



**Genetics of Five-Needle Pines and Rusts in Mountain Landscapes:
Conservation, Utilization and Evolution in a Changing Climate**

Joint Meeting

Breeding and Genetic Resources of Five-Needle Pines (IUFRO 2.02.15)

Rusts of Forest Trees (IUFRO 7.02.05)

Strobosphere

The joint meeting will be held **June 15-20, 2014 in Ft. Collins, Colorado**, U.S.A. bringing together scientists working with Genetics and Conservation of White Pine Species (5 needle pines) as well as those working with Rusts of Forest Trees. See below for some information on the three groups convening this conference.

Website: <http://www.westernforestry.org/Events/conference/>

Important dates:

Abstract submission: 1 December 2013 – 15 February 2014

Registration opens: 6 January 2014

Conference: 15 June 2014 – 20 June 2014



ANNOUNCEMENT FLYER**2nd Announcement****Joint meeting 5-Needle Pine Genetics and Conservation & Rusts of Forest Trees and Strobosphere****June 15-20, 2014****Fort Collins, Colorado USA*****Genetics of five-needle pines and Rusts in mountain landscapes:
Conservation, utilization and evolution in a changing climate***

A joint international meeting of three groups is scheduled for June 15-20, 2014 in Colorado (USA):

- IUFRO 2.02.15 - Breeding and Genetic Resources of Five-Needle Pines
<http://www.iufro.org/science/divisions/division-2/20000/20200/20215/>
- IUFRO 7.02.05 - Rusts of Forest Trees
<http://www.iufro.org/science/divisions/division/70000/70200/70205/>
- Strobosphere
<http://dendrome.ucdavis.edu/strobosphere/>

This will be the first time these three groups have met together to share research in genetics-pathology of five-needle pines in joint sessions and a wider array of topics within each of the working groups will be presented in concurrent sessions organized by each respective group. There has been tremendous activity in areas such as gene conservation, rust resistance and genomics since these groups last met, and this forum will provide an excellent chance to exchange information and form further collaborations. We welcome voluntary talks and posters on all topics relating to rusts of forest trees and five-needle pine genetics, genomics and conservation, including, but not limited to:

- gene conservation
- population genetics and genomics
- rust resistance and biology
- quantitative genetics
- evolutionary dynamics and phylogenetics
- epidemiology
- biology of fungus on trees
- adaptation and climate interactions
- tree improvement and breeding, including for growth and resistance to abiotic and biotic agents
- effects of forest management on genetic diversity
- integration of genomics tools into breeding programs
- climate change interactions
- causes and consequences of patterns of disease, impacts and risk across the landscape

The overall theme emphasizes mountain landscapes, but we welcome oral and poster contributions on all areas of five-needle pine genetics and conservation as well as on all areas of research on rusts of forest trees (such as taxonomy, genomics, phylogeny, and epidemiology). The fieldtrips will visit areas unique to the Rocky Mountains of Colorado and Wyoming, and also include a visit to a world renowned seed bank for genetic conservation.

Visit the websites below for future updates on this meeting and information on the three groups, or contact Richard Sniezko (rsniezko@fs.fed.us), Anna Schoettle (aschoettle@fs.fed.us), Richard Hamelin (rhamelin@NRCan.gc.ca; Richard.hamelin@ubc.ca) or David Neale (dbneale@ucdavis.edu). We are building a mailing list for this meeting, if interested please send your name and email address to Richard Sniezko (rsniezko@fs.fed.us).

Everyone interested in any aspect of genetics and conservation of 5-needle pines or rusts of forest trees is welcome to attend; it is not necessary to be a member of one of the organizations. **Please pass this announcement along to colleagues who may be interested in these topics.** We look forward to seeing you in Fort Collins!

