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**T**his summer has been hot (<https://www.nytimes.com/2019/08/15/climate/hottest-july-noaa.html>); our work Inside the Greenhouse has continued to heat up as well.

We are happy to share with you another update regarding our ongoing efforts in the spaces of research, teaching and engagement in the spaces of creative climate communications in the public sphere.

In newsletter #14, we share some highlights of our many ongoing activities. Visit our website <http://www.insidethegreenhouse.org> for further details and more information. We continue to carry out these projects through wonderful collaborations and partnerships linking campus and community as well as the local with the global.

Please don't forget that your support is vital to our ongoing efforts. Please visit <https://giving.cu.edu/fund/cires-inside-greenhouse-gift-fund> to provide a tax-deductible gift. We are grateful for contributions in any amount.

Up with (constructive) hope,  
Beth Osnes, Phaedra Pezzullo, Rebecca Safran and Max Boykoff  
(Inside the Greenhouse co-directors)

### Support ITG!

To support our work with your donation go to:

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**Be Boulder.**  
University of Colorado Boulder

Subscribers to ITG will be notified by email when a new edition is available, and may access it either in pdf or html format. The newsletter is also available online at:

<http://www.insidethegreenhouse.org/about/newsletters>

## COURSE SPOTLIGHT



Trash The Runway Event at the CU Museum of Natural Science showing the video interviews of designers.

### Art of Science Communication (taught by Becca Safran)

The first run of the Art of Science Communication during Spring term 2019 was a success. All eighteen students collaborated with one another in smaller groups to produce short films with the aim towards branding a specific climate change message.

At its core, the project was focused on the translation of science into story with integration of methods from branding to create advertisement-like messaging of science related to climate change. To check out some of these projects check out 'Up in Smoke' (<http://www.insidethegreenhouse.org/media/smoke>) and 'For Here or To Go?' (<http://www.insidethegreenhouse.org/media/here-or-go>). We were grateful for visits from advertising and branding gurus, including Larry Olson (<https://www.studiolo.work/about>) and David Fenton ([https://en.wikipedia.org/wiki/David\\_Fenton](https://en.wikipedia.org/wiki/David_Fenton)).

### Creative Climate Communications (taught by Beth Osnes and Max Boykoff)

We got an intravenous infusion of hope while sitting in the audience and witnessing the student video interviews of middle and high school *Trash the Runway* designers (<http://www.insidethegreenhouse.org/project/trash-runway>). We wished the whole world could hear their voices express their commitment to sustainability and how they expressed that through their clothing design.

On May 8th, 2019, about 100 people gathered at the CU Museum of Natural History (<https://www.colorado.edu/cumuseum>)

to witness about 40 short videos, each featuring a teen-designer for Boulder *Trash the Runway* event (<https://www.shopcommonthreads.com/trash-the-runway>) that occurred at the Boulder Theater (<https://www.bouldertheater.com>) on March 12, 2019. The format for each of the videos was similar—interview of the teen-designer, footage of them sewing their piece in the Common Threads shop (<https://www.shopcommonthreads.com>), them walking the runway the night of the shop on the Boulder Theater stage, and getting interviewed about their design.

The sparkling, charming, and sometimes quirky personalities of each young person were completely unique for each video. Another aspect that was consistent but differently expressed, was their commitment to sustainability that inspired them to get involved and expressive. One of the CU students, Yueqi Pan, arrived at the video showing dressed especially fashionable and was nominated by her classmates to introduce the class project for the event. Several of the designs created for this event were on display at the CU Museum of Natural Science over the summer.

### Environmental Tourism is coming this Fall 2019 (taught by Phaedra Pezullo)

Prof. Pezullo is teaching a new course on environmental tourism this fall (COMN 4300-02). Students will be engaging and producing work about outdoor tourist selfies, environmental tourist destinations, and touring the climate crisis. Stay on the lookout for more news in the future!

# RESEARCH SPOTLIGHT

## Good-Natured Comedy to Enrich Climate Communication

This summer, 'Good-natured comedy to enrich climate communication' co-authored by Beth Osnes, Max Boykoff, and Patrick Chandler was published in the journal *Comedy Studies* ([http://sciencepolicy.colorado.edu/admin/publication\\_files/2019.06.pdf](http://sciencepolicy.colorado.edu/admin/publication_files/2019.06.pdf)).



This paper explores the use of good-natured comedy to diversify the modes of comedy that can be used in climate communication beyond satire to others modes that are possibly more supportive of sustained climate action. Student's self-assessment on a class project involving this type of comedy were collected through an on-line survey to generate data to explore their feelings of hope and their views of their own growth as climate communicators. Research findings suggest that student participation in creating good-natured comedy helps students positively process negative emotions regarding global warming, sustain hope, and grow as communicators of climate.



