

LEEDS ARTS UNIVERSITY

THE BRIDGE

ROSEMARY CHALMERS



Abstract

The output is a creative project co-authored with volcanologist Jill Shipman and funded by SciArt Center. The project was one of four proposals selected by peer review for this international, cross-disciplinary, collaborative residency. Chalmers' contribution comprises the visual design of the creatures and environments.

Research process

The SciArt Centre provided a virtual space to record and showcase the process and products of the collaboration. The work was facilitated by bi-weekly Skype calls and documented in weekly blog posts. The approach was based on speculative biology, for example by asking how echolocation would work in terrestrial creatures and how can these adaptations be made external to create a more visually interesting creature design while still remaining believable? These were explored through playing with the idea of setting the narrative around planetary exploration and therefore a speculative world and its flora and



fauna will need to be visualised through concept art. Chalmers researched other Creature Designers that have created believable worlds, including Terryl Whitlatch and Brynn Metheney.

Research insights

Through testing ways to synthesize volcanic phenomena and creatures it was discovered that there were four approaches for incorporating volcanic features into creature design: volcanic phenomena can be directly applied to a part of the creature's body, volcanic phenomena patterns can be overlaid on the creature creating unexpected forms on the surface, volcanic phenomena can provide inspiration for heat resistant adaptations from real-world animals and, finally, more imaginative and surreal methods can be used to personify the volcanic phenomena.

Research insights were also developed into the cyclical process of collaboration; the art-science interface as a method to stimulate the mind, stir the emotions, and promote action in geoscience stewardship; and the experience of an artistic approach to science communication in order to create immersive and interactive worlds to engage wider audiences.

Dissemination

The project was developed through 'The Bridge' four-month virtual residency with SciArt Center from September to December 2017 and was disseminated via a peer reviewed conference poster and a blog. A selection of the work produced was exhibited within 'Creature Design: ex femina', 29 August – 10 October 2019, at Leeds Arts University.

Keywords

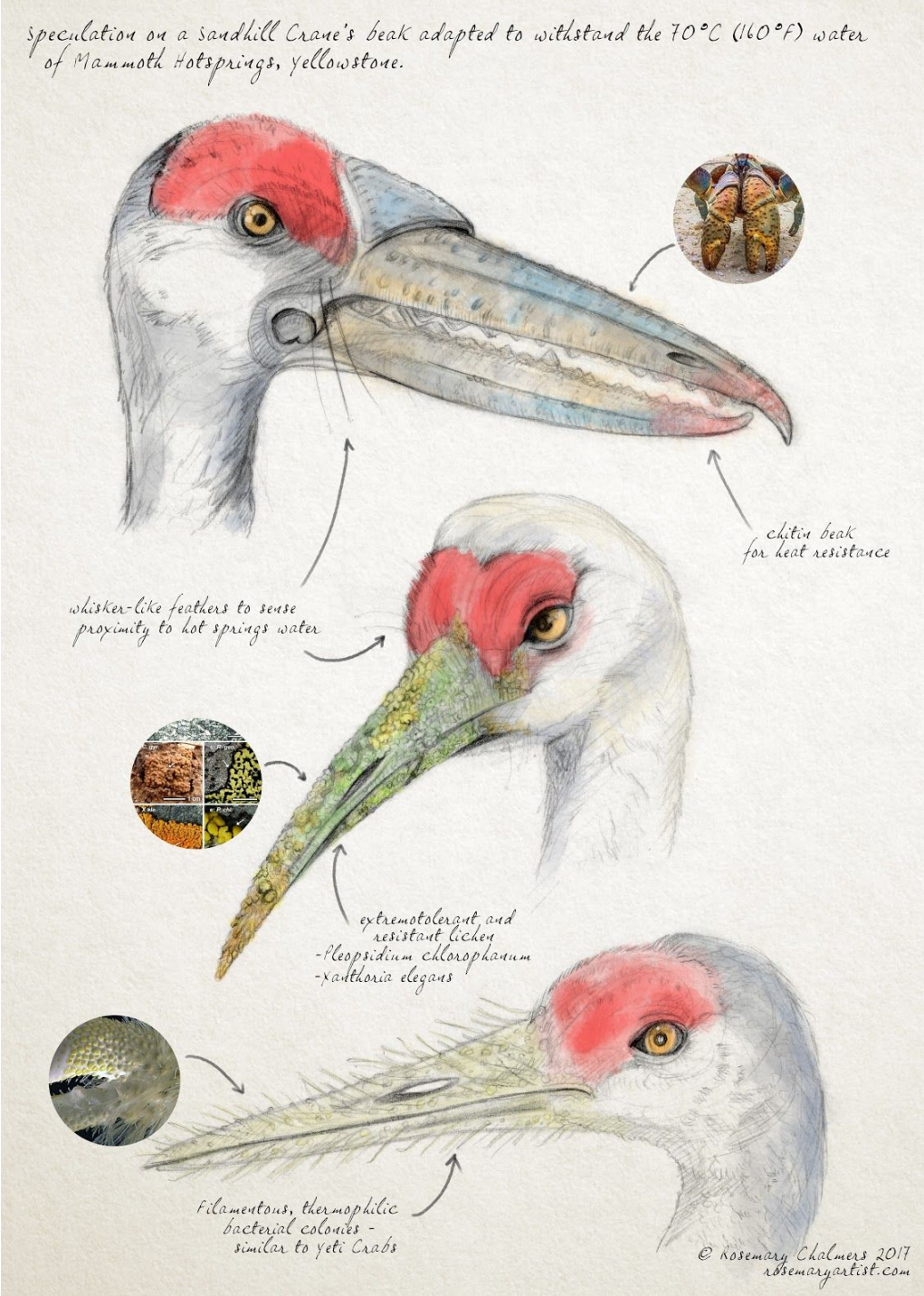
SciArt, collaborative, international, cross-disciplinary, virtual residency, Volcanology, Creature Design, Environment Design, science communication, geoscience, storytelling, believability, worldbuilding

