

*Welcome to the  
PolarTREC Teacher Informational Webinar!*



**POLAR  
TREC**

**Teachers & Researchers  
Exploring & Collaborating**

*8 September 2009*

*[www.polartrec.com](http://www.polartrec.com)*



Raise your hand to ask a question

List of all participants

Return to the lobby or exit

Slides will be shown here

If using VOIP, press and hold here to talk

Your connection strength

'Chat' with one person or the entire group

The control bar includes a connection strength indicator, a 'TALK' button, and various system icons. The chat area shows a message history and a 'To: Main Room' dropdown menu. A 'People (3)' list is visible on the right side of the control bar.

**Please note:**

- Participant using the telephone can mute/unmute by pressing \*6 on the phone.
- Today's event will be recorded and archived.

# Presentation Outline



- Introductions
- What is ARCUS?
- What is PolarTREC?
- Goals and Project Elements
- The Application Process
- Questions & Answers



# What is ARCUS?

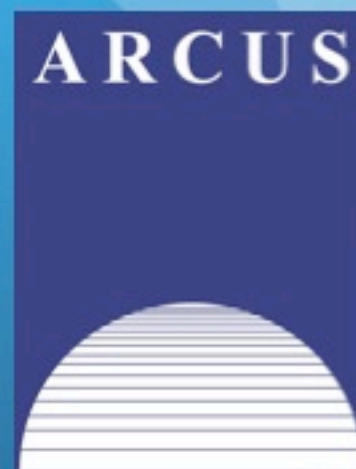
ARCUS (Arctic Research Consortium of the United States) is a non-profit corporation consisting of institutions operated for educational, professional, or scientific purposes. ARCUS provides leadership in advancing knowledge and understanding of the Polar Regions through a variety of programs and outreach endeavors.

## *ARCUS and PolarTREC*

ARCUS was awarded funding from the National Science Foundation to manage PolarTREC from 2007-2009.

ARCUS has applied for continuation funding from the National Science Foundation for PolarTREC.

**OUR FUNDING FOR NEXT YEAR IS STILL PENDING.**



# The PolarTREC Team



**Janet Warburton**

PolarTREC PI &  
Project Manager



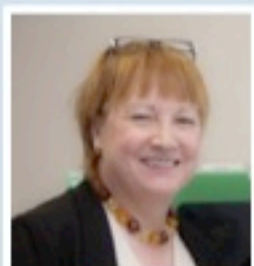
**Kristin Timm**

PolarTREC  
Project Manager



**Ronnie Owens**

Web Developer



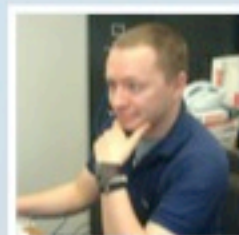
**Susan Fox**

Executive Director



**Helen Wiggins**

Director of Programs



**Zeb Polly**

Systems Administrator



**Joed Polly**

Video Production

...with help from the  
entire staff at ARCUS



# What is PolarTREC?

PolarTREC (Teachers and Researchers Exploring and Collaborating)

PolarTREC is a professional development experience in which K-12 teachers are paired with researchers to participate in a 2-6 week polar research experience.

PolarTREC is **not** teachers simply observing and reporting, taking a vacation, or only fulfilling a personal dream.





# Goals of PolarTREC

*The goal of PolarTREC is to invigorate polar science education by bringing K-12 educators and IPY researchers together through hands-on field experiences.*

- ➔ **Improve teacher content knowledge** and instructional practices to bring polar science to the classroom
- ➔ To **increase public and student understanding** of and engagement in the polar regions, and encourage interest in science, technology, engineering, and mathematics (STEM)
- ➔ **Improve polar researchers' understanding** of and engagement in K-12 education to strengthen and enrich outreach and dissemination of their research
- ➔ To **develop networks of support** between polar researchers and teachers for ongoing collaboration and mutual learning

# Elements of PolarTREC

Arctic or Antarctic  
Field Research Experience



Professional Development



Sustained  
Community & Support



Classroom & Public  
Connections





# Field Research Experience



- Teacher matched with researchers and travel to exotic locations in the polar regions
- Experiences last from 2 to 8 weeks
- Experience involves intense field work—teachers become members of team
- Experience involves safety and classroom training
- Teachers communicate daily with public

# Field Research Experience

- **Anticipate** PolarTREC 2010-2014
- **Anticipate** involving over 48 teachers (About 12/year)
- **Anticipate** 6 Arctic/6 Antarctic Projects/Year
- Example Locations: Greenland, Alaska, Russia, Svalbard (Norway), McMurdo, Ship Based, Dry Valleys, and many more!
- Example Research topics: Remote sensing of ice sheets, tundra vegetation, archaeology, climate change, snow chemistry, oceanography, meteorology, ocean ecology, and many more!