Students performing a skit on the benefits of a plant-rich diet.

## Creative (Climate) Communications: Productive Pathway for Science, Policy & Society

Max has a new book out (August 22) called 'Creative (Climate) Communications: Productive Pathways for Science, Policy and Society' (<https://bit.ly/2Hlt0Pr>). The book points out that conversations about climate change at the science-policy interface and in our lives have remained stuck. The book integrates lessons from social science and humanities research and practices that have sought to more effectively make connections through issues, people and things that everyday citizens care about. Readers come away with an enhanced understanding that there is no 'silver bullet'



'Creative (Climate) Communications', photo provided by James Balog and Earth Vision Trust, designed by Ami Nacu-Schmidt, published by Cambridge University Press.

to communications about climate change. Instead, a 'silver buckshot' approach is needed, where 'smartened up' strategies effectively reach different audiences in different contexts. The book outlines how this tact can then significantly improve efforts that seek meaningful, substantive and sustained responses to contemporary climate challenges. Also the guidance helps to more effectively re-capture what may be seen to be a 'missing middle ground' or common ground on climate change in the public arena. This book helps consider how to harness creativity to better understand what works where, when, why and under what conditions in a 21st century communications environment.

On May 8th, 2019, about 100 people gathered at the CU Museum of Natural History (<https://www.colorado.edu/cumuseum>) to witness about 40 short videos, each featuring a teen-designer for Boulder *Trash the Runway* event (<https://www.shopcommonthreads.com/trash-the-runway>) that occurred at the Boulder Theater (<https://www.bouldertheater.com>) on March 12, 2019. The format for each of the videos was similar—interview of the teen-designer, footage of them sewing their piece in the Common Threads shop (<https://www.shopcommonthreads.com>), them walking the runway the night of the shop on the Boulder Theater stage, and getting interviewed about their design.

# RESEARCH SPOTLIGHT

## Linking Process to Pattern Through an Experimental Network Approach to Identify the Behavioral Mechanisms of Reproductive Isolation

This summer, Becca earned a National Science Foundation award with former postdoc, Dr. Iris Levin, Assistant Professor, Kenyon College and statistician Dr. Bailey Fosdick, Colorado State University.

The project will experimentally study how population boundaries form and are maintained in the wild. Iris was a postdoc in the Safran lab (<http://www.safran-lab.com>) from 2014 - 2016 and is now an Assistant Professor at Kenyon College. She pioneered the use of proximity logger tags, which enable the team to determine which individual barn swallows are interacting with one another. This brings a lot of interactions - previously invisible to us because they happen so quickly - into clearer focus. These interactions are really important to understand because researchers to date know so little about how populations become genomically isolated from one another, even when they have opportunities to interact and interbreed.

The research team is going to take this tag technology and a few others techniques they have learned in the field in locations in China and Japan where two different subspecies of barn swallows meet up. In one location, individuals likely interact but do not mate with one another (e.g., mix up their genomes to create offspring). In other locations, individuals from different subspecies freely mingle and mate with one another. Understanding the factors that lead to these two outcomes (subspecies remain different and eventually become species or subspecies completely dissolve into one interbreeding population) enable researchers to get to the heart of a fundamental question in evolutionary biology: how do new species form?



Aerial of village in China near hybrid zone.



Area outside of Zhangye, China - an oasis in a sea of sand.



Sampling routes in Gansu, China.

## INTERNSHIP HIGHLIGHT

### Co-produced Creative Climate Change Curriculum Project (5C) Internship

This summer in our first internship CU Environmental Studies PhD student, Patrick Chandler (see Newsletter #10 for his student spotlight: <http://www.insidethegreenhouse.org/about/newsletters/issue-10>), completed an internship with ITG focused on an ongoing project called the 'Co-produced Creative Climate Change Curriculum project' (5C). 5C is a partnership between three University of Colorado Boulder departments (Theater and Dance, Environmental Studies, and the CU Museum of Natural History) and the Jefferson County School District (Jeffco) which is enabling participants to co-produce an embodied exploration of fossils, energy, and climate for 4th/5th grade students in Jefferson County, Colorado. This project addresses the current lack of embodied participatory learning which could enhance retention and understanding of climate change communication. It is based on the Inside the Greenhouse musical for youth engagement, *Shine*. Over the 2018/2019 school year, the CU team worked with administrative staff and teachers in Jeffco to pilot the first draft of this new curriculum.

Over the summer internship, Patrick revised the curriculum based on what was learned through our first run of the curriculum at Stober Elementary (<https://stober.jeffcopublicschools.org>). In the 2019/2020 school year, we will continue piloting our revised draft of the lessons with a diverse set of 4th and 5th grade Jeffco teachers and document the co-production framework through which this project was developed.