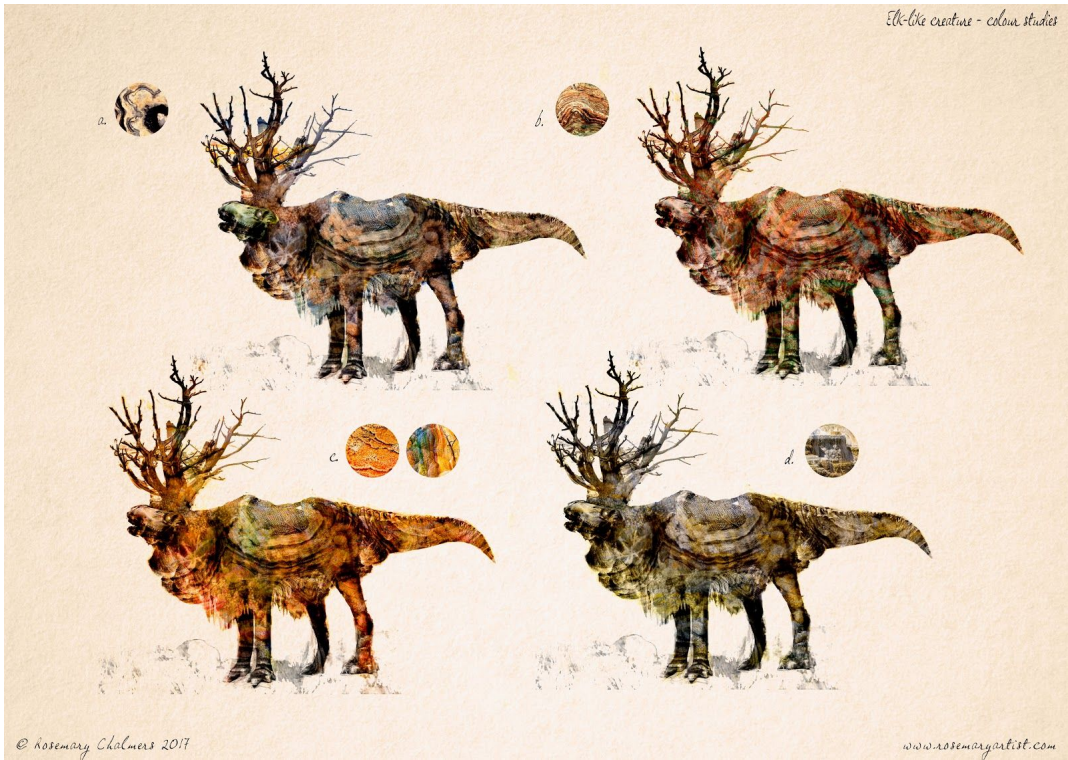
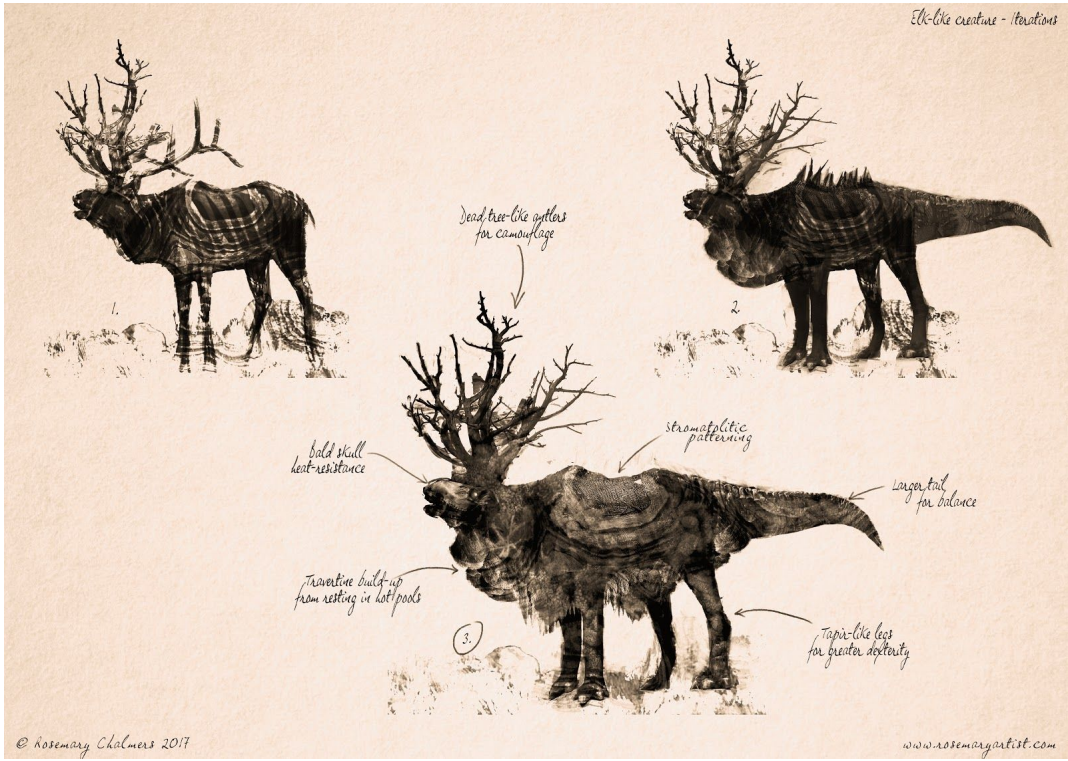
Creators