# Professional Development



- Teachers are immersed in scientific content and get experience with the latest scientific equipment
- Teachers and researchers work together to bring the science into the classroom—science that students can connect with
- Teachers utilize experiences to develop lessons that meet District requirements and National and/or State standards



# Classroom & Public Connections



Outreach supported through the use of technology tools:

- *“PolarConnect” presentations*
- *Online journals & videos*
- *Photo albums*
- *Podcasts*
- *“Ask the Team” forums*

Connections also provide:

- Students provided with new and relevant information and data
- Connections to researchers doing polar research in the here and now

# Sustained Community & Support



- **Funding** to help the ongoing relationship between teacher and researcher
- **Teacher Partners**; where teachers are matched with another teacher
- The **CARE Network** - a discussion groups between teachers and researchers
- The **Learning Resources** database, an online collection of polar related lessons and activities
- The CARE and PolarEducation **List serves** to share ideas and opportunities



# CARE

CONNECTING ARCTIC/ANTARCTIC RESEARCHERS & EDUCATORS

CARE is a professional development network that brings together teachers and researchers to discuss field experiences, current science issues, content, technology resources, and pedagogy.





# How Teachers & Students Benefit:

## Teachers:

- A role model for students
- Integral part of the science team
- Engage in actual science with working scientists
- Transfer real science to the classroom
- Establish a network of professional contacts



## Students & The Public:

- See that ordinary people can do science
- Make connections between science and the real world
- Can have a dialogue with their teacher and researchers
- Science and scientists become accessible!



# How researchers benefit from PolarTREC

- Share their research with a much wider audience than otherwise possible
- Teachers synthesize and ‘translate’ science into terms the public can understand
- Researchers gain a better understanding of the K-12 educational system and pedagogical practices
- Extra set of willing hands and new ideas in the field





# PolarTREC Application Timeline

2009

2010

2011

Sep Oct Nov Dec Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec Jan Feb



Applications Accepted



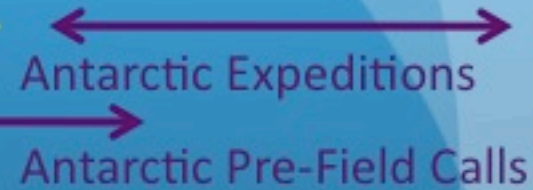
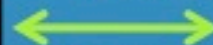
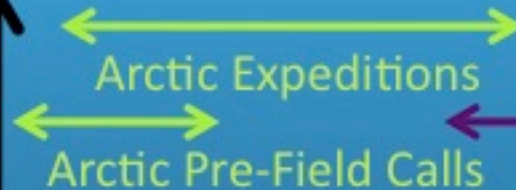
Selection Committee Convened



Teachers are matched to selected projects in close collaboration with the research team and selection committee.



Selected teachers travel to Fairbanks, AK for training





# Selected Teachers are Provided:

- Training related to the experience (1 week in Alaska)
- Technological Equipment (May include laptop, camera, video/audio recorder, sat phone, etc.)
- Most outdoor clothing, gear, equipment to do the job and be comfortable in the field
- Substitute teacher expenses during orientation and field experience (if during the school year)
- All travel expenses for orientation and the field experience
- Some assistance with other miscellaneous costs

## Costs Selected Teachers May Incur:

- Personal apparel and gear not provided (i.e. long underwear, gloves, socks, personal items, etc.)
- Some medical expenses or evacuation insurance, if not provided by your insurance
- Personal travel or travel related to outreach activities before/after orientation or the field experience
- Possible salary related losses, depending on your school and their policies
- PolarTREC teachers DO NOT receive a stipend during their field experience.



# Expected Time Commitment:

- Approximately 1 week in Alaska for training
- Participation in 3-4 two-hour webinars related to the experience
- Participation in 1 or more one-hour pre-field logistics calls
- Approximately 2-6 weeks in the field
- Additional training/practice related to technology as needed
- Additional reading/research related to the science subject
- Outreach and networking activities before and/or after the field experience - as you determine.
- PolarTREC Evaluation (surveys and interviews)

# Matching Process

- Approximately 250 Teacher Applications Reviewed Internally
- Top 100 applications reviewed by selection committee of teachers, researchers, and others
- Finalist pool of 30-40 created by looking at best applicant science interest and matching with research projects
- Selected researchers review approximately 6-8 best applications for their project
- Researchers and ARCUS conduct approximately 3 teacher interviews per project
- Researchers select the teacher they will be working with



# The PolarTREC Application...

- Is a webform available online at [www.polartrec.com](http://www.polartrec.com)
- Is a combination of short answer and essay questions
- Requires you to have an e-mail address
- Is 15-pages long (some are shorter/longer pages)
- Does not save your answers if you navigate away from the page
- Is available as a Word document. We highly recommend you read the questions before you begin the webform!
- If you cannot access or have trouble with the online application, please contact [info@polartrec.com](mailto:info@polartrec.com) for further instructions.

