoes – in **Hawaii, Chile, Iceland** – and was one of the first scientists to arrive on the scene when **Kilauea** erupted.



Einat Lev



Learn more: <http://einatlev.wixsite.com/einatlev>

Jacqueline Austermann

Jacky is a **geodynamicist** and **paleoclimatologist**. She studies how dynamics in Earth's interior cause sea level changes over **hundreds, thousands, and millions of years**.

Jacky uses computer simulations to model ups and downs of **Earth's surface** to better understand how **sea level will change** in today's **warming world**.



Jacqueline Austermann

Jacky seeks to **broaden the impact** of her research by starting to work with **local communities in the Arctic** and the tropics to prepare them for future **sea level and coastal change**. Jacky recently received an AGU Section **Award for Tectonophysics!**



Jacqueline Austermann



Learn more: <https://eesc.columbia.edu/faculty/jacqueline-austermann>

WOMEN IN SCIENCE

Ruth DeFries

Ruth is an environmental geographer and a **leader in sustainable development**. She is a pioneer who received a **MacArthur “Genius” Award**. Ruth was elected to the **National Academy of Sciences**, one of the highest scientific honors in the US.

Ruth uses remote sensing to study the **intersection of human society and nature**, using science to identify healthy landscapes to support humans and conserve biodiversity.



Ruth DeFries

Ruth has worked throughout the tropics, including the **Brazilian Amazon, India** and other countries, and has led and developed innovative educational programs in **sustainable development**. Ruth is strongly committed to **linking science with policy** to benefit society.



Ruth DeFries



Learn more: www.ruthdefries.e3b.columbia.edu/

Renata Constantino

Renata is a **marine geophysical researcher**. She works mainly with gravity inversions to map the **bathymetry**, the basement (surface under the sediments) and the **Moho (Crustal-Mantle Interface)** in oceanic areas.

Renata is currently working with gravity studies over **Antarctica (Ross Sea and George VI Ice Shelf)** in the **Polar Geophysics Lab** at Lamont.



Renata Constantino

Renata started her career as a **physical oceanographer** in **Brazil** where she used to work with **satellite oceanography**. As an undergraduate Renata did a course on computing for **geophysicists** and she fell in love with geophysics. Now, it is her life!



Pic: The Guardian



Pic: Wikipedia

Renata Constantino



Learn more: <https://www.ideo.columbia.edu/user/barrella>

Bärbel Hönisch

Bärbel is a geochemist who seeks to understand **the role of the ocean in global climate change**. She grows living foraminifera (calcifying **plankton**) in the lab and tests how their chemical composition changes in response to temperature and acidity.

Bärbel uses these to reconstruct past climate change, where fossil **foraminifera shells** are extracted from ocean sediments **going back thousands to millions of years**.



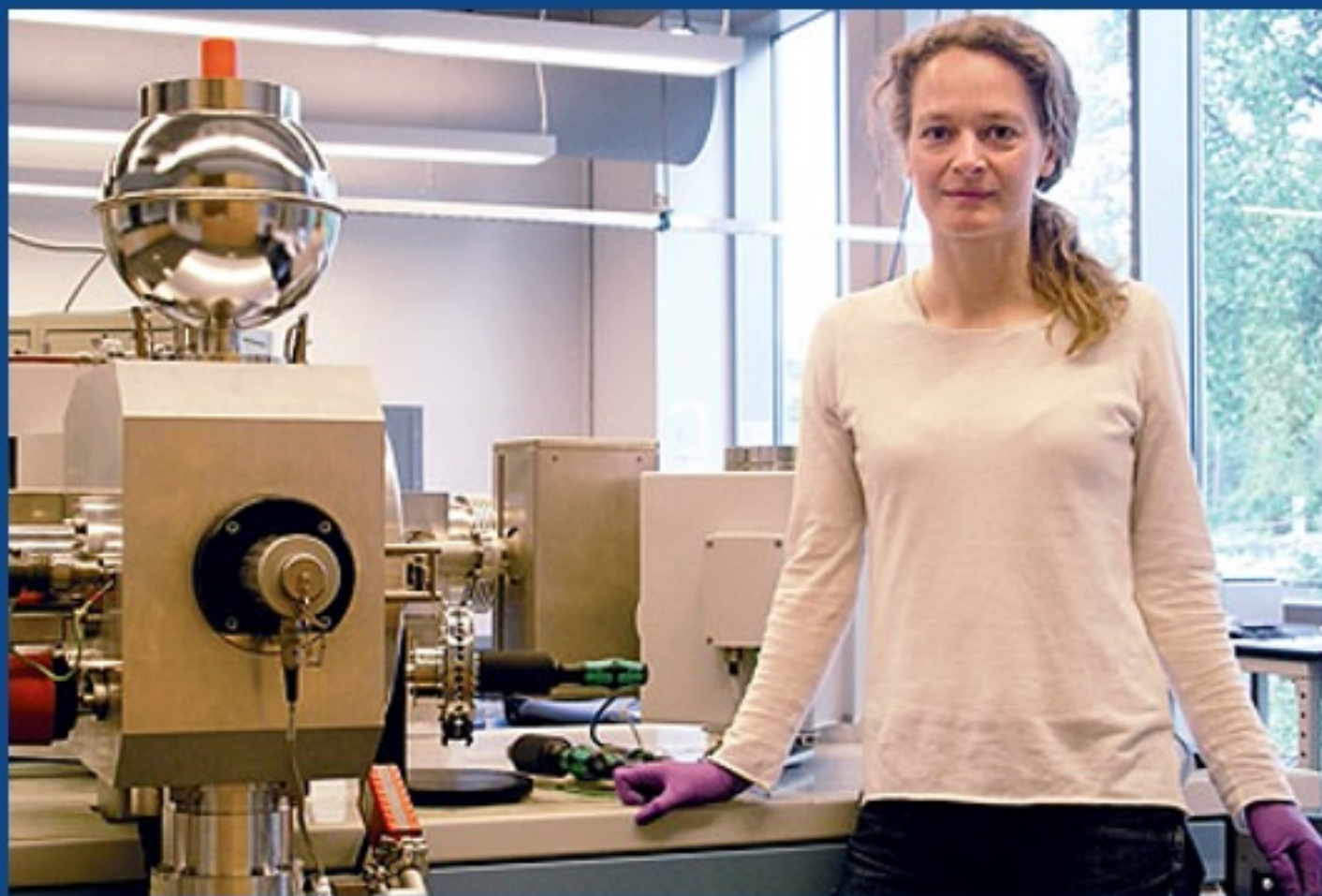
Bärbel Hönisch

Ever since she was a girl, Bärbel **loved the ocean**, swimming in the waves, observing creatures in rock pools, and digging her feet in the sand. Now as a **leading expert in ocean acidification**, her work takes her ocean diving!



Pic: Wikimedia Commons

Bärbel Hönisch



Learn more: www.ldeo.columbia.edu/~hoenisch/home.html

Laia Andreu-Hayles

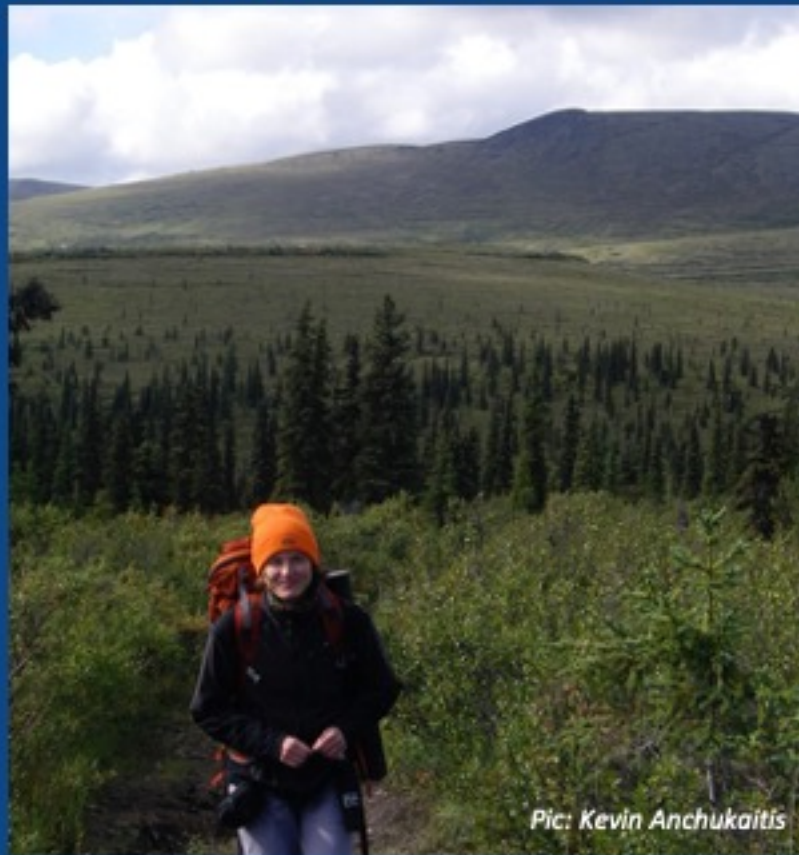
Laia is a scientist who uses **tree rings** and stable isotopes to reconstruct **past climate conditions** and study the interactions between forests and the environment.

Laia's work is focused on assessing the **impact of global change** on forests and reconstructing past climate variability.



Laia Andreu-Hayles

Laia was born in **Barcelona** and moved to New York in 2009 to work as a Lamont scientist. She has been conducting research in **Alaska**, **Mongolia** and the **Mediterranean** region. Recently she has been **pioneering** tropical dendrochronology in **South America**.



Pic: Kevin Anchukaitis



Pic: W. Huaman

Laia Andreu-Hayles



Learn more: <https://andreu-hayles.ideo.columbia.edu/>

Genevieve Coffey

Genevieve is a graduate student interested in **earthquakes and fault mechanics**. She is curious about how earthquakes are expressed in the field.

In particular, Genevieve is interested in trying to extract information about these **"fossil" earthquakes** so we can better understand earthquakes today.



Genevieve Coffey

Genevieve grew up in **New Zealand**, where the **Pacific and Australian plates** meet, a similar tectonic setting to the **San Andreas Fault** in California. Spending so much time in a seismically active region fostered her interest in earthquakes and **motivated her to learn about earthquake-related hazards.**



Genevieve Coffey



Learn more: <https://eesc.columbia.edu/student/Genevieve-coffey>

WOMEN IN SCIENCE

Anne Becel

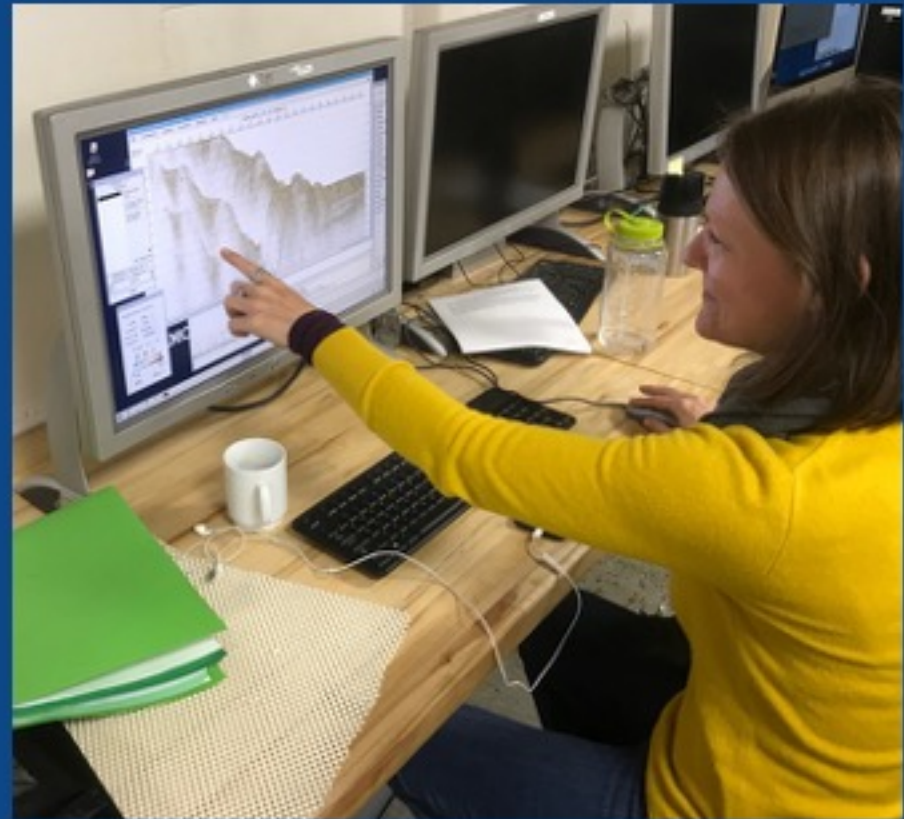
Anne is a **seismologist** who studies the processes along **plate tectonic** boundaries, in particular those that produce **devastating geohazards**. Anne is the **Chief Scientist** for the Office Marine Operations that operates the **R/V Marcus G. Langseth**.

Anne's work provides images of the sub-seafloor that help inform what controls the ability of **submarine faults to generate large earthquakes and tsunami**. She has worked on the **Alaska, Lesser Antilles and Hellenic** subduction zones and the major transform fault within the **Sea of Marmara**.



Anne Becel

Anne's research includes collecting **active-source seismic data** onboard many research vessels, in the **Pacific and Atlantic Oceans**, and the **Mediterranean and Marmara Seas**. She enjoys embarking with her students on research cruises and provide them their first experience at sea!



Anne Becel



Learn more: <https://www.ideo.columbia.edu/user/annebcl>

WOMEN IN SCIENCE

Laurel Zaima

Laurel is a **marine biologist** and an **environmental educator**. She communicate science research to the general public, undergraduate school groups, K-12 and New York and New Jersey teachers.

Laurel's primary educational focus is on connecting the public to the **Hudson River and their local waterways**, with an emphasis on field studies. She also teaches about **sustainability, climate change**, and **sea level rise** with a strong emphasis on the changes occurring in the polar regions.



Laurel Zaima

Laurel is passionate about **marine biology, conservation, and environmental education**. She knows the critical role that education plays in **building a bridge between the public and the natural environment**. Through her work, Laurel impacts people's lives and influences their daily decision making!



Laurel Zaima



Learn more: <https://blog.ideo.columbia.edu/piermont/people/>

WOMEN IN SCIENCE

Rahel Diro

Rahel is a researcher with a background in **Economics** and **Agribusiness** studying the interrelated issues of climate risk, agriculture and food security.

Her work focuses on the **integration of risk models** with **qualitative knowledge of farmer needs** and perceptions to develop insurance and forecast based financial products that enhance **farmer resilience to climate change impacts**.



Rahel Diro

Rahel has in-depth expertise in interrelated issues of financial services and **climate risk management in agriculture**. She has supported the launch and scaling of weather insurance programs in several African countries.



Rahel Diro



Learn more: <https://iri.columbia.edu/our-expertise/financial-instruments/>

Kathrin Schilling

Kathrin is an **isotope geochemist** whose research motivation is drawn from the fact that nutrient deficiency and contamination will increase the **global risk for chronic diseases or cancer**. She uses zinc stable isotopes to find sustainable ways to combat zinc deficiency in humans, which affects 1/3 of the world's population, and is related to crops grown on zinc deficient soils. She is also currently developing an **early detection tool for pancreatic and prostate cancer** using zinc isotopes.