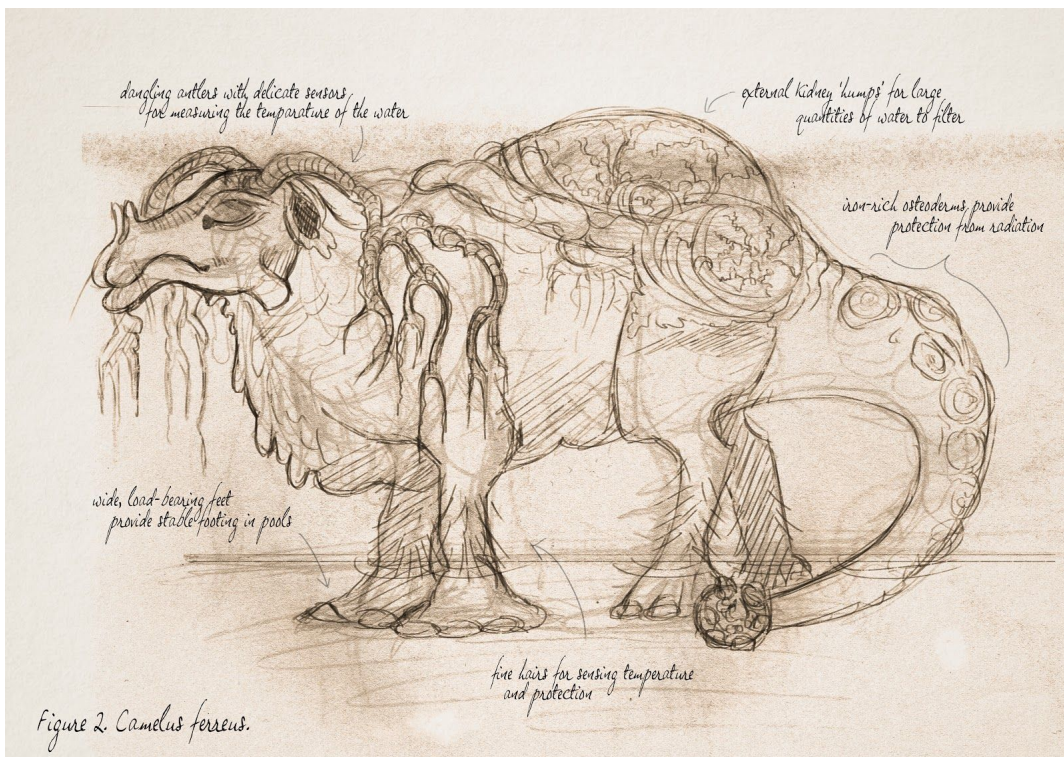
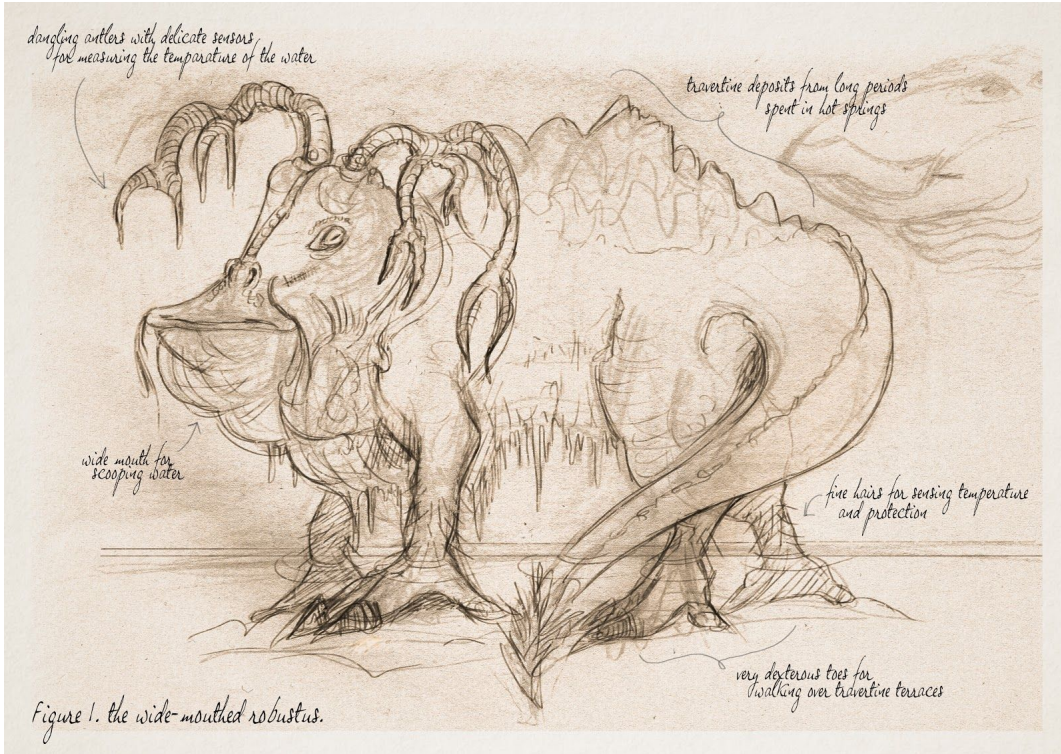
- Rosemary Chalmers, Creature Designer
- Jill Shipman, Volcanologist