# Application Tips

- SPELL CHECK & PROOFREAD!!!
- Write thorough but concise answers
- Describe clear personal/professional goals and how this experience fits into/builds your career
- Outline clear visions of how this experience would benefit your classroom, students, community, teachers, public, etc.
- Provide examples when you can
- Read the question thoroughly, address all parts
- Do your homework, check out [www.polartrec.com](http://www.polartrec.com)
- Make sure our e-mails are coming to your inbox!



# Please don't...

- Misspell PolarTREC, Arctic, or Antarctic!
- Talk about I, I, I or Me, Me, Me
- Paraphrase everything in your answers
- Write responses that are too brief or vague
- Submit incomplete applications

# Frequently Asked Questions

**How long has the program been in existence?**

**What are the exact dates of the program?**

**Do you need to be a U.S. citizen to apply?**

**Can informal educators apply?**

**What research topics are planned or have previously been conducted? May I choose the location, dates, or research topic?**

**Are there specific science backgrounds you are looking for in teachers?**





# Frequently Asked Questions

**What are the specific physical/age restrictions for teachers to be qualified for acceptance?**

**What are the qualities of an ideal teacher candidate for PolarTREC?**

**How are experiences in the field shared with students and a wider audience? Do you have ideas for student involvement?**

**Have economic factors affected National Science Foundation funding available for the PolarTREC program?**

**Are there opportunities to work with educators from other countries?**



# Frequently Asked Questions

How will teachers gain adequate knowledge of the research methods and equipment before the expedition so as to be actual contributors rather than spectators?

Is it possible to receive professional development credits for this experience?

Can the teacher present at conferences after returning?

I have a friend who is a post-graduate out of UC Irvine working with Arctic core samples. How can I find out if he is part of the program?





# Frequently Asked Questions

**Do K-12 teachers receive any payment for their time?**

**I would love to travel to Antarctica, any ideas on how to convince my school system to let me go?**

**I would love to participate in the polar education experiences with my husband/wife. Is that possible?**

**Do you have to be on current teaching contract to be selected as a teacher for the PolarTREC program?**

**What do you want students to take away from this experience?**

# Additional Questions?

Please read the following documents available on our website: [www.polartrec.com](http://www.polartrec.com)

- Frequently Asked Questions
- Goals and Objectives
- Teacher and Researcher Requirements

... and review the upcoming, current, and past teacher expedition journals on the website.

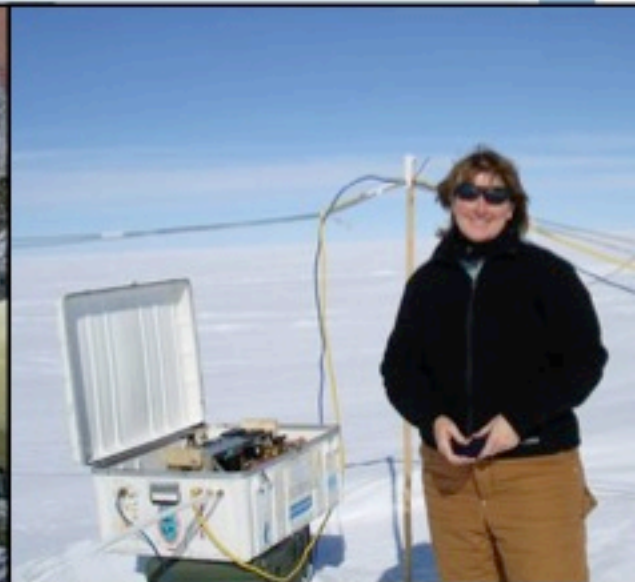
The archive of this event will be sent to everyone who registered for the event. Please share!



# How Can YOU Join PolarTREC?

Follow an expedition! <http://www.polartrec.com>

- Read about adventures in science in the teacher journals
- Post questions to the “Ask the Team” forums
- Check out the beautiful photography in the Photo Gallery
- Listen to or download a podcast or watch short videos



# How Can YOU Join PolarTREC?

## Other things you can do...

- Contribute and utilize the online **Learning Resources**
- Become a member of **CARE network**
- Participate in a **live event** from the field





# Thank You for Your Interest in PolarTREC!

*Remember:*

Teacher Applications are due **Monday, 5 October 2009**

**We will keep applicants informed of our funding status!**

Question or Concerns?  
ARCUS 907-474-1600

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