Patrick Chandler facilitating a teacher training at Jeffco.

### Comedy and Climate Change Curation Internship

Our second ITG internship was completed by an undergraduate Theatre student, Sarah Sweet who was a student in the Spring 2019 Creative Climate Communication course taught by Max Boykoff and Beth Osnes. Sarah participated in the *Stand Up for Climate Comedy* event on April 25, 2019 and then applied for the internship to edit the videos of the stand up and sketch comedy pieces. See our comedy projects page for the Spring 2019 show performances (<http://www.insidethegreenhouse.org/project/comedy-climate-change>).



Patrick Chandler during a performance of *Shine* at Stober Elementary School in Jeffco on Earth Day 2019.

# CONFERENCE HIGHLIGHT

## Conference on Communication and Environment

The 15th biennial Conference on Communication and Environment (COCE) was hosted by the University of British Columbia, in Vancouver, Canada, June 17-21, 2019. The theme for this year's International Environmental Communication Association (IECA) conference (<https://theieca.org>) was water-lines of communication and was co-sponsored by the Yale Program on Climate Change Communication, Penn State Science Communication Program, and the Arthur W. Page Center for Integrity in Public Communication.

Professor Phaedra Pezzullo presented on her research related to the emergent field of environmental communication in China, a coedited project that she wrapped up this summer and should be forthcoming as a coedited book next year in English and in Chinese. In addition to academic papers, climate communication was shared creatively through art and music, as well as data, infographics, film, stories, and more. A highlight of the conference was the session hosted by Prof. Geo Takach on the Canadian Trans Mountain Pipeline (TMX), which Prime Minister Trudeau approved the day after declaring a "climate emergency."

The Tsleil-Waututh Nation (which translates as "People of



University of British Columbia, Vancouver, Canada.

the Inlet") stands opposed to the pipeline and created a film short about their restoration effort in the Burrard Inlet in the lands now known as British Columbia, Canada. At COCE, Metis-Cree filmmaker and educator Kamala Todd shared a short film highlighting what the Tsleil-Waututh Nation has done for sustainability. She argued that the TMX project is a continuation of ongoing colonization.



Screen shot from film short shown at COCE, showing first clam harvest in over 45 years.

## STUDENT SPOTLIGHT

Each newsletter we feature students involved in our ongoing Inside the Greenhouse efforts. This issue, we feature **Lianna Nixon**.

Lianna is a photojournalist and documentary filmmaker. She is currently a graduate student in the School of Education: Learning Sciences Human Development at the CU Boulder. Her research focuses on climate change and environmental education through immersive storytelling platforms. She currently works with ITG member Beth Osnes' organization SPEAK as a story-lead. She is also preparing to document the world's most complex Arctic Research expedition to date, MOSAiC (Multidisciplinary Drifting Observatory for the Study of Arctic Climate). Prior to graduate school at CU Boulder, she has worked with storytellers across the globe to capture the beauty and plight of our planet.



She offers some comments and reflections on her experiences to date Inside the Greenhouse at CU Boulder, in her own words:

"When I was 19 I met a South African black rhino who changed my life. After losing her mother to poaching, she was transferred to an orphanage where she was later almost killed herself when poachers breached the protected compound. She managed to escape, and a decade later she still stands today, eagerly waiting for vehicles to visit her so she can lick the salt off them. After all of the hardship she experienced, she still possesses so much love and trust towards humankind.

As a storyteller I am driven to be a voice for those who don't have one by sharing powerful visual narratives for the sake of climate change and conservation. I have found



Lianna Nixon photographing humpback whales in Silver Bank to talk about the importance of Marine Protected Areas.



Photo of Young Women's Voices for Climate singing "Wind Turbines Are Beautiful" at the CU Natural History Museum.

that visual media is a powerful tool to compel people to engage in the environmental narratives around stories and create change.

With my PhD in sight, I want my work to help empower others through visually innovative and educational experiences that help create progress in sustainability and maintain hope for a livable future. I am interested in the effectiveness of visual and virtual reality technology in breaking down walls of resistance towards environmental action. Additionally, I want to explore developing youth empowerment tools to help the heirs of our Earth fight for our planet. This year I have had the pleasure working with Beth Osnes on ITG related project, SPEAK: Young Women's Voices for Climate. It is such a privilege working with talented young women who are raising their voices through theater and project-based collaborations to connect the public to climate change. I am looking forward to continuing my work with the incredible ITG team."