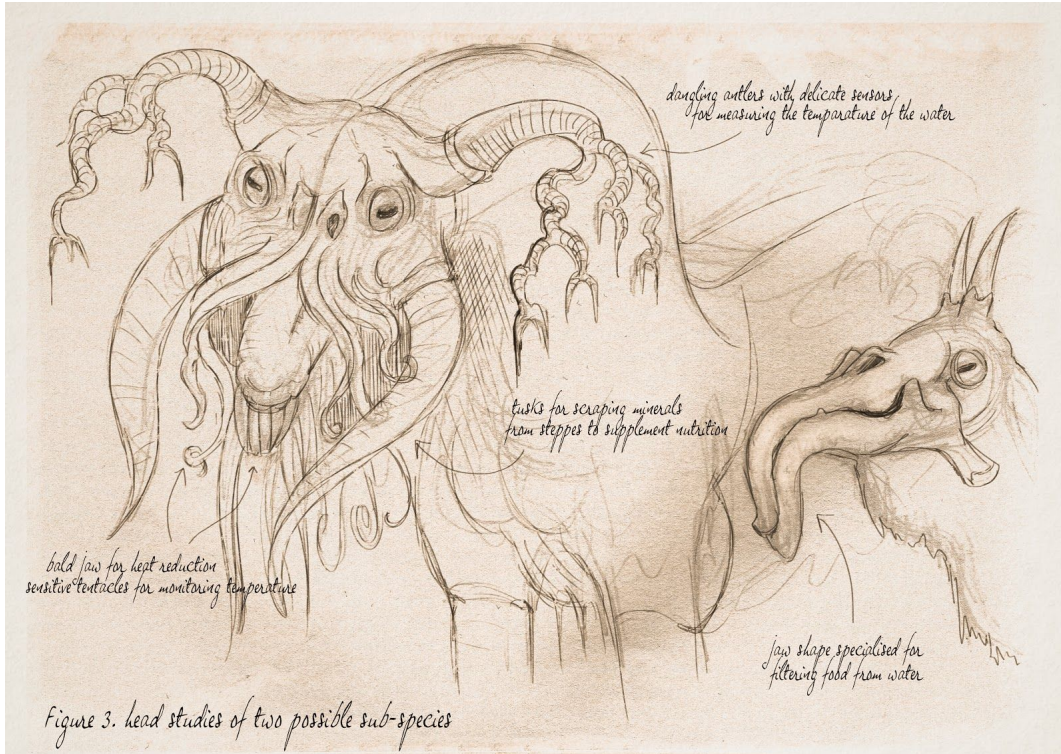
Selected Work Produced

The Bridge: Experiments in Science and Art (2017)





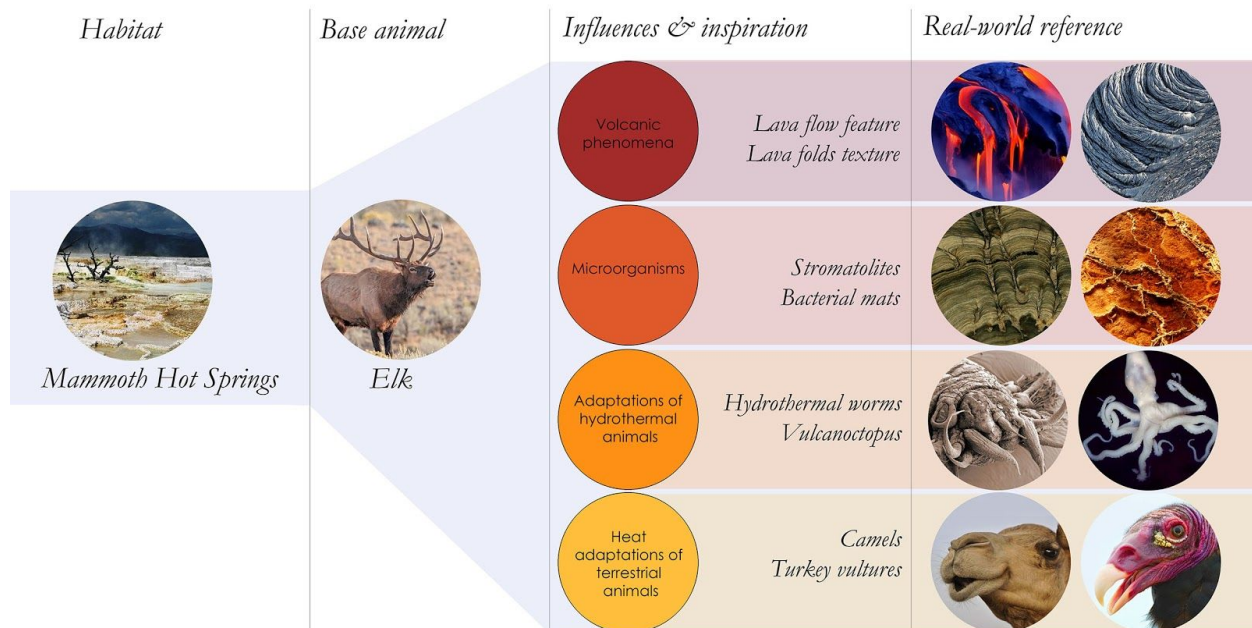




SciArt Center Collaborative Residency: The Bridge

SciArt Creature Design formula

The process used to develop a fantasy creature that was believable and intrinsically inspired by volcanic phenomena.