Kathrin Schilling

Kathrin grew up in Germany. Over the last 10 years, she has done research at universities in **Germany, Switzerland, The Netherlands, and England.**



Kathrin Schilling



Learn more: <https://www.earth.columbia.edu/users/profile/kathrin-schilling>

Emily Follansbee

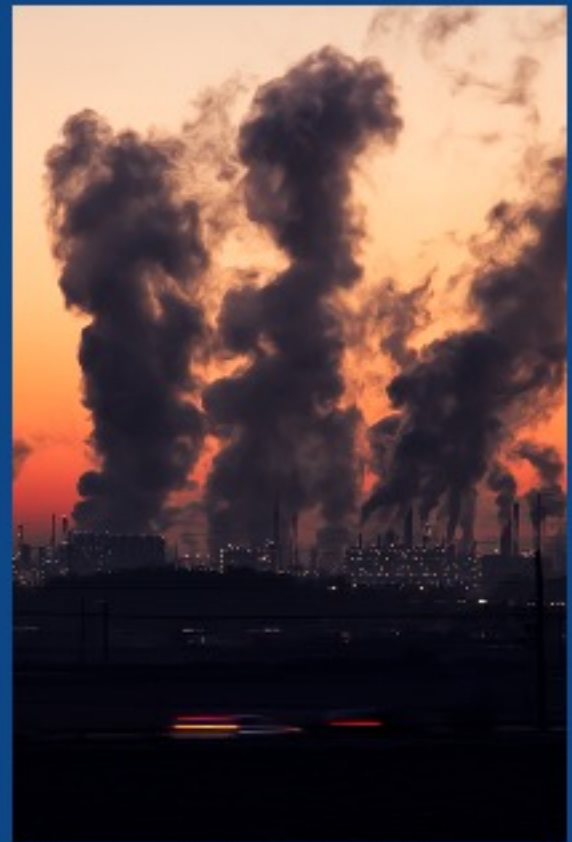
Emily Follansbee is a graduate student in geochemistry who is looking to understand the **chemical composition and toxicity** of particulate matter **air pollution**.

Emily graduated from Gonzaga University with a B.S. in Civil Engineering with a minor in physics.



Emily Follansbee

Emily always loved math and science but **found her passion in air pollution** after taking an inspiring class in college. She studies the intersection between **climate change, air pollution, and human health**



Emily Follansbee



Learn more: <https://eesc.columbia.edu/content/emily-follansbee>

Cornelia (Conny) Class

Cornelia is a **geochemist** and studies the **Earth's mantle** down to the core-mantle boundary at about 3000 km depth. Some **volcanic islands, e.g. Hawaii**, bring information about this inaccessible region of Earth to the surface through hot upwellings, so-called **mantle plumes**.

What material forms mantle plumes, how old is this material and where does it come from are questions addressed by Cornelia's research.



Cornelia (Conny) Class

As a mountaineer in the European Alps Cornelia got interested in geology as a teenager. But the realization that we know very little about the interior of our planet, combined with a love for volcanoes, sparked her passion.



Cornelia (Conny) Class



Learn more: <https://www.ldeo.columbia.edu/user/class>

Galen McKinley

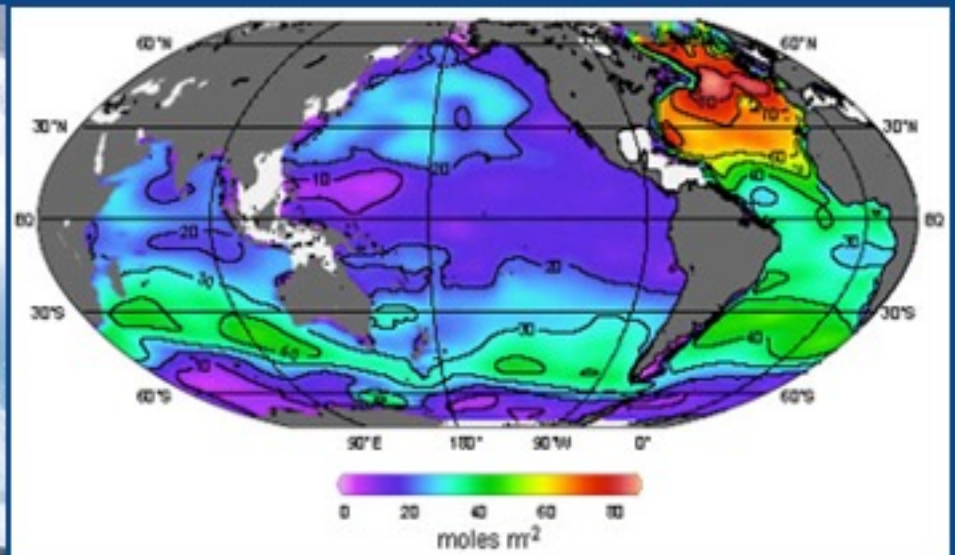
Galen is an **oceanographer and a climate scientist**. She studies how the physics, chemistry, and ecology of the **oceans and Great Lakes** respond to climate variability and change.

Galen seeks to understand how these systems shape the **global carbon cycle**. She uses computer simulations and **analyzes large datasets** to achieve this.



Galen McKinley

Galen is passionate about **sharing the joys** and insights of her science with her colleagues, students, the public and policy makers. She also serves as a **mentor and leader** for the MPOWIR program that **mentors junior women scientists** to become physical oceanographers.



Galen McKinley



Learn more: <https://galenmckinley.github.io/>

Christine McCarthy

Christine is a **geophysicist**. She studies ice and rocks in order to understand **how glaciers flow** and how **icy moons of Jupiter and Saturn** turn tidal energy into heat.

Christine uses lab equipment to squeeze, slide, and tickle ice. **She “tortures ice to learn its secrets”**. She measures the physical properties of ice and rock to better understand the dynamics of geologic processes.



Christine McCarthy

Christine used to be a **professional dancer** before she found geoscience! She **loved rock climbing**, and was so fascinated by different **rock formations** that she decided to study geology and is now an **expert in rock mechanics**.



Christine McCarthy

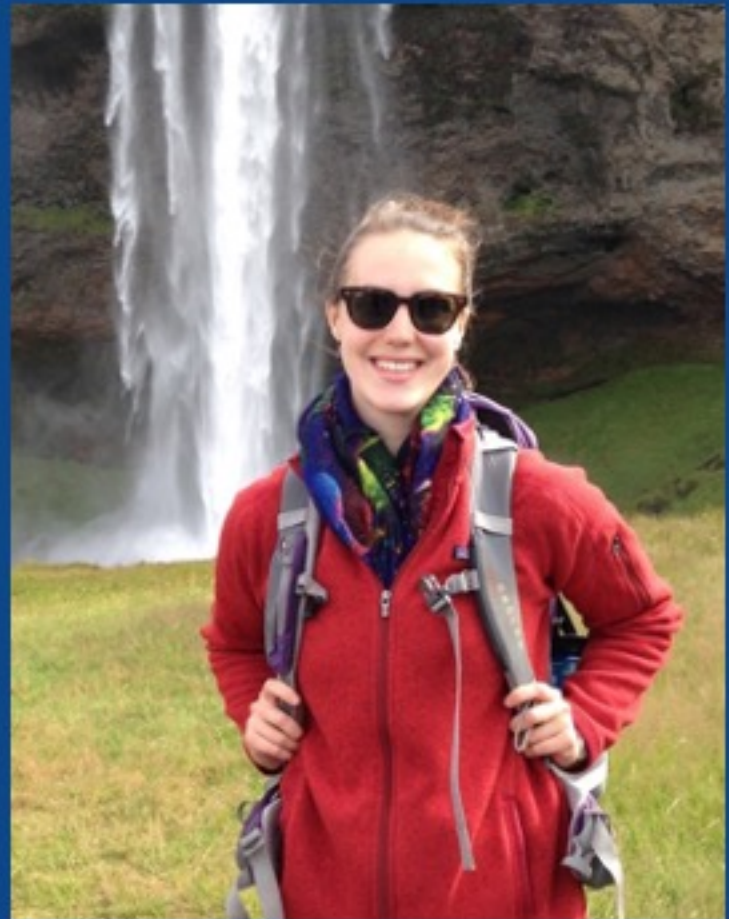


Learn more: www.ideo.columbia.edu/user/mccarthy

Helen Habicht

Helen Habicht is a **paleoclimatologist** and **biogeochemist** who studies how temperature and precipitation varied during the **last few million years of Earth's history** by analyzing organic molecules preserved in sediments.

Helen is particularly interested in past warm intervals (**interglacials**) in the **Arctic**. Climate change caused by human activities is currently creating **major climatic changes in the Arctic**. Studying the past can help us predict how things may change in the future.



Helen Habicht

Helen grew up in Michigan and has always **loved lakes, outdoor adventures**, and being on the water. Now she gets to study lakes and climate as part of her job!



Helen Habicht



Learn more: <https://www.ideo.columbia.edu/user/mhabicht>

Miranda Cashman

Miranda is graduate student whose research aims to **reconstruct sea level** during past warm periods. She seeks to understand **how sea level rose in the past 125,000 years** based on how ice sheets melted in warmer conditions.

Miranda graduated from **Middlesex Community College** with an Associates degree and a Bachelors from **U. Mass Amherst** in Geology.



Miranda Cashman

As a child, Miranda used to **visit coastlines and beaches with her mother** and she **fell in love with the sea** and with nature. She continues to feel awe and wonder at the **beauty of the Earth** and its dynamic processes, and feels lucky to be able to continue studying the coasts and the sea.



Miranda Cashman



Learn more: <https://eesc.columbia.edu/student/miranda-cashman>

“The Earth is so dynamic and Earth processes are so humbling and awe-inspiring. Whether you’re an Earth scientist or not, I think we all just need to stop and appreciate nature every once in a while. It puts our lives into perspective and highlights why caring about the planet is important.”

~ Miranda Cashman
Graduate Student

Maureen Raymo

Maureen (Mo) is the **Interim Director** of Lamont, the **first woman** in this role. She is a **leading paleoceanographer and marine geologist** doing pioneering work using ocean sediment cores to learn about climate change in the Earth's past.

Mo has received several international accolades and was **the first woman to receive the prestigious Wollaston Medal** in its 183 year existence. She was also elected to the **National Academy of Sciences**, one of the highest scientific honors in the US.



Maureen Raymo

As a girl Mo was inspired by the adventures of Jacques Cousteau and was drawn to ocean science. Mo has been described as “... **one of the foremost and influential figures in the last 30 years**” and was listed by Discover magazine as **one of the 50 most important women in science**.



Maureen Raymo



Learn more : <http://moraymo.us/>

WOMEN IN SCIENCE

Yutian Wu

Yutian Wu is a **climate dynamist** who uses both observational datasets and atmospheric models to understand the **atmospheric circulation** and its response to **anthropogenic climate change**.

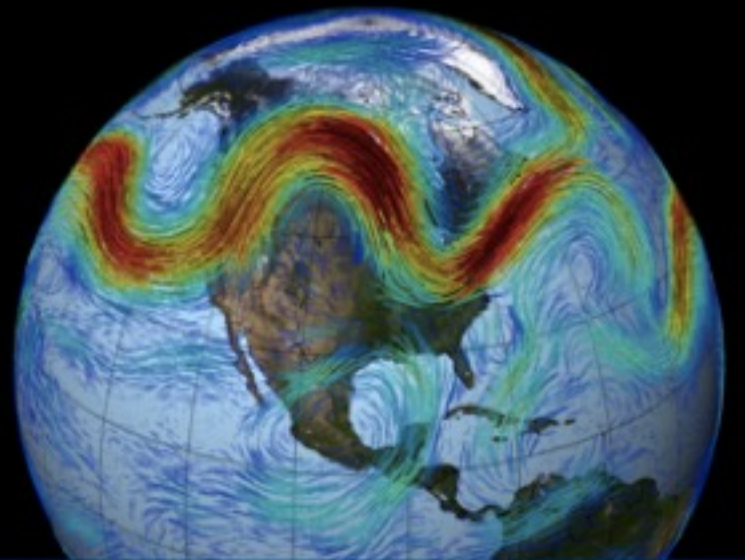
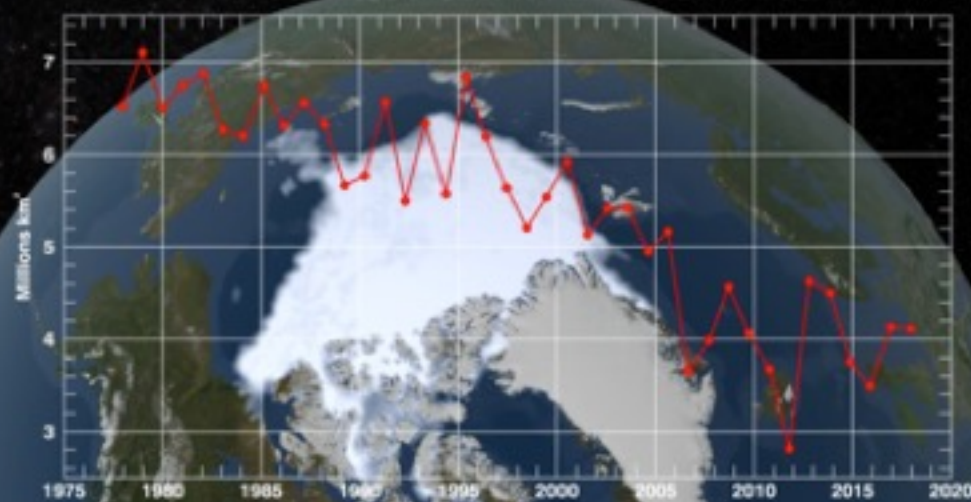
Yutian was the recipient of the 2017 National Science Foundation Faculty **Early Career Development (CAREER) Award**. Yutian's work focuses on understanding the interaction between the **atmospheric circulation** and the **Arctic sea ice**.



Yutian Wu

Yutian's **passion in climate dynamics** lies in its connection to Physics and Math, **which she really enjoys**, and also its close relevance to **life and society**.

Annual Arctic Sea Ice Minimum Area



Yutian Wu



Learn more: <https://www.ldeo.columbia.edu/~yutianwu/>

Michela Biasutti

Michela is an **atmospheric scientist**. She studies **variability of rainfall in the tropics**, from the development of weather systems and its changes associated with man-made and geological climate change .

Michela graduated cum laude in physics at the **University of Trieste in Italy**. Her interest in **climate modeling and climate dynamics** brought her to the US.



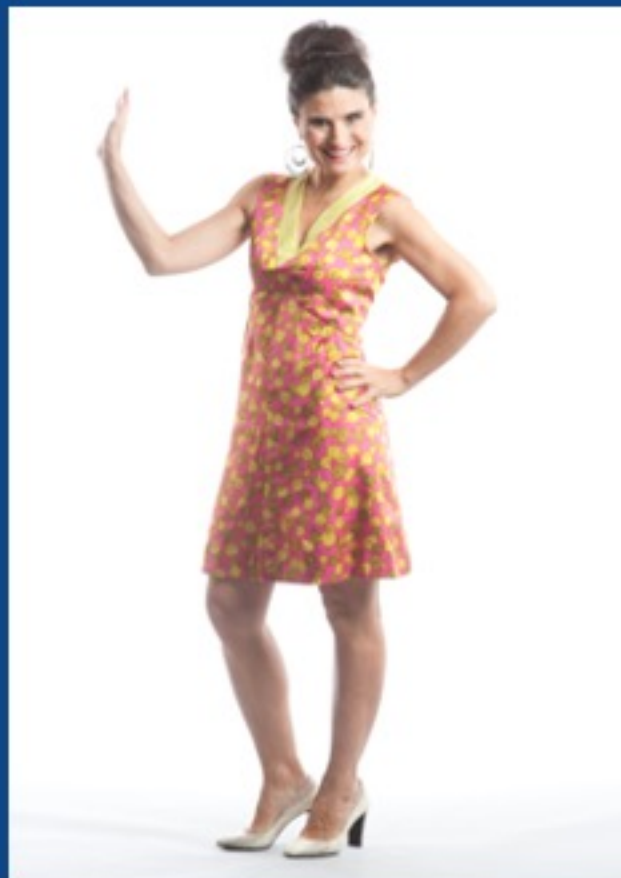
Michela Biasutti

Michela enjoys collaborating with scholars outside her discipline, working on the **effect of climate change on African ecosystems** and crops and on the **legal framework of UN-led climate change**.