CONFERENCE LOCATION AND VENUE

Conference Location - Fort Collins, Colorado USA

Located in northern Colorado, Fort Collins has a population of just over 150,000 and is home to Colorado State University. Fort Collins is nestled against the foothills of the Rocky Mountains and alongside the banks of the Cache La Poudre River. The city lies approximately 5,000 feet above sea level and has a moderate, four season climate with an average of 300 days of sunshine. Fort Collins offers exciting recreational opportunities, unique cultural offerings, and is a regional center for employment and shopping. Throughout the year, live music and entertainment, as well as great local dining, can be found throughout the historic "Old Town" downtown area. The City maintains more than 600 acres of parks, 40,000 acres of natural areas, 20 miles of off-street hike/ bike trails, three golf courses, a racquet center, three swimming pools, an ice rink and a community center. Fort Collins supports multiple transportation options including 21 bus routes and 280+ miles of wide bike lanes, and 30+ miles of paved trails for pedestrians and bicycles. Four of Fort Collins' nine microbreweries took home medals from the 2012 Great American Beer Festival; 70% of Colorado's craft beers originate in Fort Collins.

Conference Venue

The conference will include a mix of formal oral and poster presentations, field trips and social events. Conference meeting rooms and lodging rooms have been reserved at the Hilton Fort Collins.

Hilton Fort Collins

425 W Prospect Rd, Fort Collins, CO 80526

<http://www3.hilton.com/en/hotels/colorado/hilton-fort-collins-FNLCOHF/index.html>

The Hilton Fort Collins hotel provides an excellent location for wonderful recreational opportunities, diverse cultural attractions, lively nightlife and family fun. The Hilton is a full service hotel - work out in the fitness room, take a dip in the pool or simply relax with a drink and watch the large screen TV in the hotel lounge. Savor a delicious meal at Spring Creek Grill, the hotel's stunning, atrium-style restaurant. Enjoy breakfast, lunch and dinner featuring locally sourced Colorado cuisine, steaks and seafood along with fast, friendly service and a relaxed atmosphere. It is located at the southern edge of the Colorado State University campus and is close to Old Town.

ACCOMMODATIONS AND TRAVEL

Accommodations

A block of rooms has been reserved at the Hilton Hotel (at the Federal per diem rate, \$91). We recommend making reservations early to obtain this special rate (limited number of rooms at this rate);

<http://www.hilton.com/en/hi/groups/personalized/F/FNLCOHF-GIU-20140613/index.jhtml> reference block name "IUFRO" when making your reservation.

Please be aware that available lodging in Fort Collins and surrounding area will continue to be very limited next summer due to the recent floods. <http://www.hilton.com/en/hi/groups/personalized/F/FNLCOHF-GIU-20140613/index.jhtml>

Hilton Fort Collins
425 W Prospect RD
Fort Collins, CO 80526
1 (970) 482-2626

Travel Information

Air:

The Hilton in Fort Collins is 75 mile (120 km) north of Denver International Airport (DEN). Transportation from the airport is available via shuttle, rental car or taxi. See options and directions at

<http://www3.hilton.com/en/hotels/colorado/hilton-fort-collins-FNLCOHF/maps-directions/index.html> |

Shuttle transportation from Denver International Airport (DEN) to the hotel (HIL) is available from SuperShuttle <http://www.supershuttle.com/Locations/DENAirportShuttleFortCollins.aspx>

Nearby regional airports include Cheyenne Wyoming Airport (CYS) and Colorado Springs Airport (COS).

Driving:

Fort Collins is also easy to access via car and is located between two major east-west interstate highways (I-70 and I-80) and just west of I-25.

REGISTRATION

Important Dates regarding Registration (subject to change):

Early registration opens: 6 January 2014

Late registration opens: 15 March 2014

Registration

More information on registration will be forthcoming.

Registration fee will cover meeting attendance, most lunches, two dinners, social events, and fieldtrips; an optional Friday fieldtrip to walk through a treeline *Pinus aristata* ecosystem will be an additional charge. We anticipate registration to open starting in January 2014. Registration will be approximately U.S. \$400.

Registration rates

Details to come.

We will offer early and late registration rates for attendees, and reduced student registration fees.