Ancient elk-like creature

© 2017 Rosemary Chalmers
www.rosemaryartist.com

Valley of Ten Thousand Smokes -- fantasy re-imagining -- thumbnail development



Figure 1



Figure 2



Rosemary Chalmers

Figure 3

Minerva Terraces -- fantasy re-imagining -- thumbnail development



Figure 1



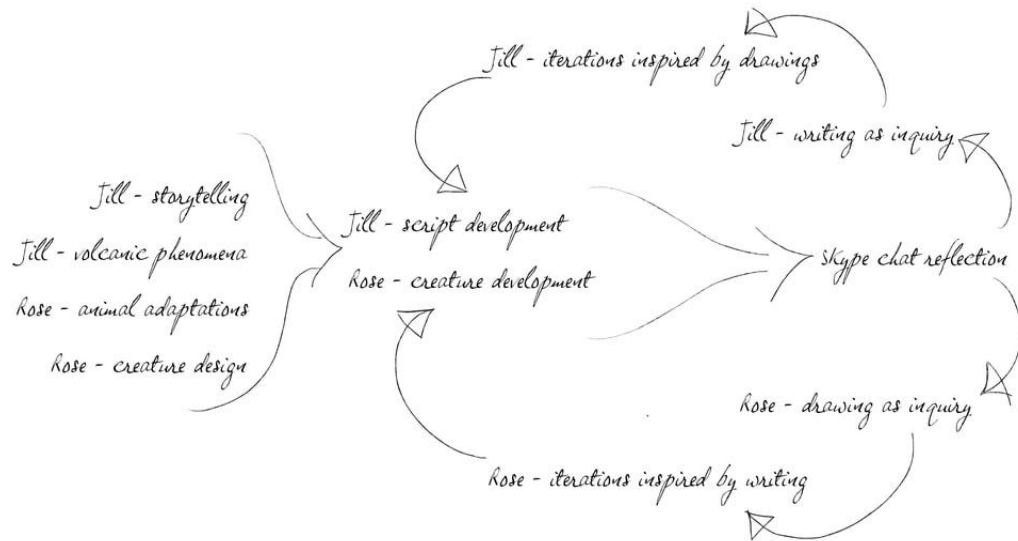
Figure 2



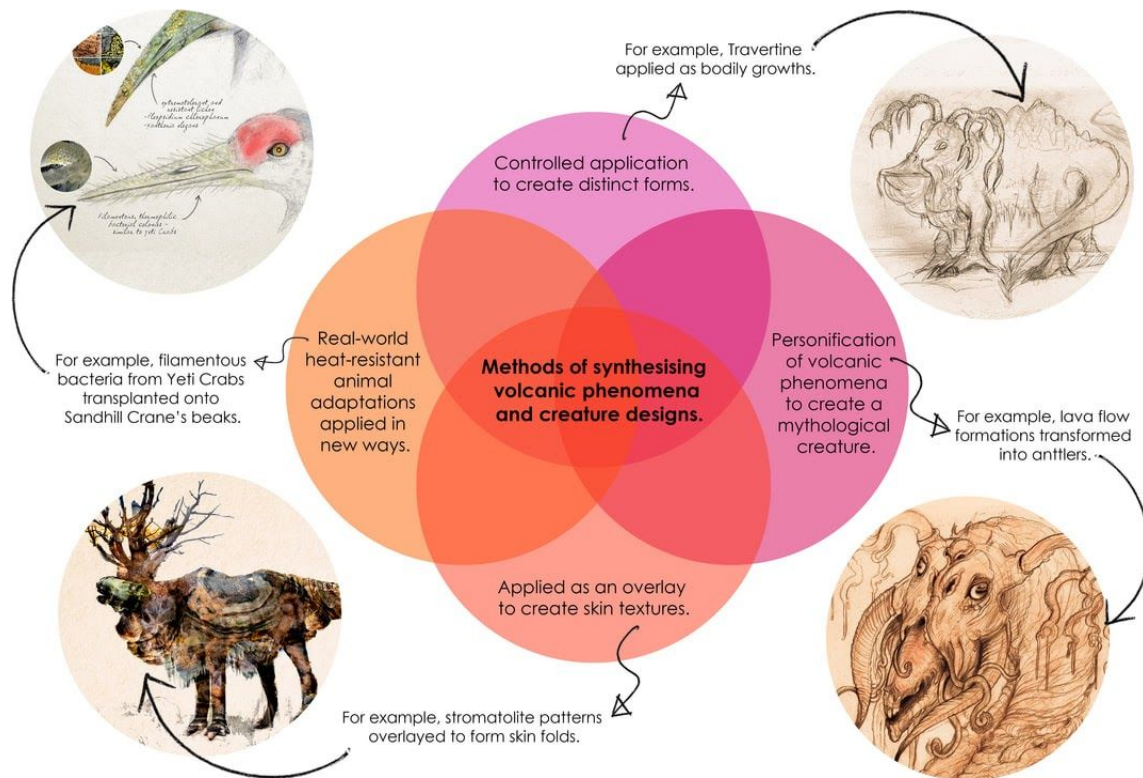
Rosemary Chalmers

Figure 3

The cyclical process of our collaboration...



The bridge: Experiments in science and Art // Rosemary Chalmer // www.rosemaryartist.com



The bridge: Experiments in science and Art // Rosemary Chalmer // www.rosemaryartist.com

Collaborative Blog

The Bridge (2017), Group 1

Available at: <http://www.sciartinitiative.org/group-1-rosemary--jill>



About Programs Community Contact SUPPORT US!

Post-residency
1/25/2018 0 Comments

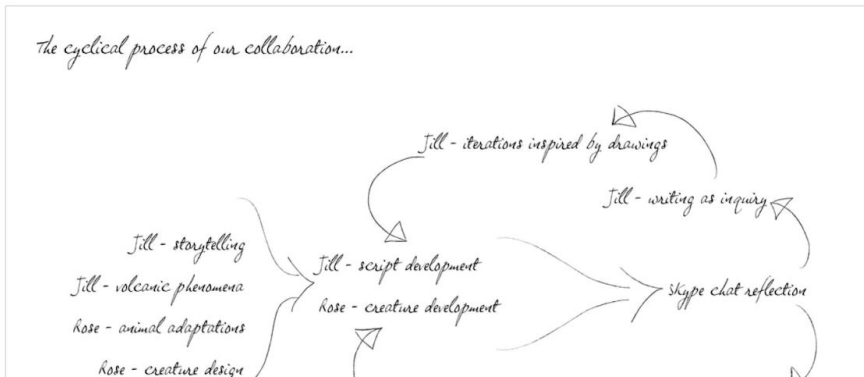
Rosemary

My preconception of working across disciplines on entering the residency was that Science would help legitimise my Art. For example, the creatures that I design would be more believable if they were based on principles of Science. The residency has enlightened me to the fact that this is just one method of Science and Art collaboration.

The route we took was more of an explorative approach. The creatures were less speculative biology and more speculative fiction. We let the narrative play an important role in the development of our project. Jill's specialism of Volcanology was a starting point and the 'what if' creatures explored the possibilities of where Science can take the imagination.

The most valuable aspect of the residency was the fact that there was not a required output. The fact that we could let the project develop organically and not be focused on producing a final product was beneficial because it allowed us to take our time and really discover what it was Jill and I wanted to communicate.