The Rhino who changed Lianna's life. She was calmly standing five feet away from us, which is an unusual behavior for black rhinos as they are solitary animals

# ANNOUNCEMENTS

## Ongoing Information-Sharing, Talks and Workshops

This summer, Inside the Greenhouse participants have led information-sharing and participatory workshops as well as giving talks involving creative climate communications.

Also among them:

Co-Director **Prof. Rebecca Safran** and her research team conducted their ongoing research on barn swallows; their new grant (described above) will take them back to China next summer but this summer we are working very close to home with big research teams both in the lab and doing fieldwork; this summer, Becca's field team consisted of seven talented undergrads (Sage Madden, Sabela Vasquez- Rey, Christian Testerman, Noah Goodkind, Emily Vander Pol, Ellen Scherner, and Mackenzie Borum) mentored by postdoc Dr. Angela Medina-Garcia and PhD student Molly McDermott; also PhD student Javan Carter is running his own team in the lab working on several genomics projects when he mentored undergraduate and high school students in the lab this summer (Justine Meese, William Williston, Lea Hibbard, and Alexandra Dalton).

Co-Director **Prof. Phaedra Pezzullo** continued work as a co-founder and co-director of the Just Transition Collaborative (JTC, <https://www.colorado.edu/jtc>) at CU Boulder; over the summer, Phaedra and JTC members deepened their connection with the City of Boulder to place a Just Transition and Equity at the center of



Prof. Rebecca Safran working in the field at night.

climate action planning: in May, the JTC supported Climate Justice Leaders in speaking in front of City Council. The study session in July was enthusiastically received and adopted by Boulder City Council, and JTC was mentioned multiple times at the first field hearing of a bipartisan special congressional committee on climate change, which was held at the University of Colorado Boulder on August 1.



Sage Madden, Sabela Vasquez-Rey & Molly McDermott in the field.



Angela Medina-Garcia and Emily Vander Pol in the field.



# ANNOUNCEMENTS

Co-Director **Prof. Beth Osnes** led a Young Women's Voices for Climate group (invited by the City of Boulder senior environmental planners) to perform at the Boulder City Council on Boulder's revision of the cities' climate action plan; Beth also presented ITG work at the Association for Theatre in Higher Education conference in Orlando.

Co-Director **Prof. Max Boykoff** spoke at the CoAdaptree Symposium (<https://coadaptree.forestry.ubc.ca>) at the University of British Columbia and at the Worldviews Conference on Media and Higher Education (<https://worldviewsconference.com>) at the University of Toronto, while also advising ongoing work in the Deep South Challenge (<https://www.deepsouthchallenge.co.nz>) in Auckland, New Zealand as well as continuing with research collaborations through the Media and Climate Change Observatory ([https://sciencepolicy.colorado.edu/media\\_coverage](https://sciencepolicy.colorado.edu/media_coverage)).

## Additional announcements

In addition, this summer Prof. Max Boykoff and Prof. Phaedra Pezzullo joined the editorial board and wrote essays for the new *Journal of Environmental Media*, which will begin publishing in early 2020.



Team Genomics William Williston, Justine Meese, Javan Carter.

And last but certainly not least, this summer ITG received a gift from Kate McKeller Ridgeway for our ongoing work in creative climate communication. Kate is a CU Boulder alumna who serves on the board of Colorado Outward Bound School and has a residence in Carbondale. We're excited to see how this collaboration to increase the capacity of climate communication education on the Front Range will grow, including the possibility of a climate communication convergence of national experts. Many thanks to Kate McKeller Ridgeway!



Young Women's Voices for Climate walking down to the Boulder City Council Meeting.

Going forward, you can also follow us via Twitter (@ITG\_Boulder),  
Instagram ('everydayclimate') and Facebook:  
<https://www.facebook.com/Inside-the-Greenhouse-at-CU-Boulder-1267256946701231>

**More information can be found on our website:**  
<http://www.insidethegreenhouse.org>

### **Support ITG!**

To support our work with  
your donation go to:

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## **ABOUT US**

Creative framing and storytelling of issues surrounding climate change through video, theatre, dance, and writing can connect a wider audience to the deep and pressing need to address climate change. Project leaders Max Boykoff (Associate Professor, Environmental Studies; CIRES Fellow), Rebecca Safran (Associate Professor, Ecology and Evolutionary Biology), Beth Osnes (Associate Professor, Department of Theater and Dance) and Phaedra Pezzullo (Associate Professor, Department of Communication) have

been producing events and classes over the past six years under the banner of the 'Inside the Greenhouse'. Support for this work catalyzes creative climate communication and builds capacity among CU Boulder undergraduate and graduate students in particular. Our efforts to engage our students, those working at the science-policy interface, and the public alike seek to help concerned make climate change meaningful in the lives of everyday people. Students are involved directly and collaboratively connecting work in the classroom to applied contexts.



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