ABSTRACT SUBMISSION**Important dates regarding abstracts** (subject to change):

Abstract submission opens: 1 December 2013

Abstract submission closes: 15 February 2014

Notification of abstract acceptance: 28 February 2014

Abstract Submission

Abstracts proposing voluntary talks (slots will be limited) and posters on all topics relating to 5-needle pine genetics & conservation and Rusts of forest trees are welcome, with tentative sessions planned on topics including but not limited to gene conservation, population genetics and genomics, rust resistance and biology of rusts on hosts, quantitative genetics, epidemiology, phylogenetics, evolutionary dynamics, tree improvement, effects of forest management on genetic diversity, adaptation and climate change, and integration of genomics tools into breeding programs.

We encourage each person to submit only one abstract where they are the presenting author for an oral presentation in order to encourage broad participation; a person may serve as a non-presenting author on other oral presentations and can serve as the presenting author on several posters. Students and post-doctoral researchers are encouraged to attend and submit their work for oral or poster presentations. Scientific Committee will select and cluster 3-6 abstracts for each oral presentation session.

Abstract Format

Abstracts should fit on one side of one page (8.5in x 11in) in Times New Roman (12 point) and include requested talk or poster, full title, all authors and affiliations, presenting author in bold font with contact information, and text (450 word limit).

Email abstracts to Richard Sniezko at rsniezko@fs.fed.us

Use subject line: "IUFRO_Abstract_<talk or poster>_<presenting author's family name>"

For example: "IUFRO_Abstract_talk_Sniezko"

File name: "IUFRO_Abstract<#>_<talk or poster>_<presenting author's family name>"

For example: "IUFRO_Abstract1_talk_Sniezko"

Presentation Formats

Research presentations are 15-20 minutes in length (including 3 minutes for questions). The meeting rooms will provide a laptop computer, digital projector, screen, lectern, and audio system.

Poster presentations will be on display throughout the conference, with special attention given at the Opening Reception (Sunday) and Poster Session Social (Monday evening). Display boards will be provided and placed in the large meeting room where breaks will be taken, helping to ensure opportunities for interaction. Final poster size should be less than 4 ft x 4 ft (1.22m x 1.22m).

PROGRAM

Program

The program will be a mix of invited and offered oral presentations, poster presentations, symposia on select topics and field trips. Informal social events will also be included. A list of invited speakers and topics will be compiled over the next couple of months. The meeting will start with a reception on Sunday evening (June 15th) and finish in late afternoon on Thursday, June 19th 2014. A post-conference fieldtrip to a *Pinus aristata* treeline ecosystem is scheduled for Friday, June 20th (all day).

Check this website for updates and the final agenda or contact Richard Sniezko (rsniezko@fs.fed.us) or Anna Schoettle (aschoettle@fs.fed.us).

Agenda

Information to come

Special Symposia

1. Patterns of white pine blister rust disease, impacts and risk across the landscape
2. Strobosphere symposium

Invited Speakers

Information to come

Field trips

- **Southern Rocky Mountains forested ecosystems:** Forested landscapes of Southern Wyoming challenged by rusts, bark beetles and other disturbances. Tour several *Pinus flexilis* research installations.
- **USDA Agricultural Research Service, National Center for Genetic Resources Preservation (NCGRP):** Genetic resources (plants and animals) are preserved using state-of-the-art technology that often involves cryogenics (<http://www.ars-grin.gov/ncgrp/index.htm>). A research team with cryobiology expertise works to develop cryopreservation technologies.
- **Mt Goliath Research Natural Area and Mt Evans Ecosystems:** An optional Friday all day field trip to Mt Evans (<http://www.mountevans.com/>) west of Denver. It will include a stop at the Mt Goliath Research Natural Area (<http://www.mountevans.com/MountEvansCom/Mount-Evans-AreasMtGoliathNaturalArea.HTML>) and a short walk on the Walter Pesman Alpine trail through the ancient *Pinus aristata*. Weather and time permitting, there will be option to visit Summit Lake and surroundings which is the only known area of permafrost located in the United States outside of Alaska and a stop at a cultural site on the way home.
- **Rocky Mountain National Park:** tentative at this time due to road damage caused by the floods of September 2013. Updates will be provided.

Proceedings

Abstracts will be printed and distributed at the conference. Final abstracts, extended abstracts and/or papers for inclusion in a proceedings, to be published on-line by the Rocky Mountain Research Station, must be submitted by November 1st 2014. More information will be provided in future announcements.