Pic: Wikimedia Commons

Michela Biasutti



Learn more: <https://www.ideo.columbia.edu/~biasutti/>

Hannah Sweets

Hannah is a research assistant who works on preparing **basalts** that she dredged in the **Rio Grande Rise in South Atlantic**. She prepares **sandstones** and **dolerites** for major element analysis.

Hannah has traveled to several places on **field trips**, including **Italy, France, Wyoming, South Dakota**, and others. To support herself through college, Hannah worked as a **bartender**.



Hannah Sweets

Hannah was a professional chef in Aspen! She decided to go back to school to Austin Community College to study botany with the intent of advancing her culinary career. But she fell in love with geology and earth science, and hasn't looked back! She graduated from Columbia University in earth science.



Hannah Sweets



Learn more: <https://www.ideo.columbia.edu/user/hsweets>

Caroline Juang

Caroline Juang is a graduate student interested in **studying wildfires**. She is curious about how **climate and fire activity are connected**, and seeks to understand how a **changing climate** affects when forest fires happen and how big they can get.

Caroline is also passionate about **making STEM accessible to all**. She serves as an Executive Team member for the Brooke Owens Fellowship, an internship and mentorship program for undergraduate **gender minorities in aerospace**.

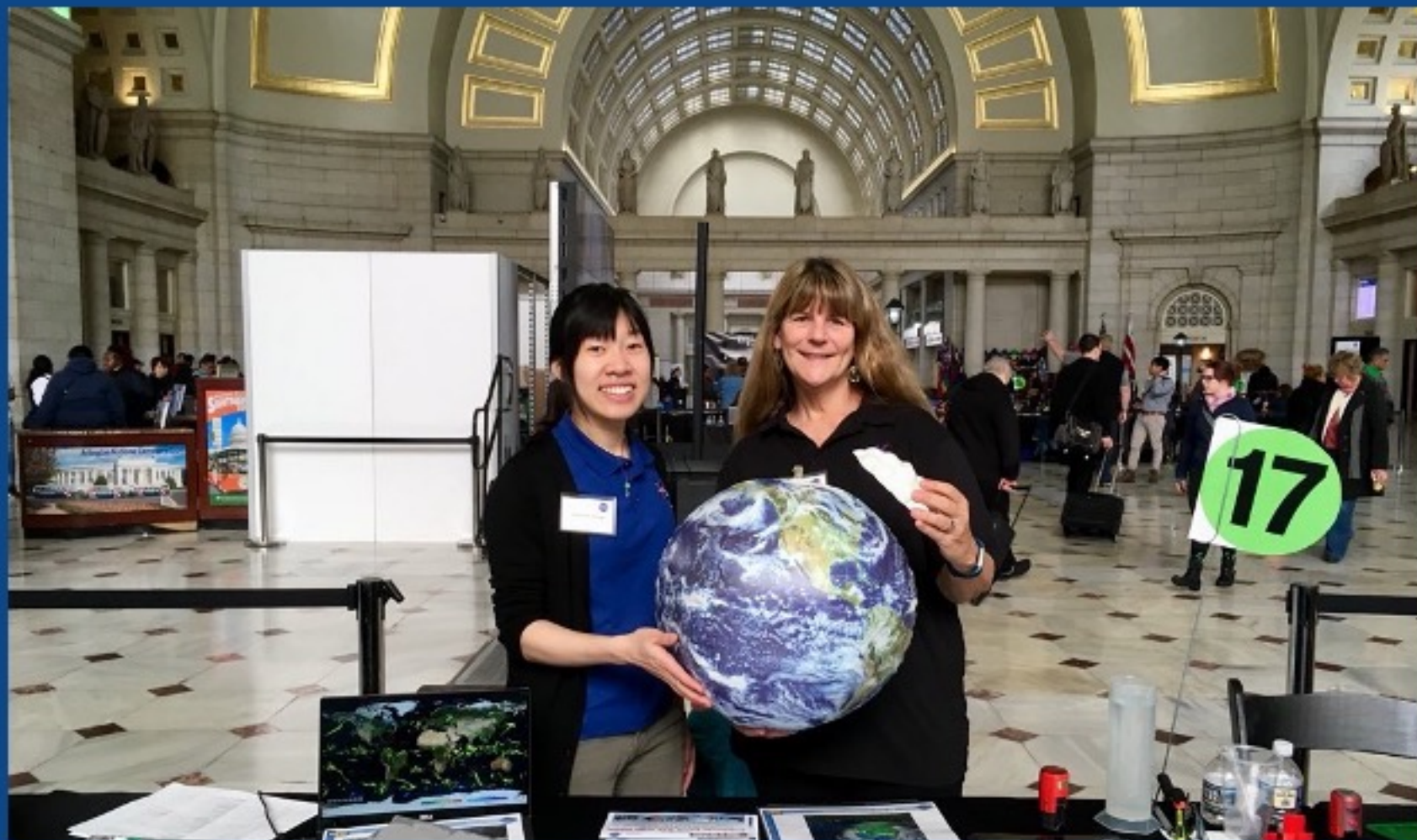


Caroline Juang

Caroline worked at NASA on a landslides project, where she became interested in working on **natural hazards from space**. She hopes to use **satellite data and computer programming** to investigate fires.



Caroline Juang



Learn more: <https://eesc.columbia.edu/content/caroline-juang>

WOMEN IN SCIENCE

Gisela Winckler

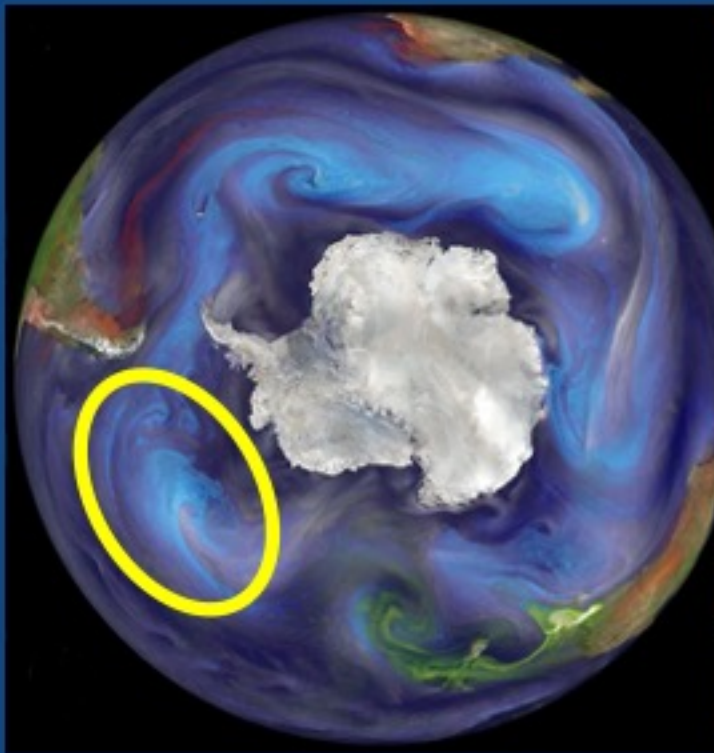
Gisela is a **climate scientist** and a **paleoceanographer**. She uses **natural climate archives** such as ocean and lake sediments, ice cores or the bedrock under the giant ice sheets in **Greenland and Antarctica**, to unravel the **history of climatic and environmental conditions on Earth**.

Gisela received Lamont's **Excellence in Mentoring Award** for outstanding mentoring. She is also passionate about **promoting STEM diversity**.

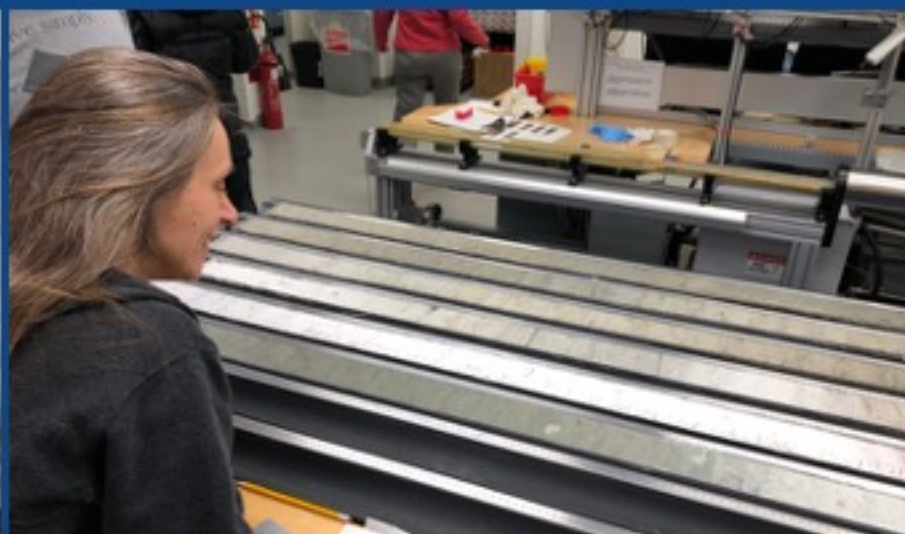
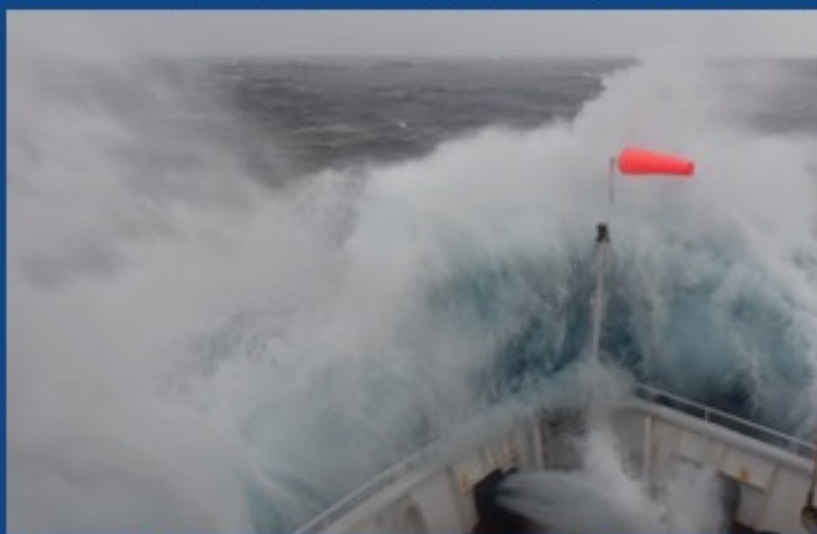


Gisela Winckler

Gisela uses information on **natural variability** in the past to better understand and predict future **changes to climate**, such as future sea level rise. In May – July 2019, Gisela **led an expedition** on the drill ship **Joides Resolution** to the **South Pacific**, one of the **most remote and stormy** regions in the **world ocean**.



Gisela Winckler



Learn more: www.ldeo.columbia.edu/~winckler/Welcome.html

Chia-Ying Lee

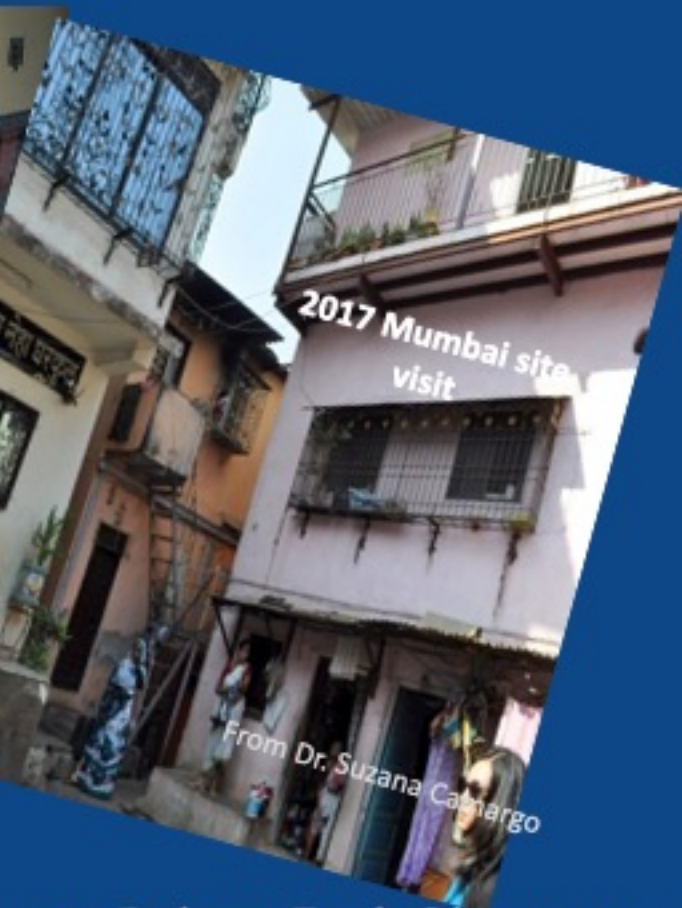
Chia-Ying is an **atmospheric scientist**. She studies weather, particularly **Tropical Cyclones**, a generic term for hurricanes.

Chia-Ying seeks to address how often and how strong **hurricane-induced strong wind**, coastal flooding, and inland flooding will be in a **warming climate**. She leads the development of the **Columbia Hazard Model**, used to study climate change impact on hurricanes and to improve risk assessments.

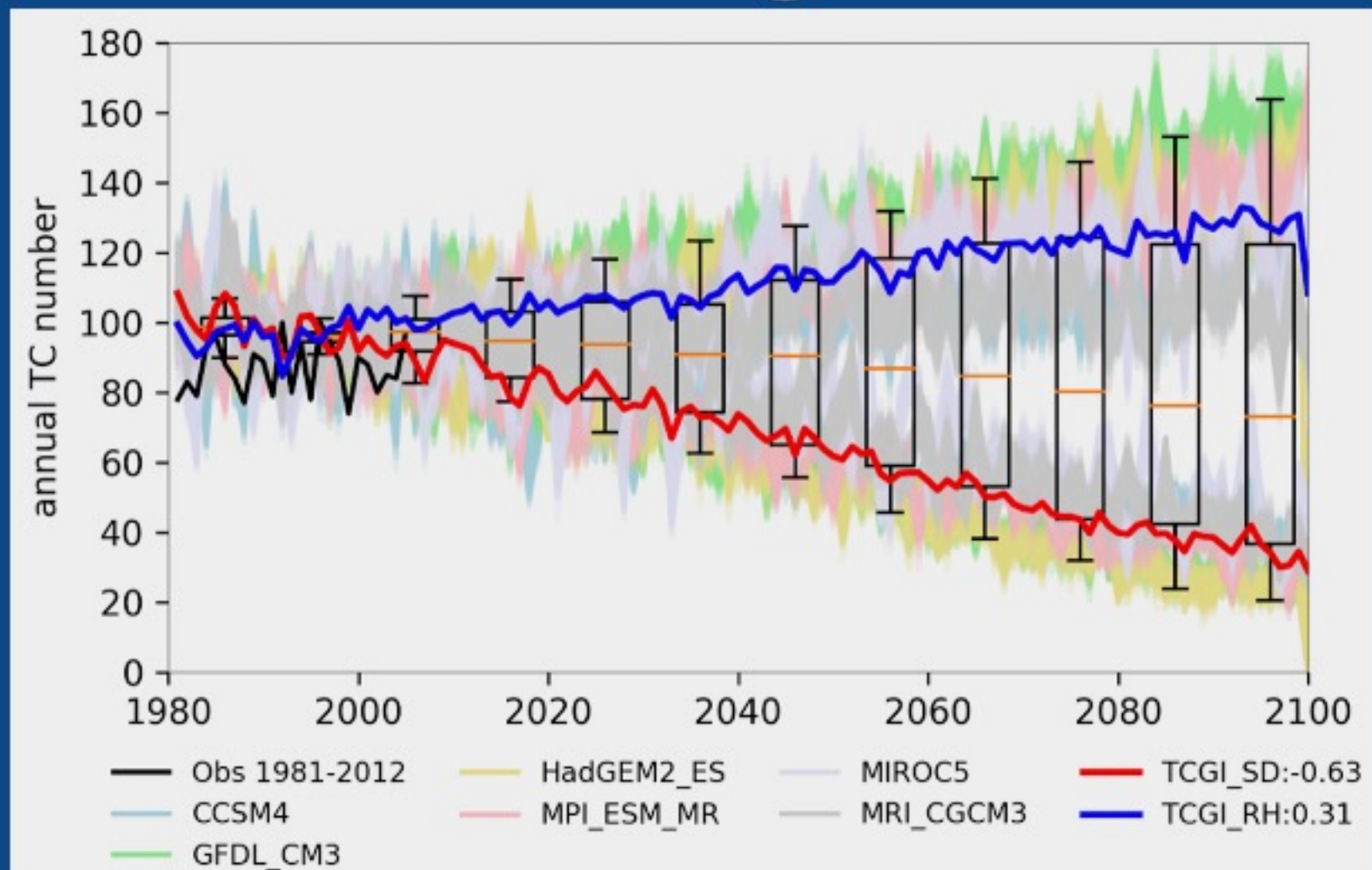


Chia-Ying Lee

Chia-Ying travels for fieldwork, which she thoroughly enjoys! In college, Chia-Ying **majored in atmospheric physics** as she enjoyed using it to explain weather, climate, and why we have seasons.