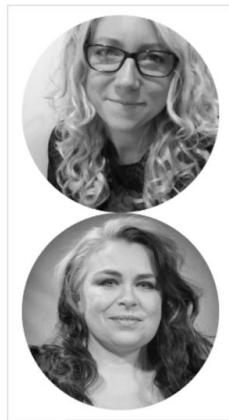
With the luxury of time, this meant that Jill and I developed a process that was cyclical. I have illustrated this feedback loop below. This allowed for us to build on each other's' work in an iterative way producing work that was very novel to me.



Weekly blog posts to facilitate the collaborative process. There were 14 entries plus a post-residency update with concluding remarks.



Rosemary Chalmers



Jill Shipman

Conference Poster

American Geophysical Union (AGU) Fall Meeting, Ernest N. Morial Convention Center, New Orleans, Louisiana (2017)

ABSTRACT

[PA43C-08: The Bridge: Experiments in Science and Art, Experiences from the 2017 SciArt Center Cross-Disciplinary Residency Program](#)

Thursday, 14 December 2017 14:01 - 14:04 New Orleans Ernest N. Morial Convention Center - eLightning Area

Cross-disciplinary programs create the opportunity to explore new realms for scientists and artists alike. Through the collaborative process, artistic insights enable innovative approaches to emotionally connect to and visualize the world around us. Likewise, engagement across the art-science spectrum can lead to shifts in scientific thinking that create new connections in data and drive discoveries in research.

The SciArt Center “The Bridge Residency Program” is a four-month long virtual residency open internationally for professionals in the arts and sciences to facilitate cross-disciplinary work and to bring together like-minded participants. The SciArt Center provides a virtual space to record and showcase the process and products of each collaboration. The work is facilitated with biweekly Skype calls and documented with weekly blog posts. Residents create either digital or physical products and share via video, images, or direct mailing with their collaborators. Past projects have produced call and response discussion, websites, skills and conference presentations, science-art studies, virtual exhibits, art shows, dance performances, and research exchange.

Here we present the creative process and outcomes of one of the four collaborative teams selected for the 2017 residency. Jill Shipman, a Ph.D. Candidate in Volcanology who is also active in filmmaking and theatrical productions and Rosemary Chalmers, a UK-based lecturer, concept artist, and illustrator with a specialty in creature design. They were paired together for their shared interest in storytelling, illustration, and unique geological and environmental habitats and the life that occupies them. We will discuss the collaborative

project developed by this team during their recent residency and illustrate how a virtual program can bridge the distance between geographical location to foster science and art collaboration.

To follow the progress of the residency please visit:

<http://www.sciartcenter.org/the-bridge.html>

POSTER

LEEDS ARTS UNIVERSITY
1846

The Bridge: Experiments in Science and Art, Experiences from the 2017 SciArt Center Cross-Disciplinary Residency Program
Jill Shipman, Rosemary Chalmers, Julia Buntaine, Kate Schwarting
Geophysical Institute & FRAME Film Production Services, University of Alaska Fairbanks, jshipman@alaska.edu, Leeds Arts University, UK, rosemary.s.k.chalmers@gmail.com, SciArt Center, New York, info@sciartcenter.org, kate.schwarting@gmail.com

The Bridge Residency
Collaborative Team
Jill Shipman (volcanologist and film student) and Rosemary Chalmers (creature designer) were paired together for their shared interest in storytelling, illustration, and unique knowledge of geological, natural and environmental habitats and the life that occupies them.
Our project has evolved from our shared interest in environmental and biodiversity preservation.
OPEN

Environment Design and Development
Minerva Terraces - Fantasy Re-Imagining
We image our main elk-like creature rests and spends time soaking in the geothermal hot pools made of travertine terraces. Inspired by Minerva Terraces at Yellowstone National Park.
Minerva Terraces - Fantasy re-imagining - Minerva development
OPEN

Creature Design and Development
Concept art for an elk-like creature inspired by volcanic phenomena and extremophile adaptations to physically and geochemically extreme environments at geothermal hot springs and hydrothermal vent systems.
OPEN

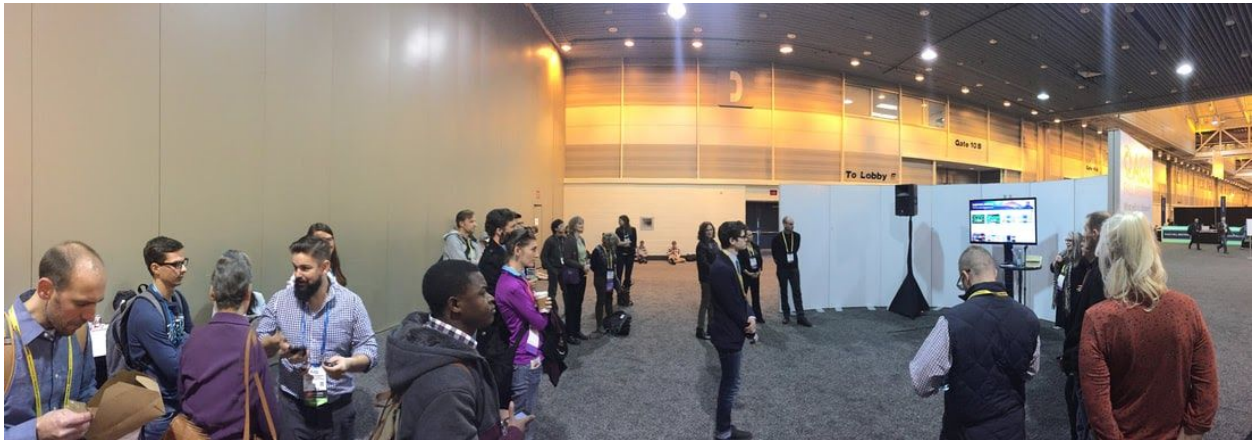
Soundscape Development
To develop a soundscape we have started with using infrasound data that has been "pitched up" or compressed in time which increases frequency. These recordings provide an eerie and otherworldly quality to the fantasy landscape.
Ambient Environmental Sound
We envision a thriving community where the creature exists within an entire ecosystem. Here we use the infrasound of the doppler shift of passing airplanes that mimic the sounds of birds or insects.
OPEN