ORGANIZERS AND CONTRIBUTORS

Organizing Committees (will be updated)

Co-Chairs: Richard Sniezko, Anna Schoettle

Local and Fieldtrip Committee: Anna Schoettle, Kelly Burns, Bill Jacobi, Diana Tomback, Christina Walters, Chris Richards, Christy Cleaver

Registration and Logistics: Richard Zabel – Western Forestry and Conservation Association

Abstract Submission: Richard Sniezko

Scientific:

- IUFRO 2.02.15 Breeding and genetic resources of five-needle pines: Richard Sniezko, Anna Schoettle, Dmitri Politov
- IUFRO 7.02.05 Rusts of forest trees: Richard Hamelin, Pascal Frey, Salvatore Morricca
- Strobosphere: David Neale

Contributing Sponsors

International Union of Forest Research Organizations (IUFRO):

- Special Program for Developing Capacity
- 2.02.15 – Breeding and genetic resources of five-needle pines
<http://www.iufro.org/science/divisions/division-2/20000/20200/20215/>
- 7.02.05 – Rusts of forest trees
<http://www.iufro.org/science/divisions/division-7/70000/70200/70205/>

USDA Forest Service:

- Rocky Mountain Research Station
- Pacific Northwest Research Station
- Western Wildland Environmental Threat Assessment Center
- Pacific Northwest Region (R6) Genetic Resource Program
- Pacific Northwest Region (R6) Forest Health Protection
- Rocky Mountain Region (R2) Forest Health Protection
- Southwest Region (R3) Forest Health Protection

USDI Bureau of Land Management

- Wyoming

Whitebark Pine Ecosystem Foundation

If you are interested in contributing, please contact Anna Schoettle (aschoettle@fs.fed.us)

WORKING GROUPS

2.02.15 – Breeding and genetic resources of five-needle pines

<http://www.iufro.org/science/divisions/division-2/20000/20200/20215/>

Our Working Party on Breeding and Genetic Resources of Five-Needle Pines is concerned with research cooperation and exchange of information on all aspects of genetic research on the five-needle pines. This includes provenance and progeny testing, gene conservation, landscape genomics, breeding, species hybridization, clonal propagation and testing, tissue or cell culture, molecular genetics, and the genetics of host-pathogen interactions, as well as ecology, evolutionary dynamics and management and phylogenetics of these species. Increasingly though we are using this knowledge to address issues related to climate change, land use pressure and conservation. This group has been very active over the last 14+ years with active participation from most of the countries in which these species are native or grown elsewhere for reforestation. See website for details and proceedings.

7.02.05 – Rusts of forest trees

<http://www.iufro.org/science/divisions/division-7/70000/70200/70205/>

Our Working Party aims to bring together scientists and investigators working on tree rusts. Our goal is to foster scientific discussion and exchanges relating to tree rust epidemiology, biology, host-pathogen interactions, resistance, control and management, and genomics. Our working group meets approximately once every 4 years in locations in Europe, North America or Asia. We usually meet in locations that allow us to discuss our scientific findings and have field trips in a friendly and relaxed environment which is conducive to exchanges and debates. We want to place a strong emphasis on participation of young investigators and students, as these meetings provide unique experiences to meet and exchange with the related community.

Strobosphere

<http://dendrome.ucdavis.edu/strobosphere/>

In North America, a collaborative effort among researchers has begun, starting with a multi-national **White Pine Genomic Resource Workshop** held on October 22-23, 2008 at the Dorena Genetic Resource Center in Cottage Grove, OR. The objective of this workshop was to discover and identify research objectives, strengths, scope and resources among the various working agencies. This collaborative effort is designed as a foundation to build wider scientific participation with a scope that spans molecular to landscape models, from host to pathogens and alternative hosts. The Strobosphere working group arose from this 2008 workshop. A notable work in progress: the sugar pine genome sequence is slated for completion in 2013 by PineRefSeq project (<http://pinegenome.org/pinerefseq/>). The sugar pine genome will be mostly finished and released to the public before the meeting in June 2014.