Chia-Ying Lee



Learn more: www.ideo.columbia.edu/directory/chia-yinglee

Sarah Giles

Sarah Giles is a graduate student and **field geologist** studying sedimentology and stratigraphy. She researches **ancient channel systems in South Australia** and eastern California that are **~600 million years old** to further understand how ancient environments evolved when animal life appeared on Earth.

Sarah utilizes **field mapping, drone modelling, isotope geochemistry, and geochronology** to evaluate how sediments during this time period were deposited, and implications for ocean chemistry and early animal evolution.



Sarah Giles

Sarah's love for **exploring deserts** stemmed from **growing up in New Mexico** and spending time outdoors. She now camps in some of the **world's most remote regions** pursuing geologic questions she is passionate about!



Sarah Giles



Learn more: <https://eesc.columbia.edu/content/sarah-m-giles>

Dorothy Peteet

Dorothy is a **paleoecologist**. She studies landscapes to better understand past climate shifts. She visits wetlands (**salt marshes, fresh marshes, bogs, fens, and swamps**) to study plant ecology and retrieve and analyze sediment cores.

Dorothy is particularly interested in abrupt climate change and **patterns of droughts and floods** as well as warm intervals and recent cooling such as the **Little Ice Age**.



Dorothy Peteet

Dorothy analyzes **pollen, microfossils, x-ray fluorescence, isotopes** in sediment cores to understand past changes through time. Her travels take her to **Siberia, Alaska, southeastern US, and Easter Island** as well as the **Hudson River marshes, Black Rock Forest** and upland lakes.



Dorothy Peteet



Learn more: <https://www.ideo.columbia.edu/user/peteet>

Terry Plank

Terry is a **volcanologist**. She studies magmas, volcanoes, and crystals in **Hawaii, Guatemala, and Alaska**.

Terry is a pioneer who received a **MacArthur “Genius” Award**. Her work involves the **crystal chemistry** of lava minerals in order to determine magma ages and movement. She studies volcano deposits for clues as to **what makes some eruptions more explosive than others**.



Terry Plank

Terry became interested in volcanoes as a student when she visited the Arenal volcano in Costa Rica and sat on top of a slow moving lava flow! Terry also traveled to the **Island of Four Mountains in the Aleutian Islands**, where **every island is a volcano**.



Pic: Wikimedia Commons

Terry Plank



Learn more: <https://www.ideo.columbia.edu/user/tplank>

WOMEN IN SCIENCE

María Uriarte

María is a tropical **forest ecologist** who seeks to understand **how these ecosystems recover after large, severe disturbance** (e.g., hurricanes) and from human land use. She conducts her field work in **Puerto Rico and Latin America**.

Following **Hurricane Maria** in Puerto Rico, María visited **El Yunque Rain Forest** to study the damage and better understand the forest.



María Uriarte

María uses **field data and models** to examine how severe disturbance and human land use influence the biological diversity and structure of tropical forests.



María Uriarte



Learn more: <http://www.columbia.edu/~mu2126/>

Kim Kastens

Kim Kastens started out as a **marine geologist**, but then changed her focus to become a pioneer in the emerging field of **Geoscience Education Research**.

Much of Kim's research concerns **spatial thinking**, or how students and geoscientists use information about spatial attributes such as position, size, shape, configuration, and trajectory **to make inferences about Earth processes**.



Kim Kastens

Kim used the Columbia campus as a field site for researching fourth graders' understanding of the relationship between positions on a map and visible features in the real world. Kim was also the **first female co-chief scientist on the drill ship Joides Resolution**.



Pic: Wikimedia Commons

Kim Kastens



Learn more: <https://www.ideo.columbia.edu/~kastens/>

WOMEN IN SCIENCE
Robin Bell

Robin is a **pioneering explorer** who leads research on ice sheets, tectonics, and mid-ocean ridges. She has **led several scientific expeditions to Greenland and Antarctica.**

Robin is the **President-elect of the American Geophysical Union (AGU)** the world's largest geoscience professional society. She is also a strong advocate for women in science and was the **first woman to chair the National Academy of Sciences Polar Research Board.**



Robin Bell

Robin has **made several important discoveries**, including a volcano beneath the West Antarctic ice sheet. She has a **mountain named after her in Antarctica**! Robin has been at Lamont since graduate school; her children grew up playing around Lamont's rose garden.



Robin Bell



Learn more: www.ldeo.columbia.edu/~robinb/Share.html

Suzana Camargo

Suzana's expertise lies in **hurricanes and typhoons**, also known as **tropical cyclones**.

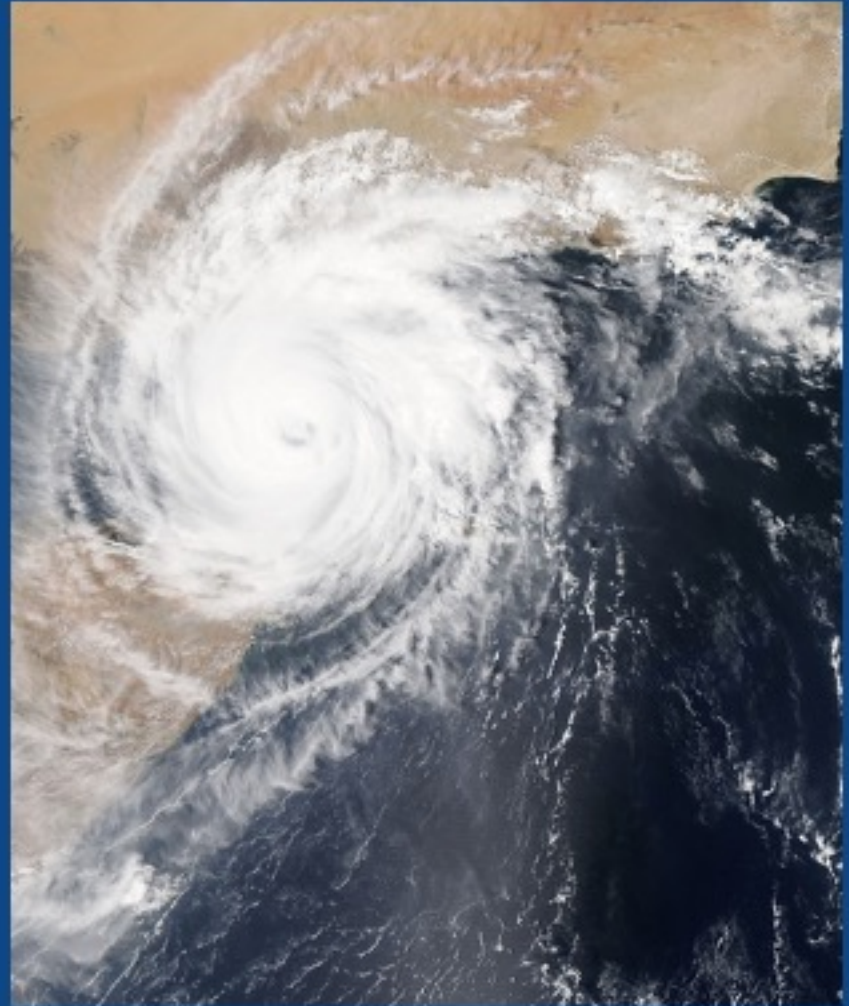
She seeks to understand how tropical cyclones are affected by **climate in various time scales**. For example: why are some bursts of activity in a hurricane season followed by quiet periods? And **what makes a tropical cyclone more active and others quiet?**



Suzana Camargo

Suzana grew up in **Brazil**, and was originally a physicist, studying in **Brazil and Germany**. She became so fascinated by **hurricanes and typhoons** that she changed fields and began studying them.

Suzana's journey as a **Latina scientist** has been an interesting one. Suzana is married to a fellow scientist and has two children.



Suzana Camargo



Pic: NASA

Learn more : <https://www.ideo.columbia.edu/~suzana/>

WOMEN IN SCIENCE

Vicki Ferrini

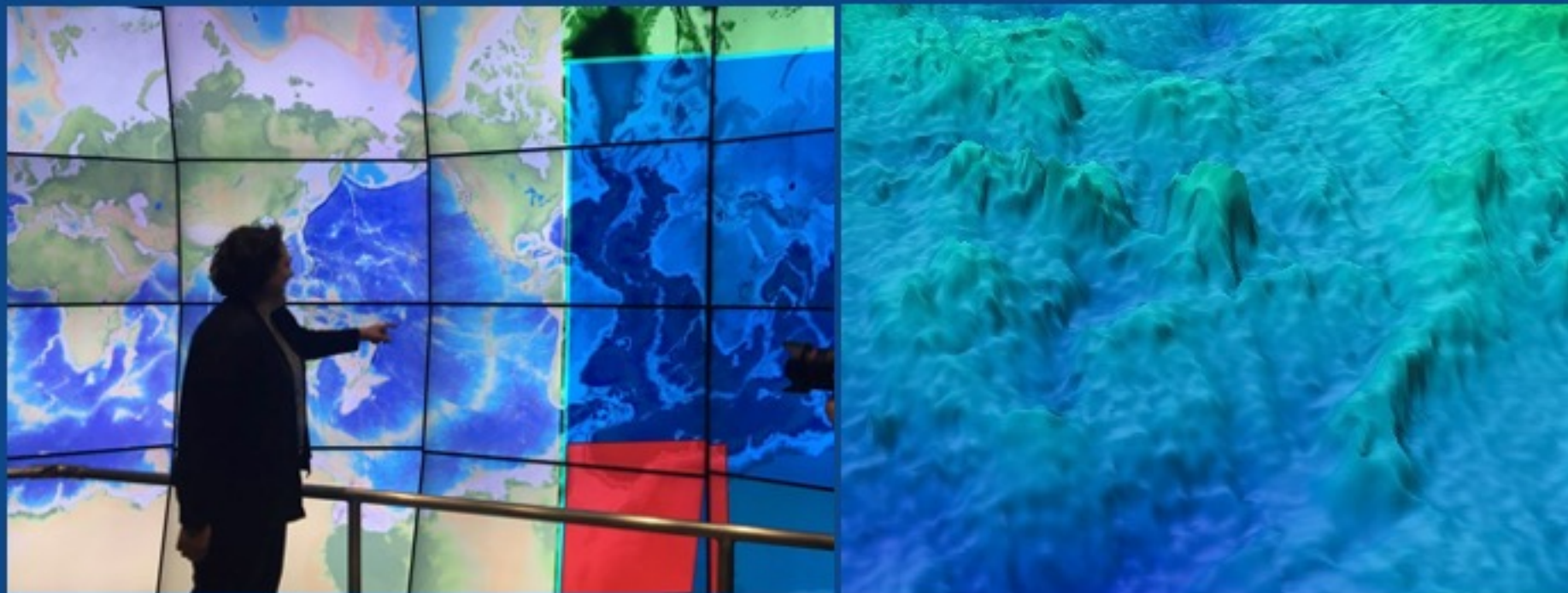
Vicki is a geophysicist who uses mapping technologies to **understand the shape of the seafloor** and what it means about the processes that create it.

As a **geoinformaticist** she also works to ensure that diverse marine geoscience research **data are preserved, publicly available, and readily accessible** to researchers and the public alike.



Vicki Ferrini

Growing up on the beaches of Cape Cod, Vicki has always wanted to **see beneath the ocean**. As a **leading expert in ocean mapping** she explores the seafloor all over the world using data acquired with ships and robots. Vicki recently received the **Esri SAG Award** for special achievement in GIS!



Vicki Ferrini



Learn more: <https://www.ldeo.columbia.edu/~ferrini/>

Elisabeth Iboudo-Nébié

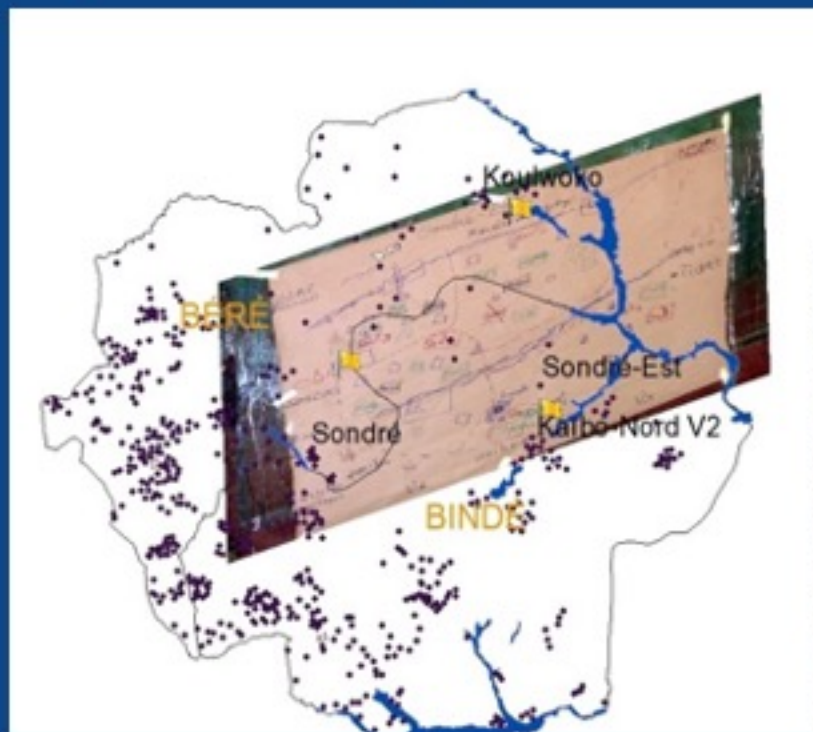
Elisabeth (Lisa) Nebie is a **human ecologist** who seeks to understand the relationship between **reforestation and food security**. Lisa was a consultant with **UNESCO** on climate change in West Africa.

Lisa interacts with local communities to add their **traditional knowledge into scientific research**. Lisa created digital maps based on hand-drawn maps and local narratives to better explain **local environmental changes**.