Story Development
We began this residency exploring creature and environment design and decided to write a three-act dramatic screenplay for a short film with working title "Environment 831".
Here we share some concepts currently in development for our short story.
Three-act story structure.
The Three-Act Structure
ACT I ACT II ACT III
ACTION SET PIECE CLIMAX
OPEN

Presented by Jill Shipman, Thursday, 14 December 2017 14:01 - 14:04, New Orleans Ernest N. Morial Convention Center - eLightning Area

Interactive version available at:

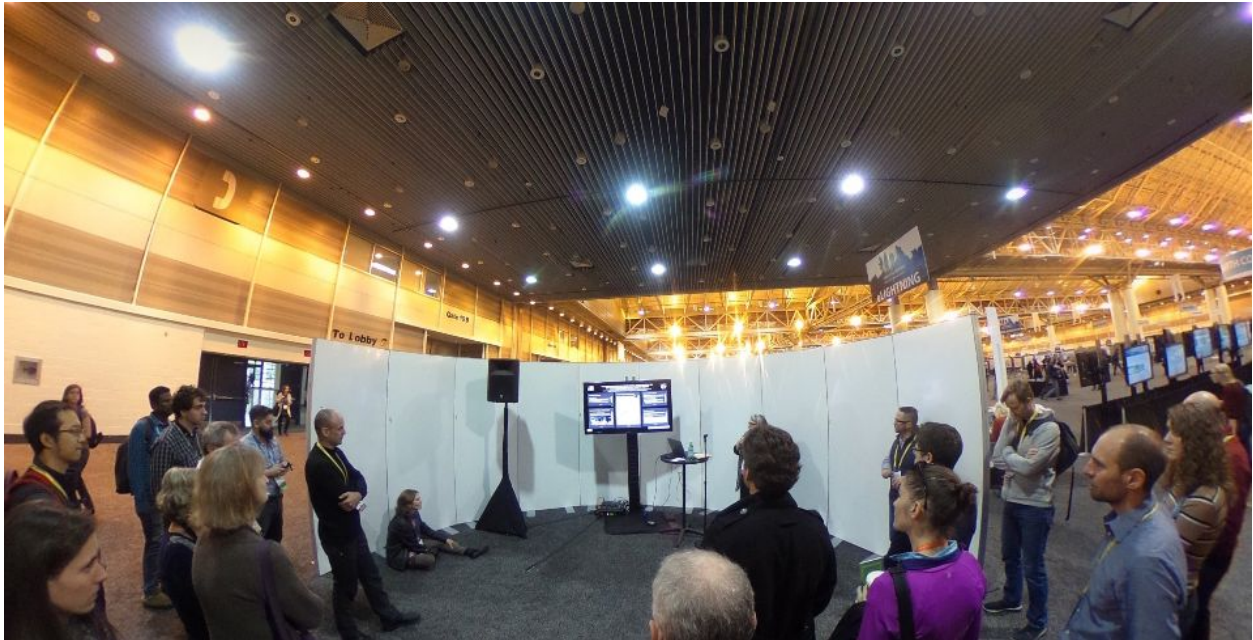
<https://agu2017fallmeeting-agu.ipostersessions.com/default.aspx?s=E1-B6-31-25-4B-3E-82-4A-B6-14-FF-B4-D8-74-9E-FB>



Panoramic photo of the introductions set up. Photo by Peter Webley.



Interactive touchscreen presentation stations. Photo by Peter Webley.



Introductions to the “Immersive and Engaging Experiences in Geosciences” session. 360 photo by Peter Webley. Available at: <https://theta360.com/s/gZ1bRi2R6bLBw4S4hhh5RtCa>

Sunday

- **8:00am-12:00pm** – Communicating Science with Any Audience: Workshop ([advance sign-up required](#))
Hilton Riverside, Riverside Complex, Starboard
- **1:00-5:00pm** – Science Storytelling in Multimedia: Workshop ([advance sign-up required](#))
Hilton Riverside, Riverside Complex, Starboard

Monday

- **8:00am-12:00pm** – [ED11C] Sympathy for the Data: Novel Approaches and Advances in the Art of Data Visualization
Convention Center, Poster Hall D-F
- **1:40-3:40pm** – The Up-Goer Five Challenge
Convention Center, Room 245
- **1:40-6:00pm** – [PA13B] Explore and Communicate Through Data-Driven Collaborations Across Art, Design, and Communication
Convention Center, Poster Hall D-F
- **2:30-3:30pm** – Blogging and Social Media Forum 101
Convention Center, First Floor, Sharing Science Room / Rivergate Room

ALL WEEK

- [Sam Illingworth](#), Science Communicator
- Art & Science “Art on the Wall”
Convention Center, near registration and Sharing Science
- Sketch your Science
Convention Center, First Floor, Sharing Science Room / Rivergate Room
- **8:00am-12:00pm** – AGU Cinema: Short Films on Science
Convention Center, First Floor, Sharing Science Room / Rivergate Room

Tuesday

- **12:30-1:30pm** – Keynote: Why We Are Still In
Convention Center, New Orleans Theater
Baba Brinkman, rapper, is opening the event
- **2:00-4:00pm** – What’s your science message? Workshop and individual consultations
Marial Convention Center, First Floor, Sharing Science Room / Rivergate Room
- **2:30-3pm** – Art & Science Community Meet and Greet #1 (several will be scheduled and communicated online)
Poster Hall – Science Nexus Pod 2
- **7:30-9:00pm** – [Open Mic Night!](#)
BB King’s Blues Club: 1104 Decatur Street
Sam Illingworth will be in attendance.
- **7:00-8:30pm** – Joint Section and Focus Groups Mardi Gras Reception (Art & Science will meet in the Science Nexus neighborhood)
Mardi Gras World: 1380 Port of New Orleans Place
Baba Brinkman will be performing Tuesday night

Wednesday

- **10:30-12:30pm** – Communicating your Science: Ask the Experts (Sharing Science Event)
Marial Convention Center, First Floor, Sharing Science Room / Rivergate Room
Sam Illingworth will be in attendance
- **1:40-6:00pm** – [ED33A] The Role of the Arts in Geoscience Teaching and Learning
Convention Center, Poster Hall D-F

Pick up and pass around our sticker!