Elisabeth Iboudo-Nébié

Lisa enjoys working with **communities living in remote areas** that are often difficult to access. She once spent 20 months with the **Fulbé herders in Burkina Faso (West Africa)** to document their innovative adaptation strategies to climate change.



Elisabeth Iboudo-Nébié



Learn more: <https://iri.columbia.edu/contact/staff-directory/ilboudo-nebie-elisabeth/>

WOMEN IN SCIENCE
Nicole Davi

Nicole (Nikki) Davi is a tree ring expert who uses **tree-ring records** to understand climate variability and extremes over the **past 2000 years**. Her regions of interest are **Mongolia, Southeast Asia, and Alaska**.

Nikki's research focuses on developing and interpreting **high-resolution paleoclimatic records** in order to further our understanding of past climate change.



Nicole Davi

Nikki also works to improve **science literacy** for undergraduate and K-12 students. **She leads and develops educational programs** that tap into the **excitement of field expeditions** while introducing students to groundbreaking tree-ring studies that have important societal impact.



Nicole Davi



Learn more: <https://www.ideo.columbia.edu/user/ndavi>

Arianna Varuolo-Clarke

Arianna is a graduate student whose research aims to understand the **atmospheric and oceanic drivers of hydroclimate variability** over South America. She is interested in understanding why **climate models** appear to be unable to simulate increased precipitation trends in Southeastern **South America** that have been observed since the beginning of the 20th century. Arianna hopes that understanding what models might be missing in historical simulations will **help to better predict future precipitation** changes in the region.



Arianna Varuolo-Clarke

Arianna's fear of thunderstorms as a child soon blossomed into curiosity, and after **watching hours of the Weather Channel with her grandfather**, she fell in love with the weather. Arianna went to college excited to study tornadoes but fell in love with climate science and looks forward to a **career at the nexus of climate science, communication, and science policy.**



Arianna Varuolo-Clarke



Learn more : <https://eesc.columbia.edu/student/arianna-varuolo-clark>

Milagros Rodriguez

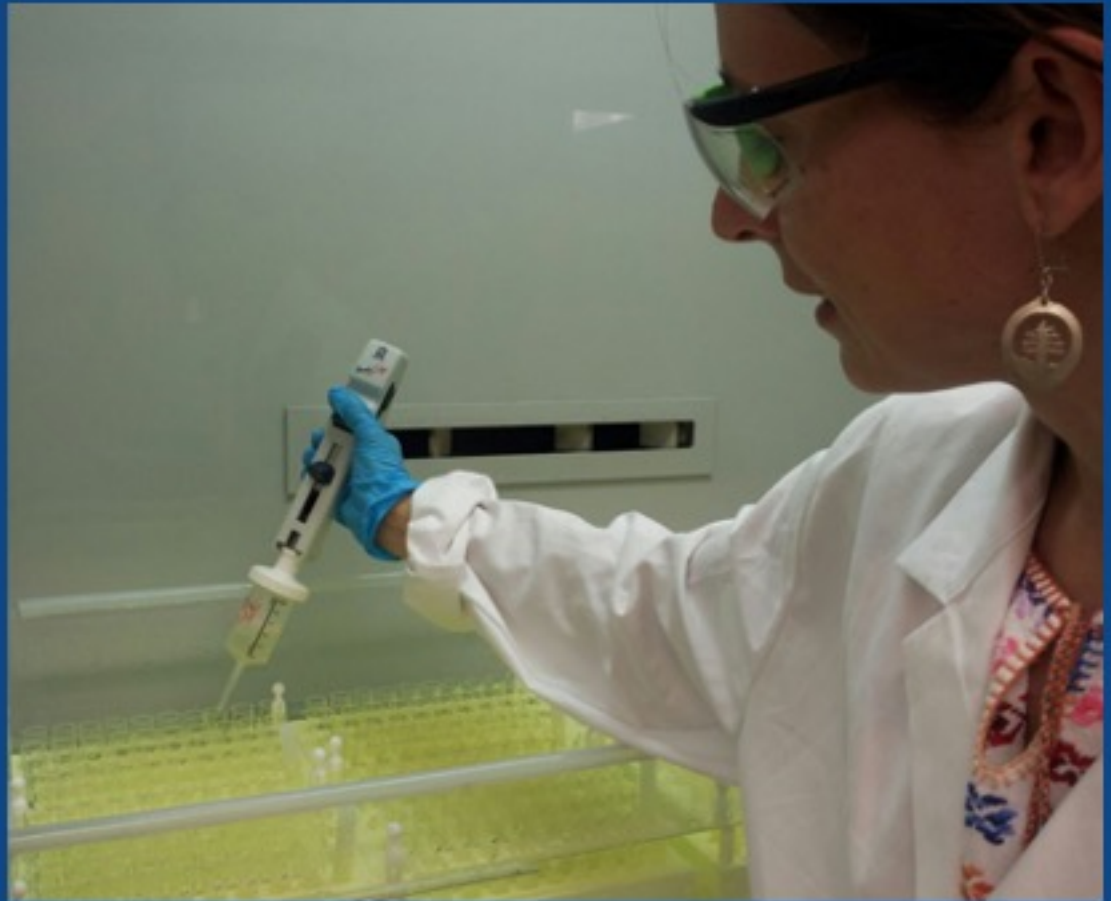
Milagros' research interest is focused on **ecology** and **palaeoenvironment**. She is developing an isotopic tree-ring network from ***Polylepis tarapacana***, the highest elevation tree-ring record in the world, located in the **Altiplano in South America**.

The aim of this study is to build a **reconstruction of climate variables** such as temperature and precipitation near the tropics, as well as providing insights on eco-physiological questions related to tree-ring research.



Milagros Rodriguez

Milagros is originally from **Argentina**, and came to the US as a postdoctoral research scientist in the Tree Ring Lab at Lamont.



Milagros Rodriguez



Learn more: <https://www.mendoza.conicet.gov.ar/portal>

Alessandra Giannini

Alessandra (Ale) is a **climate scientist**. She is best known for research that conclusively demonstrated that the persistent **drought** that affected the **Sahel, the semi-arid southern edge of the Sahara desert**, in the 1970s-80s was caused by changes in the **surface temperature of the global oceans**.

Ale's research **challenged the widely held belief** that local populations were responsible for environmental disaster.



Alessandra Giannini

Ale considers travel to be a fun perk of her job and has traveled to Ivory Coast, Senegal, Niger, France, and Spain! As an expert on climate science Ale earned a Macron grant to **Make Our Planet Great Again**, where she was selected from more than 1,800 applicants!



Alessandra Giannini



Pic: Wikipedia

Learn more: <https://iri.columbia.edu/contact/staff-directory/alessandra-giannini/>

Elizabeth Case

Elizabeth is a graduate student who studies **how glaciers form and flow** using tools like radar to peer into the ice. She was drawn to glaciology for its gorgeous remote landscapes, and because glaciers change on human timescales.

Along with science, she is an **avid educator and adventurer**, working as a teacher on the **Juneau Icefield Research Program** and leading bicycle tours to bring science to everyone.



Elizabeth Case

Elizabeth didn't always know what she wanted to do and tried various things, including working as a **science journalist in California**. **Her advice: keep trying things out until something feels right**. Fun fact: Elizabeth spent 3 months biking from San Francisco to NYC!



Elizabeth Case



Learn more: <https://eesc.columbia.edu/student/elizabeth-case>

“I love what I do because my work is a puzzle, it’s important to society, and I get to travel to some of the most beautiful places on earth.

What places, problems and ecosystems inspire YOU?”

~ Elizabeth Case
Graduate Student

WOMEN IN SCIENCE
Indrani Das

Indrani studies ice surface and atmosphere interactions on **ice sheets and mountain glaciers**. She has a background in glaciology, cryospheric science and atmospheric physics.

Indrani's current passion is to use **radar observations** to quantify long-term accumulation history and flow **dynamics of large ice sheets**.



Indrani Das

Indrani loves working on ice, and was excited to work in the **Himalayas, Greenland, Alaska, and Antarctica**. She taught herself to ski, climb, and **survive at temperatures below -40°F** ! Her career as a scientist has been an **adventure**, and now she helps others to explore the cryosphere.



Indrani Das



Learn more: <http://indranidas.info/>

Sidney Hemming

Sidney (Sid) is a geologist who uses the record from **sediments and sedimentary rocks** to document aspects of the Earth's history.

Sid is the **first woman Chair** of the Dept. of Earth and Environmental Sciences. She has an active program of applying **radiogenic isotopes** for tracing the sources of sediments with the goal of understanding **Quaternary and earlier climate changes**.



Sidney Hemming

Sid has always loved geology, following **her dad's enthusiasm**. As a child, Sid **enjoyed collecting fossils and rocks with her siblings**. Sid travels widely and has **been to exciting places on every continent!**



Sidney Hemming



Learn more: <https://www.ldeo.columbia.edu/user/sidney>

Sarah Ramdeen

Sarah uses her experience as a **geologist** to support her work studying **Information Seeking Behavior** as an **information scientist**.

Sarah used qualitative research methods to study **how scientists search for physical samples** and their associated data. Sarah wants to help scientists do better science. **Improved access to existing scientific samples** save scientists time and resources.



Sarah Ramdeen

Sarah researches scientific practices and workflows to develop **best practices** and infrastructure for managing **physical sample metadata**. Her work on these systems support physical samples in being FAIR – Findable and Accessible, with Interoperable metadata, that are also Re-usable.



Sarah Ramdeen



Learn more: www.ldeo.columbia.edu/sarah-ramdeen

Lisa Goddard

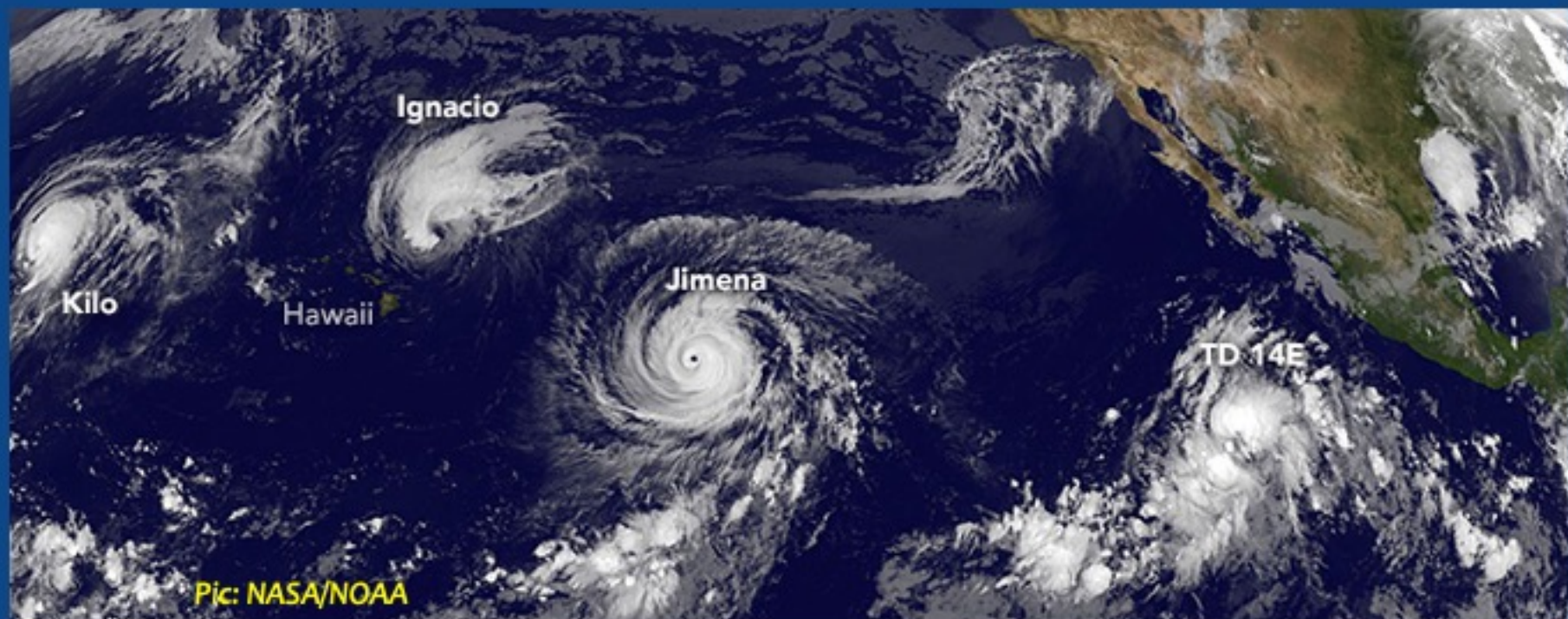
Lisa's interest in math and science led her to research **climate variability and prediction**. This started in graduate school with the study of El Nino. That was in the 1990s when **El Nino prediction was very new and climate prediction was experimental**.

The potential to make that science meaningful to **real-world decisions and vulnerable populations** was a tremendous motivation for Lisa to stay in this field.



Lisa Goddard

Lisa is the **first woman Director** of IRI, and a **globally recognized expert on El Niño and La Niña**, decadal prediction and near-term climate change. In addition, Lisa sits on the Board of Atmospheric Sciences and Climate of the U.S. **National Academies of Science**.



Lisa Goddard



Pic: Pixnio

Learn more: <https://iri.columbia.edu/contact/staff-directory/lisa-goddard/>

Maya Tolstoy

Maya is a **leading marine geophysicist** specializing in seafloor earthquakes and volcanoes. She **has led 18 research expeditions at sea**. Maya was part of the **leadership** team that implemented the largest ever community marine seismology experiment – the Cascadia Initiative.

Maya received the **Wings Worldquest Sea Award** honoring women in exploration and was a **finalist for NASA's Astronaut selection**.

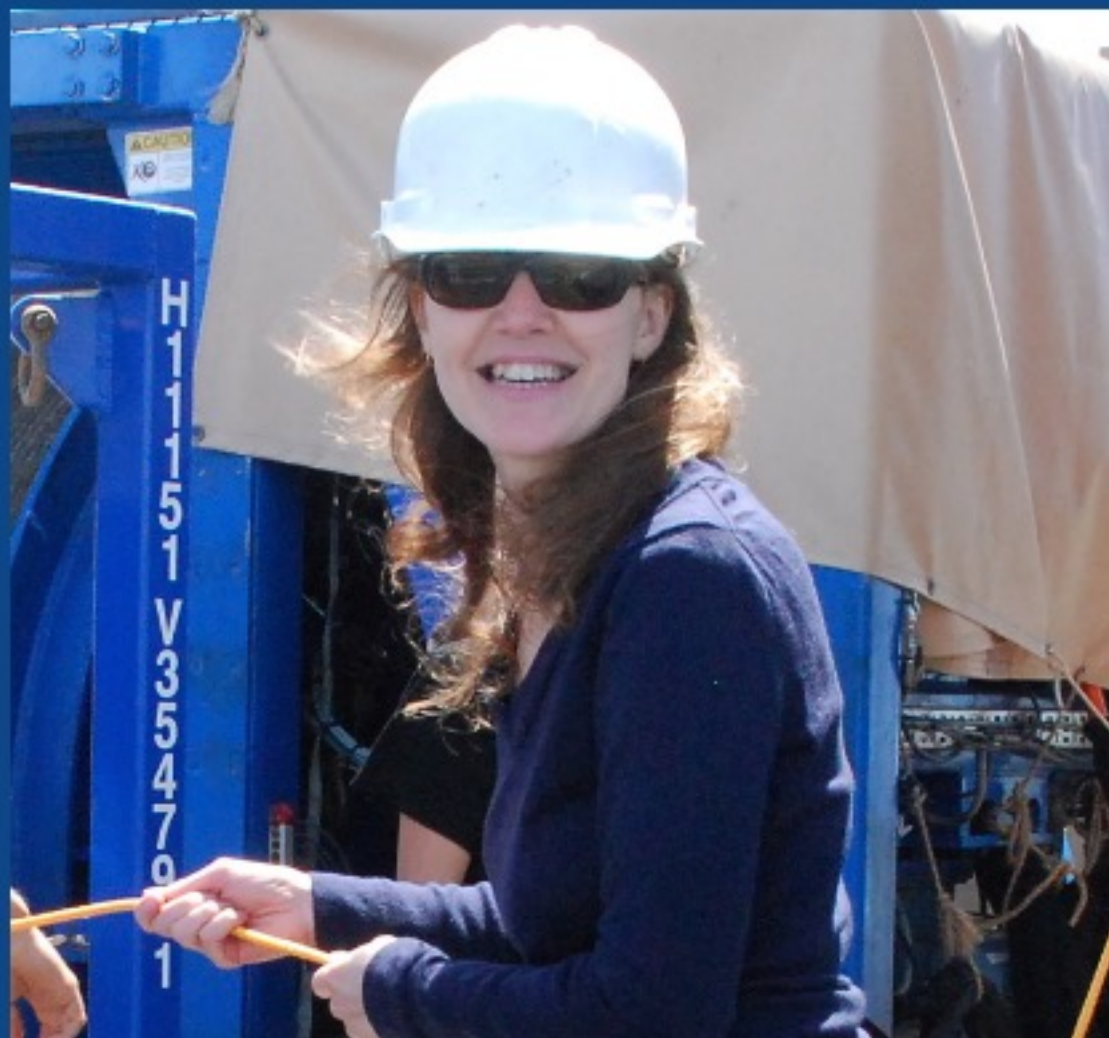


Maya Tolstoy

Maya was the **first woman Interim Executive Vice President** of the Faculty for Arts & Sciences, where she oversaw 5 schools and more than 800 faculty! Fun fact: Maya has **worked with film-maker James Cameron** on the IMAX documentary **Aliens of the Deep**.