Available in the Sharing Science area.

Thursday

- **8:00-10:00am** – [PA41B] Session: Climate Literacy: The Arts as an Ally in Understanding Earth and Invoking Change
Convention Center, Rooms 255-257
- **1:40-3:40pm** – [PA014] Immersive and Engaging Experiences in the Geosciences (e-Lightening only)
e-Lightening area
- **1:40-6:00pm** – [PA43A] Climate Literacy: The Arts as an Ally in Understanding Earth and Invoking Change
Convention Center, Poster Hall D-F
- **4:45-6:00pm** – Film Screening and Q&A: The Underwater Forest
Marial Convention Center, First Floor, Sharing Science Room / Rivergate Room
- **6:30-9:00pm** – AGU Story Collider
BB’s Stage Door Canteen, WWI Museum, 945 Magazine Street

Friday

- **1:40-6:00pm** – [PA016] Music and the Geosciences
Convention Cn

Pick up a ribbon at the registration area.

Art & Science Community

JOIN OUR ONLINE COMMUNITY

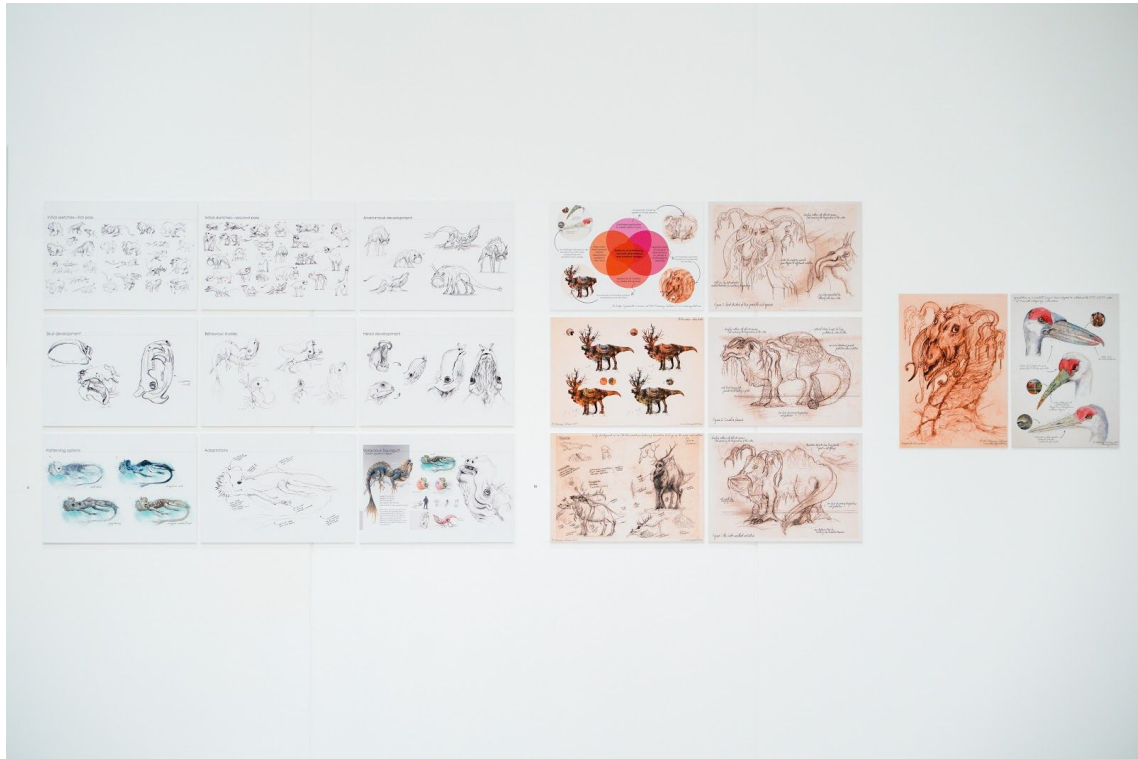
[Visit connect.agu.org](http://connect.agu.org)

Exhibition

Creature Design: ex femina [exhibition], Blenheim Walk Gallery (2019)



'Creature Design: ex femina' exhibition opening, Leeds Arts University, photos Hamish Irvine



'Creature Design: ex femina' exhibition opening, Leeds Arts University, photos Hamish Irvine

Links

SciArt Center // SciArt Initiative:

- The Bridge Residency Programme: <http://www.sciartinitiative.org/the-bridge.html>
- 2017 Residents: <http://www.sciartinitiative.org/bridge-2017.html>
- Group 1 blog: <http://www.sciartinitiative.org/group-1-rosemary--jill>

AGU Fall Meeting (2017):

- Session Proposal: Immersive and Engaging Experiences in the Geosciences:
<https://agu.confex.com/agu/fm17/meetingapp.cgi/Session/26564>
- Conference paper abstract:
<https://agu.confex.com/agu/fm17/meetingapp.cgi/Paper/264862>
- Poster presentation:
<https://agu2017fallmeeting-agu.ipostersessions.com/default.aspx?s=E1-B6-31-25-4B-3E-82-4A-B6-14-FF-B4-D8-74-9E-FB>

Rosemary Chalmers:

- <https://www.rosemaryartist.com/>

Jill Shipman:

- <http://jillshipman.com/>