Maya Tolstoy



Learn more: www.ldeo.columbia.edu/~tolstoy/

WOMEN IN SCIENCE
Julia Tejada

Julia is a **paleontologist** who uses the chemical composition of **mammalian bones** and teeth to understand how **Amazonia**, Earth's most biodiverse place for mammals, changed through time.

Julia works with **zoo animals**, where she tracks the fidelity with which diets get recorded in animals' tissues. This is very important to accurately **reconstruct diets and ecosystems from fossils**. She studies **sloths** to discover interesting digestive physiology patterns and its relationship to stable isotope incorporation into tissues.

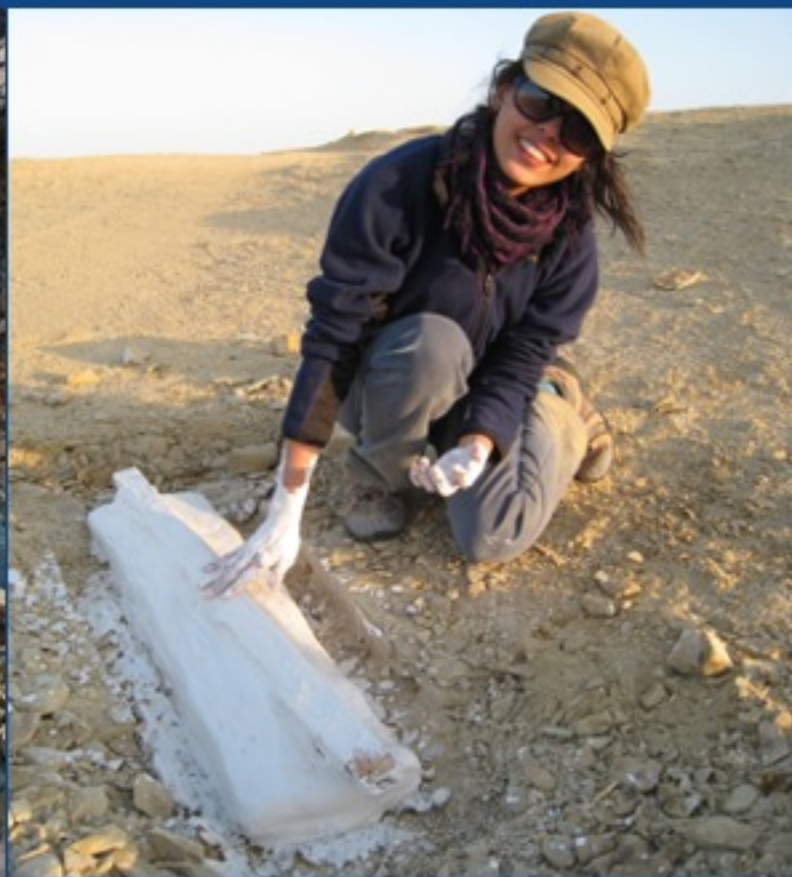


Julia Tejada

Julia enjoys doing fieldwork and has active projects in the coastal deserts of Peru and western Amazonia. Julia is also the first woman vertebrate paleontologist in Peru, her country of origin!



Julia Tejada



Learn more: <https://eesc.columbia.edu/student/julia-tejada-lara>

Jamie Harrison

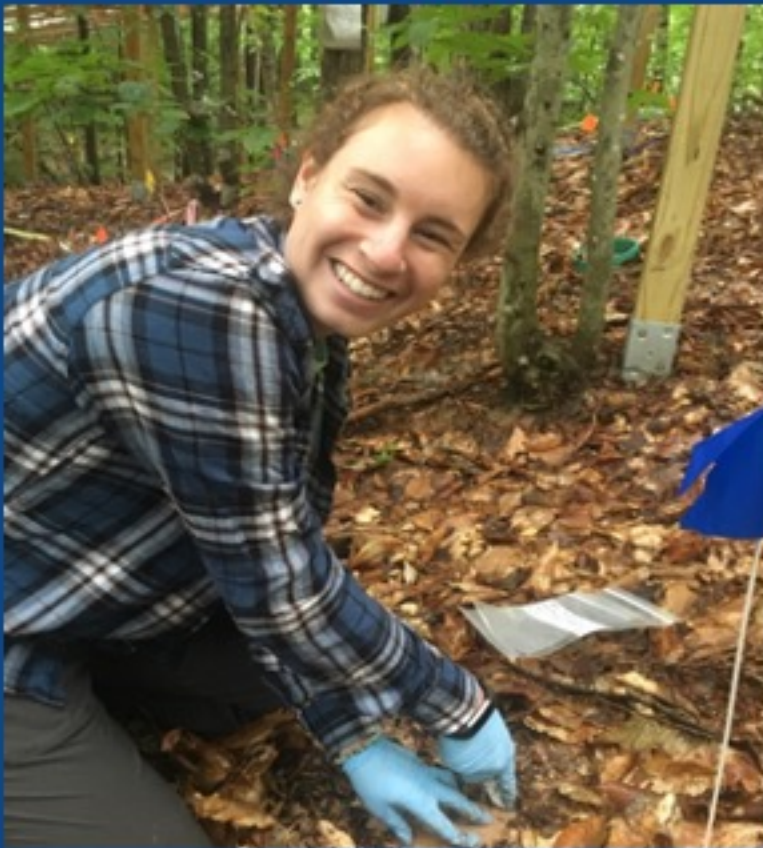
Jamie is an **ecosystem ecologist** working at the intersection of **terrestrial ecology and atmospheric chemistry**. She studies gas uptake and emission by **forests in Massachusetts and Maine**.

Jamie conducts **field experiments**, collects samples, and makes gas flux measurements in the field.

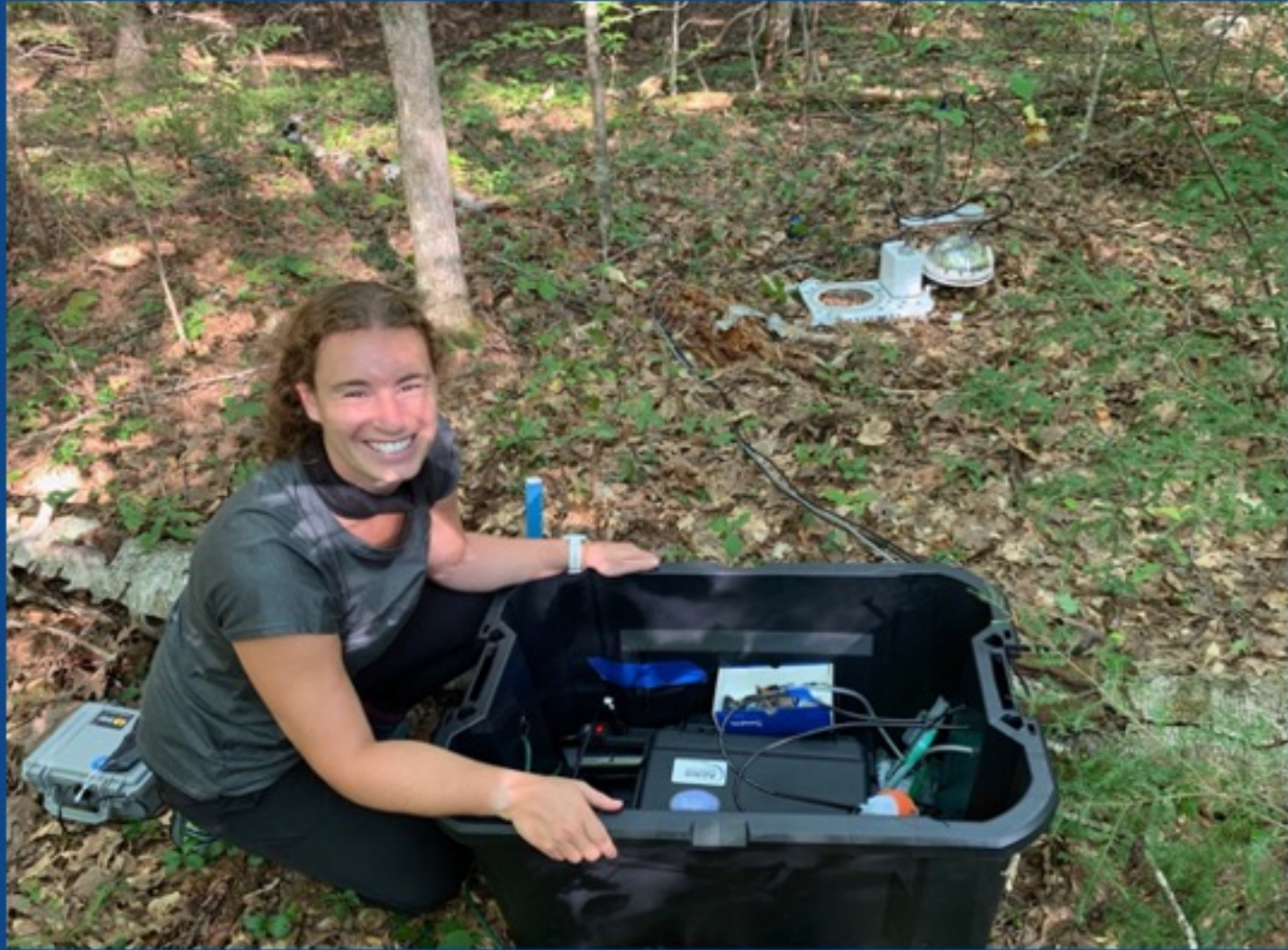


Jamie Harrison

Jamie first fell in love with the outdoors and Earth sciences during **family hikes as a kid**. She followed her passion throughout her undergraduate and graduate career, and studied how the **forests of New England** are responding to **changing temperatures** as a result of **climate change**.



Jamie Harrison



Learn more: <https://www.ldeo.columbia.edu/user/jharrison>

Rosanne D'Arrigo

Rosanne's research focuses on **tree rings**, and is dedicated to understanding **past and present climate** and environmental history using tree rings.

Rosanne uses this information to piece together parts of the Earth's history. **Tree rings shed light** on the age of the tree and the **local climatic conditions** experienced in its lifetime.



Rosanne D'Arrigo

Rosanne is the **first woman Associate Director (head)** of our Biology and Paleo Environment Division, and was recently named an **AGU Fellow**. She has traveled to **Mongolia, Madagascar, Java, Bali, Sumatra, Patagonia, and many others!**



Pic: PBS



Pic: NASA

Rosanne D'Arrigo



Learn more: <https://www.ldeo.columbia.edu/user/druidrd>

Carolynne Hultquist

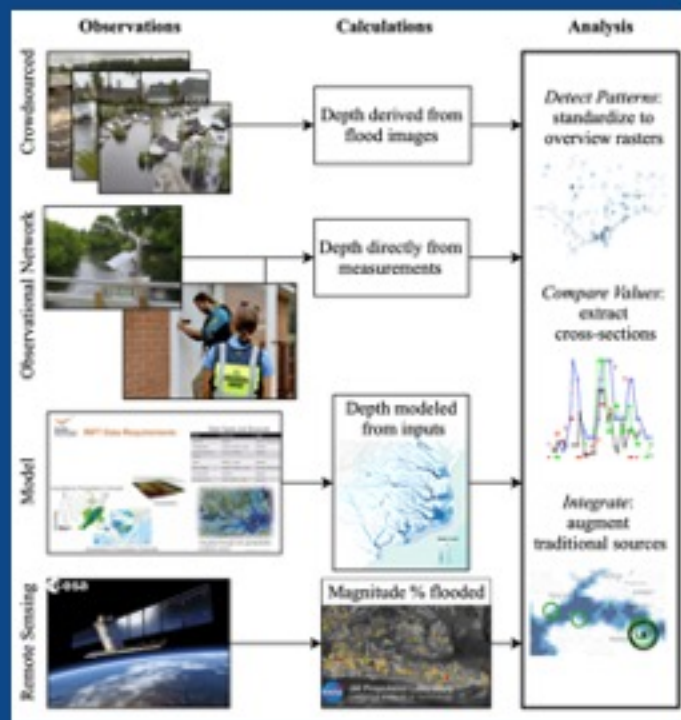
Carolynne is a **spatial data scientist** specializing in data integration from physical and human systems during disasters. Currently she is developing computational methods for **global flood risk**.

She teaches the course “Data Analysis and Visualization in Sustainability” in Python and R. Her goal is to make **spatial data analysis accessible** for decision making from **individuals to the international level**.



Carolynne Hultquist

Carolynne analyzes observations from satellite, airborne, and UAV remote sensing, along with mobile device, social media, and citizen science contributions, physical process models, and high-resolution population estimates. Her work includes monitoring flooding from U.S. hurricanes and radiation levels in Fukushima, Japan.



Carolynne Hultquist



Learn more: <https://www.earth.columbia.edu/users/profile/carolynne-g-hultquist>

Michelle Lee

Michelle is a graduate student who uses marine seismic data to study **volcanic systems on the seafloor**. Her current research is focused on understanding the magma distribution beneath **Axial Seamount**, an **underwater volcano** located off the coast of Washington and Oregon.

Michelle graduated from University of Washington with a B.S. in Oceanography



Michelle Lee

One of Michelle's favorite aspects of studying the ocean is the opportunities to do **research at sea**. Since her first research cruise off the coast of Washington state during her first year of undergrad, Michelle has **fallen in love with the adventures and experiences of "going to sea"**!



Michelle Lee



Learn more: <https://eesc.columbia.edu/student/michelle-lee>

Suzanne Carbotte

Suzanne is a **seagoing geophysicist** who uses marine seismic techniques to peer beneath the seafloor. Her expertise lies in the study of **magma chambers beneath underwater volcanoes** where the earth's ocean crust is formed, how this **crust changes** as it ages, leading to **earthquakes and tsunamis**.

Suzanne's most recent work is focused on the **Cascadia** subduction zone.



Suzanne Carbotte

As a student Suzanne participated in a science cruise off **Vancouver Island** and after that she was hooked. The **adventure of exploration** and the **romance of "going to sea"** are exciting to her every time!



Suzanne Carbotte



Learn more: <https://www.ideo.columbia.edu/user/carbotte>

WOMEN IN SCIENCE

Sophie Hines

Sophie is a **paleoceanographer**. She studies the ocean and how its circulation impacts global climate. In addition to ocean currents at the surface there are **currents that flow from the surface to the deep ocean and back**. These deep currents take a very long time (about **1000 years!**) and are very important for climate.

Sophie's particular interest is in **glacial cycles (or ice ages)** and she seeks to understand what the ocean's role was in these global climate shifts.



Sophie Hines

When Sophie isn't in lab or at sea, **she loves to spend time in the woods** going on hikes with her dog. As a child, Sophie spent a lot of time **outside in the wilderness** and that interested her in climate change.



Sophie Hines



Learn more: <http://www.sophiakvhines.com/>

Jennifer Middleton

Jennifer (Jenny) is a **geochemist** who studies **paleoclimate**. She uses the chemical composition of **rocks and mud from the seafloor to study the climate history** of our oceans and ice sheets.

Jenny combines **lab work, field work, and shipboard expeditions** to generate the data she needs to investigate how **Earth's temperature and climate** vary through time.

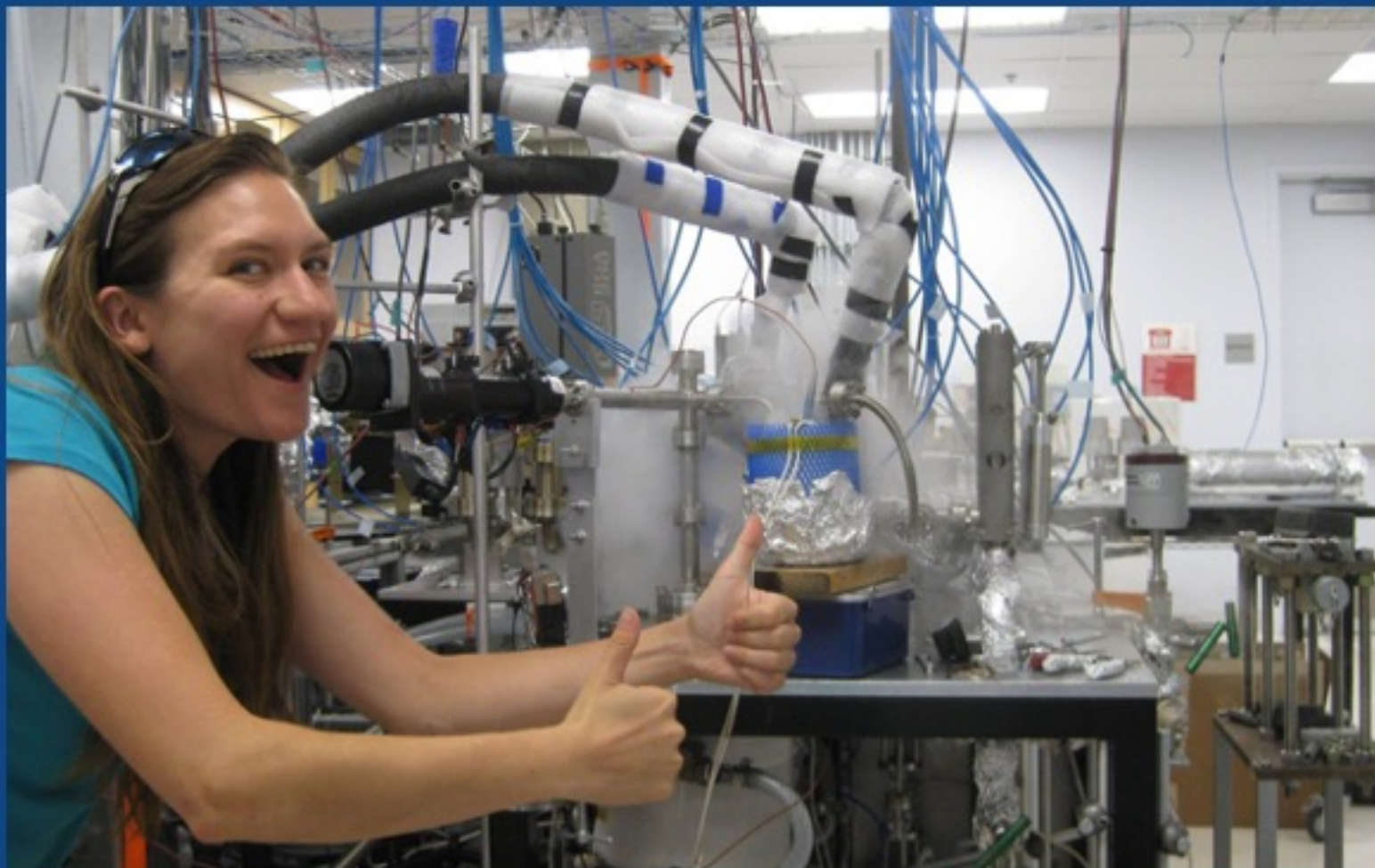


Jennifer Middleton

Jenny enjoys being outdoors and working with her hands, and learning how the Earth works. She also enjoys using liquid nitrogen which she finds a lot of fun!



Jennifer Middleton



Learn more: <https://www.ideo.columbia.edu/user/jennym>

“I like geoscience because I like working with my hands, being outside, and learning how the Earth works. Plus, I get to use liquid nitrogen in the lab and that is super fun!”

~ Jennifer (Jenny) Middleton
Postdoctoral Scientist

Mingfang Ting

Mingfang is an **atmospheric scientist**. Her expertise lies in the impact of global climate change on regional scales in terms of atmospheric stationary waves and precipitation extremes; and the **dynamics of naturally occurring and anthropogenic climate change**.

Mingfang also **leads educational programs** relating to **climate and society**.



Mingfang Ting

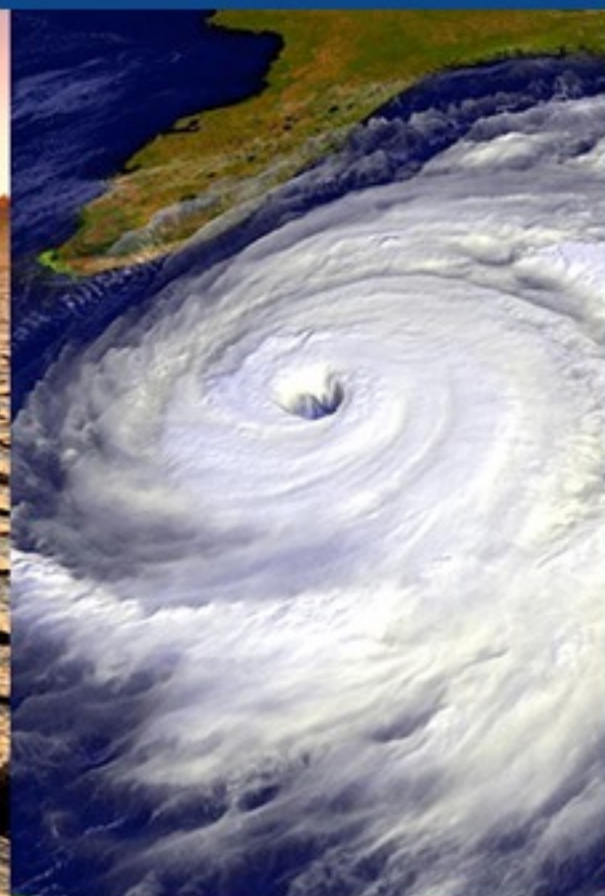
Mingfang is the **first woman Associate Director (head)** of our Ocean and Climate Physics Division. Her love for math and physics led her to atmospheric science. Her work has taken her to **China, Norway, Denmark, Italy, Mexico, France, Australia and others!**



Mingfang Ting



Pic: NASA



Learn more: <https://www.ideo.columbia.edu/user/ting>

Naomi Saunders

Naomi is an **isotope geochemist**. She looks at the **chemistry of rocks**, through the ratios of isotopes preserved within them. She **specializes in Nickel isotopes** in hard rocks, from **deep in the Earth** or the **surface of the Moon**.

These techniques that Naomi works on tell us about **formation processes of the Moon and Earth**, and modifying processes that occur within the Earth.



Naomi Saunders

Naomi is new to New York, having **recently arrived from Oxford**. She works in the lab and on collected data, entailing long days doing **chemistry** to remove everything that is not **Nickel** from the **rock sample** in a clean lab. Then she spends time measuring the amounts of the different isotopes of Nickel in the rock sample on a **mass spectrometer**.



Naomi Saunders

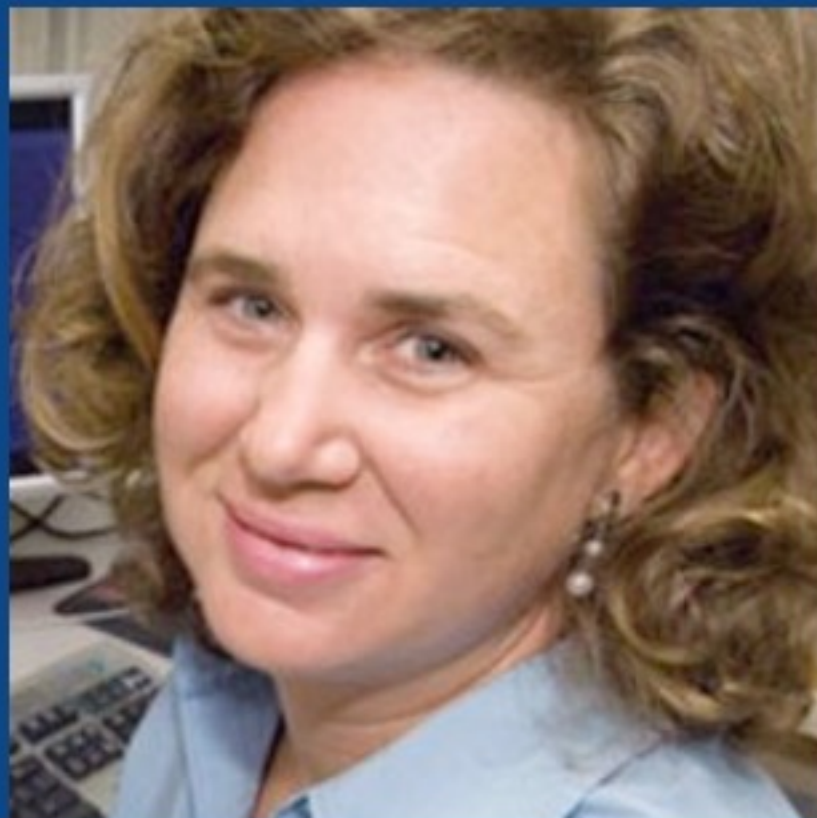


Learn more: <https://www.ideo.columbia.edu/naomi-saunders>

Sonya Dyhrman

Sonya's expertise lies in how **marine microbes like phytoplankton** interact with their geochemical environment. She uses molecular level tools to study the intersection of **microbial physiology and biogeochemistry**.

Sonya's work often uses model cultures to understand field operations made on research cruises **spanning the globe from polar to tropical systems**.



Sonya Dyhrman

Sonya has **always loved the ocean** and was drawn to the geosciences so she could study the ocean. She has traveled widely on work – to **Antarctica, Easter Island, Barbados, Hawaii, Chile, Uruguay**, and others. She has even **crossed the Equator on a ship!**



Sonya Dyhrman



Learn more: www.ldeo.columbia.edu/user/sdyhrman

Lucy Profeta

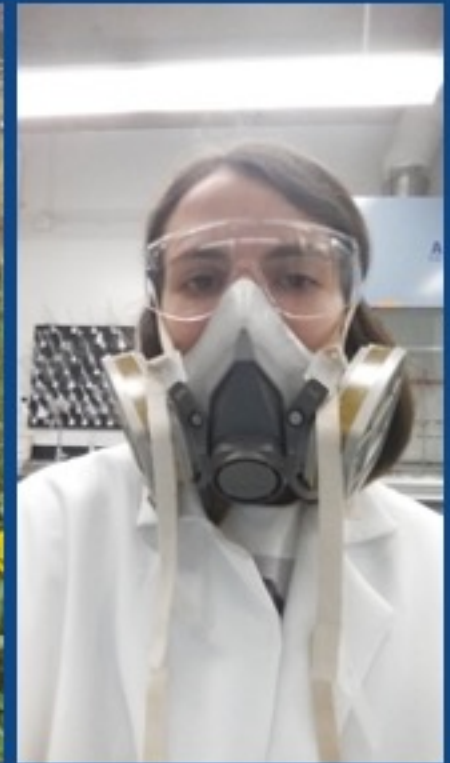
Lucia is a **data manager** and a **geochemist**. She curates the **EarthChem Library** data repository, which is a data repository that archives, publishes and makes **accessible data and other digital content** from **geoscience research**.

As a **geoinformaticist** she works to ensure that **data** outlives its creators and is **Findable, Accessible, Interoperable and Reusable (FAIR)**.



Lucy Profeta

Lucy is a big proponent of **Earth Science outreach** and loves engaging in **outdoor activities**. She believes it is of the utmost importance that **future generations understand and engage** with our everchanging world.



Lucy Profeta



Learn more: <http://www.earthchem.org>

Carol Knudson

Carol Knudson works on **water quality** on a project with **environmental advocacy group Riverkeeper**. Carol's group samples 74 stations over 155 miles on the **Hudson River** from the Gowanus Canal to the confluence of the Mohawk river at Waterford, NY.

Carol tests for **Enterococcus**, a sewage indicating bacteria, using an EPA approved method for determining safe exposure for recreational water use.



Carol Knudson

Carol also measures temperature, salinity, oxygen, chlorophyll, pH and turbidity. Carol has **lived near the Hudson river her entire life** and is very grateful to be able to **protect and care for it** through her work.



Pic: Riverkeeper

Carol Knudson



Pic: Riverkeeper

Learn more: <https://www.ldeo.columbia.edu/user/knudson>

Naomi Manahan

Naomi works in microbial biogeochemistry. Her work involves **thousands of water samples** from the ocean off the **Western Antarctic Peninsula**. Naomi analyzes the samples on several different types of analytical instruments.

Naomi's research contributes to our understanding of changing **microbial** populations, nutrients available to lower levels of the **Antarctic food web**, **carbon and nitrogen flux** in the ocean, and **ocean acidification**.



Naomi Manahan

Naomi was drawn to oceanography after her **first visit to an aquarium at age 12**. She **enjoys living and working on a ship in Antarctica**, something that few get to experience, and finds that the **scenery never gets old!**



Naomi Manahan



Learn more: <https://www.ideo.columbia.edu/user/nshelton>

WOMEN IN SCIENCE

Arlene Fiore

Arlene is an atmospheric scientist whose expertise lies in studying how anthropogenic and natural pollutant emissions influence atmospheric chemistry, climate, and air pollution on regional to global scales, and of the processes governing their interactions.

Arlene received the Excellence in Mentoring Award, and is passionate about the cause of women in science.



Arlene Fiore

In high school, Arlene had an **excellent Earth science teacher** who had a blow-up planetarium, and introduced her to rocks and minerals. Even though **she started out as an engineer** in college, she **found Earth science so fascinating** that she switched fields!



Pic: NASA

Arlene Fiore



Pic: National Geographic

Learn more: <https://atmoschem.ideo.columbia.edu/>

WOMEN IN SCIENCE

Xiaojun Yuan

Xiaojun is a **physical oceanographer** whose research focuses on **polar** sea ice variability and atmosphere-ocean-sea ice interaction in both the **Antarctic and Arctic**.

Xiaojun has conducted **oceanography field surveys** in the Southern Ocean and Antarctic waters to study the **polar ocean's role** in the global climate system.



Xiaojun Yuan

Xiaojun also investigates how **climate signals in the tropics influence polar regions**. She is active in education and outreach, and teaches a course “New Frontier in Earth Science” to high school students.



Xiaojun Yuan



Learn more: <https://www.ideo.columbia.edu/~xyuan>

Róisín Commane

Róisín is an **atmospheric chemist** who looks at **trace gas exchange** between the land and ocean surface and the atmosphere. She looks at trace gases emitted from both **natural and human sources** and carbon uptake and emission by ecosystems all over the world.

Róisín also looks at the processes driving the large emissions of carbon we've seen in **Arctic permafrost** during the recent warm winters.



Róisín Commane

Growing up on a farm in Ireland, Roisin always loved nature and the smells of the countryside. Róisín has traveled to places like California, Alaska, Hawaii, Fiji, American Samoa, New Zealand, Chile, Ascension, Brazil, Azores, Greenland measuring trace gases in the atmosphere.



Róisín Commane



Pic: Wikimedia Commons

Learn more: <https://www.ldeo.columbia.edu/roisin-commane>

Annika Johansson

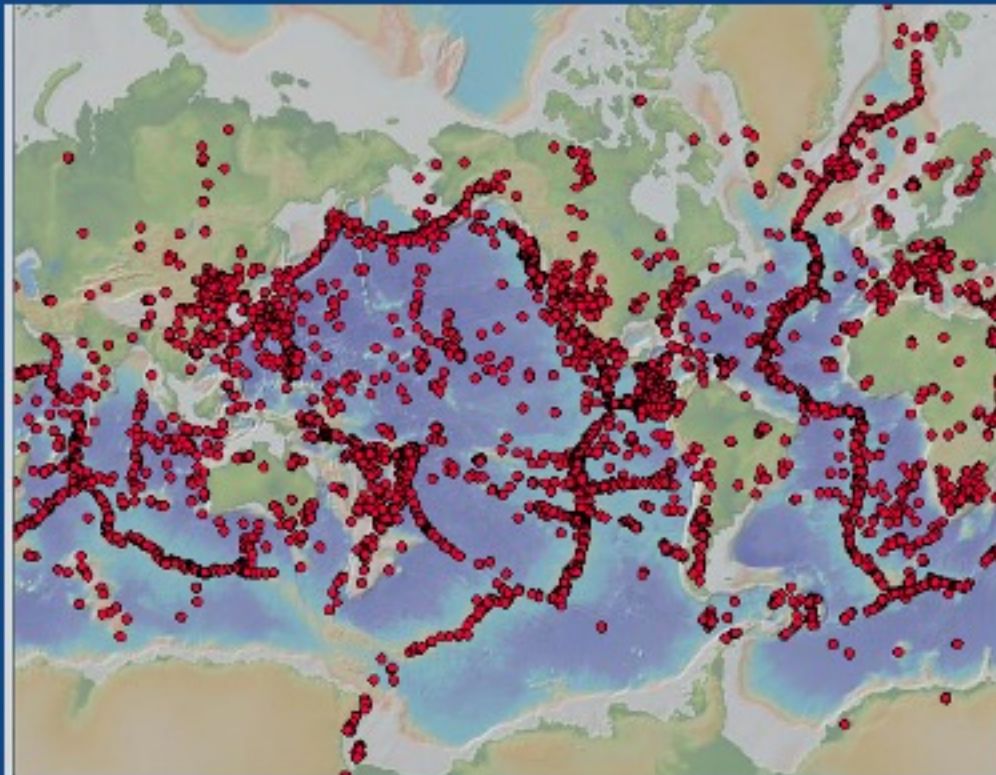
Annika is a **Data Manager**. She finds, archives, and **curates data** that other scientists publish. Her efforts makes it easy for **researchers and teachers across the globe** to find large amounts of **high quality geochemical data** with just a few clicks, sort of like when you go shopping on Ebay!

Annika's work **helps scientists** save a lot of time that they would have otherwise had to spend **digging for information**.



Annika Johansson

Right now Annika is very excited to start working on data from **outside the Earth**, including **Lunar** and other **Astromaterials**! Annika's kids have joined her in **outdoors adventures of fossil hunting, hiking**, and other fun since they were very little!

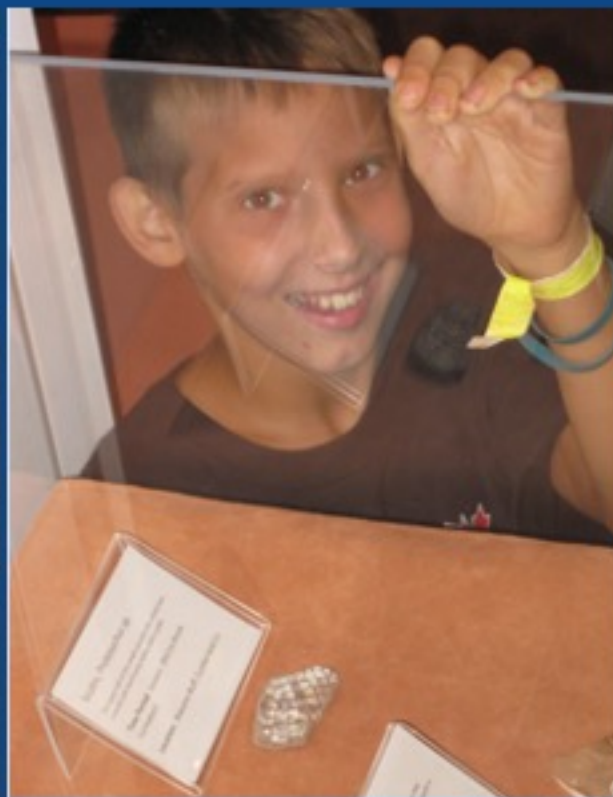
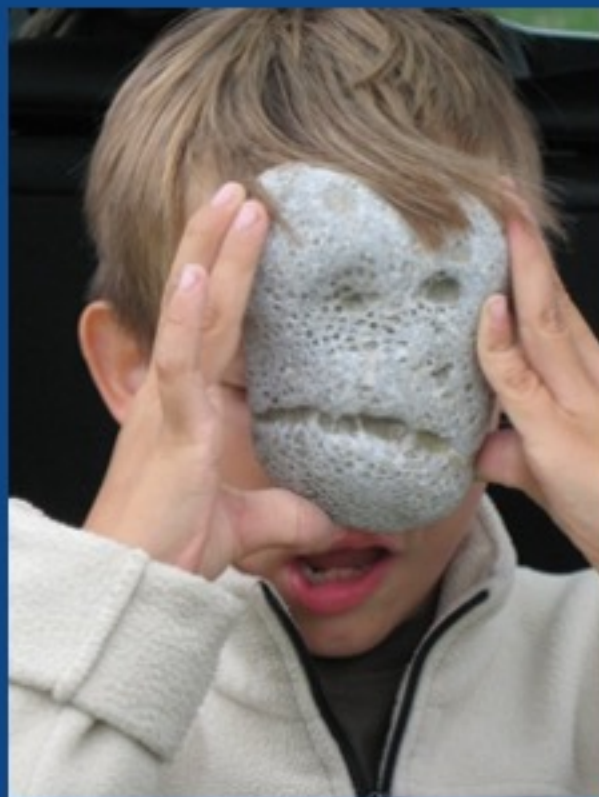


AstroMat

Astromaterials Data System



Annika Johansson



Learn more: <https://www.ideo.columbia.edu/user/annika>

Paulina Pinedo-Gonzalez

Paulina is a **chemical oceanographer** who studies the links between **trace metal distribution** and **primary productivity** in the oceans.

Paulina's research is focused on **generating new data** on some **biologically essential and anthropogenic metals** in a wide variety of marine environments (i.e. **North Pacific, Southern Ocean, and Arctic Ocean**) to investigate the physico-chemical and biological influences that interact to control metal biogeochemistry in the ocean.



Paulina Pinedo-Gonzalez

Paulina's passion for the oceans and her desire to gain a deep understanding of them led her to a career in marine science. She enjoys living and working on ships, where she gets to admire the beauty of the ocean, and sometimes, playful marine animals like whales and dolphins.



Paulina Pinedo-Gonzalez



Learn more: <https://www.ideo.columbia.edu/user/papinedo>

WOMEN IN SCIENCE

Mélody Braun

Mélody has a multidisciplinary background in **Earth science**, development and adaptation to **climate change**.

Mélody works with **climate scientists, development practitioners and policy makers** to design systemic and transdisciplinary climate services approaches to improve **integration of climate information into decision making processes** and increase resilience, with a particular focus on **Bangladesh**.



Mélody Braun

Mélody works on the design of **weather insurance** products for smallholder farmers as risk transfer mechanism to **unlock productive opportunities** and increase resilience. The approach combines **remote sensing and participatory processes to include farmers** in the design and validation of products.



Mélody Braun

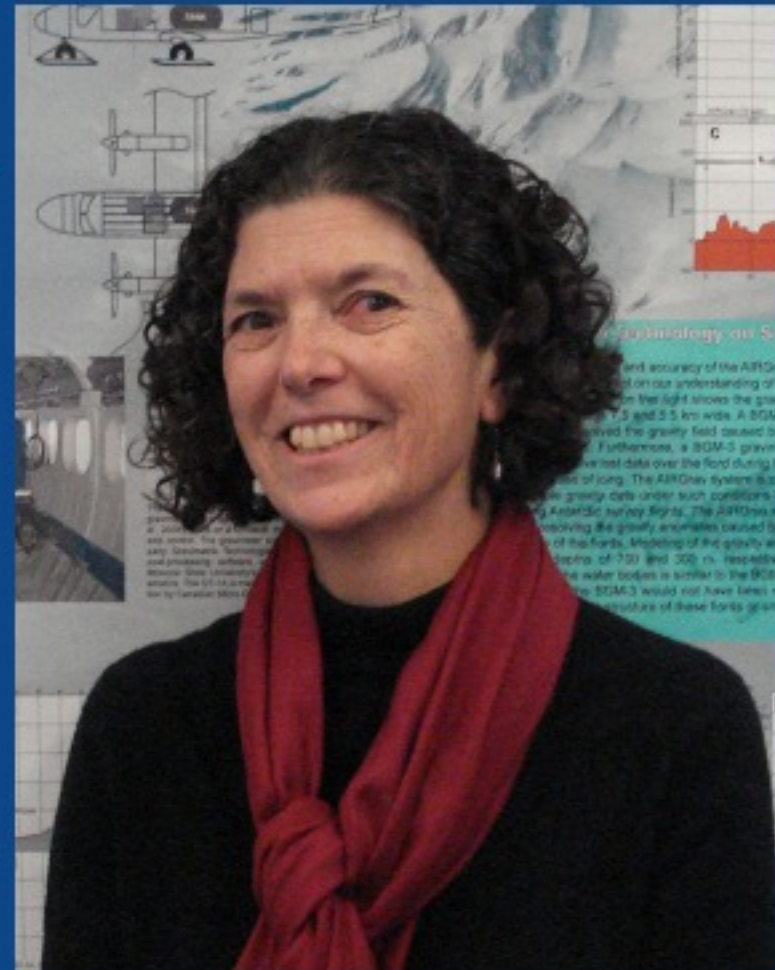


Learn more: <https://iri.columbia.edu/contact/staff-directory/melody-braun/>

Margie Turrin

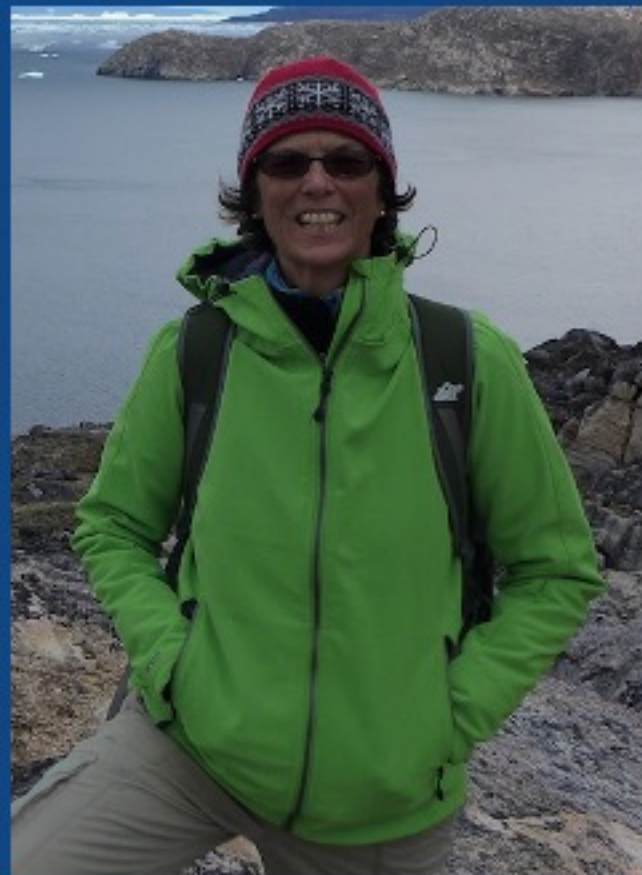
Margie is an **ecologist**, who works with scientists, educators, and students to study how **impacts on the Hudson River** can affect fish and other species. She teaches about the impacts of **climate change and sea level rise**.

Margie enjoys doing science **outdoors in the field**. She is responsible for **thousands of Hudson Valley students** experiencing field science, collecting their own data and sharing it with other students. She has focused heavily on **promoting diversity in science**.



Margie Turrin

Margie's **love of field experiences** launched her into a multi-year program where interdisciplinary **faculty lived together on a research boat** for a month each summer to **study the Hudson River**. Some of her favorite work experiences were in **Greenland and Antarctica**.



Margie Turrin



Learn more: <https://blog.ideo.columbia.edu/piermont/people/>

Ludda Ludwig

Ludda is a graduate student studying **ecosystem ecology**. She studies climate change impacts on **Arctic carbon cycling** through **wildfires and permafrost thaw**, and coupled **biogeochemical cycling** at terrestrial-aquatic interfaces.

Ludda combines **field ecology data** and high-resolution remote sensing in statistical models to **map small lakes and wetlands** and scale **carbon dioxide and methane emissions**.



Ludda Ludwig

Ludda's appreciation of the Arctic began as a teenager from **canoe trips on Arctic rivers in Canada**. Now her field work takes me around the circumpolar Arctic, and she has explored **Alaska and Siberia** by **motorboat, floatplane, helicopter, barge, and kayak (but not canoe)!**



©CHRIS

Ludda Ludwig



Learn more: <https://atmoscomp.ldeo.columbia.edu/people/ludda-ludwig>

WOMEN IN SCIENCE

Maria Tzortziou

Maria is a **physicist** whose research integrates multidisciplinary datasets, satellite remote sensing observations, and ecosystem models to provide insights into the **impacts of human and environmental pressures on biogeochemical cycles and ecological processes.**

Maria is the Ocean Applications Lead for NASA's **satellite mission PACE**, on the **Science Steering Committee** for the Ocean Carbon Biogeochemistry Program, and on the **Science Leadership Board** of the North American Carbon Program.



Maria Tzortziou

Maria has **led field campaigns** across a range of environments, from the **Yukon river delta** and **Arctic coastal ocean** to coastlines in the **Mediterranean** to the Asian coastal megacities of **Seoul** and **Busan**. She has received **two NASA Group Achievement Awards** as member of the Science Team for NASA's DISCOVER-AQ and OWLETS airborne and shipborne campaigns.



Maria Tzortziou



Learn more: <https://www.ldeo.columbia.edu/maria-tzortziou>

Thank you!

Contact:

**OFFICE OF ACADEMIC AFFAIRS &
DIVERSITY**

Kuheli Dutt

kdutt@ldeo.columbia.edu