

**WFGA - 51<sup>st</sup> Annual Meeting**  
**“Evolution and Adaptation at Boreal Tree Limits”**

Presentation Schedule

**UAA Conference Center, Room 107 Commons Bldg**  
**Anchorage, Alaska**

**Monday, June 26**

Poster display: 3 – 10:00 pm

Reception: 5:30 – 10:00pm

**Tuesday, June 27**

7:00 – 8:00 am – Breakfast (provided) – Commons Creekside Dining Hall

7:30 – 8:00 am - Registration

Moderator: John Alden

8:00 Welcoming address – “Alaska’s forests and management objectives”  
John ‘Chris’ Maish, Alaska State Forester

8:15 “Alaska’s northern conifers: Their distribution, adaptation, morphology, and genetics”  
John Alden

8:40 “A brief history of genecology” – Greg A. O’Neill

9:05 “Growth and adaptation of local white spruce and lodgepole pine in response to climate change in Northern Alaska” – Glenn Juday

9:30 “Chloroplast DNA evidence of a white spruce glacial refugium in Alaska”  
Feng Sheng Hu

10:00 Break- Beverage Service (in meeting room 107)

Moderator: Sally Aitken

- 10:30 “The adaptive uniqueness of co-occurring northern conifers (lodgepole pine, interior spruce and subalpine fir) in regards to phenology on an elevation transect” - Scott Green
- 11:00 “Characterizing the growth responses of three co-occurring northern conifers to climate variation across a range of conditions near treelines” - Yumiko Miyamoto
- 11:20 “Climate and spatial genetic variation in quantitative traits of lodgepole pine” - Tongli Wang
- 11:40 “Functional and population genomics of cold tolerance in Sitka spruce (*Picea sitchensis* (Bong.) Carr.)” - Jason Holiday
- 12:00 Lunch (provided) – Creekside Eatery Dinning Hall

Moderator: Greg O’Neill

- 1:00 – “Peripheral populations of conifers: High priority for gene conservation or ‘land of the living dead’?” - Sally Aitken
- 1:30 “Population genetic patterns of candidate genes for seasonal dormancy in balsam poplar”  
Matt Olson
- 1:55 “Genecology studies in the hybrid-complex zone between white spruce / Sitka spruce in Northwest British Columbia” - John N. King
- 2:20 “Proposed yellow-cedar genetics research: Post-glacial migration and contemporary cold tolerance” - Paul E. Hennon
- 2:45 Break

Moderator: Lauren Fins

- 3:15 “Dissociating genetic and environmental effects on white-spruce needle morphology: Can we use morphological traits as environmental proxies?” – Lynn Anderson
- 3:40 “Genetic variation and control of chloroplast pigment content in *Picea rubens*, *P. mariana*, and their hybrids. I. Under ambient and elevated CO<sub>2</sub> environments” - John E. Major
- 4:05 “Genetic impacts of forest management practices and forest fires in North American boreal spruces” - Om P. Rajora
- 4:30 “Genetic architecture of sub-alpine fir from BC as revealed through nursery and farm field tests”  
Charlie Cartwright
- 4:55 End Session

7-8 Pm UAA tree walk hosted by Patricia Joyner, Director, Urban and Community Forestry Program, State Division of Forestry, Anchorage

### **Wednesday, June 28 - Kenai Peninsula field excursion**

- 6:30 Am- Pick up boxed breakfast and boxed lunches from Commons Dining Hall
- 07:00 Leave UAA Conference Center
- 07:30-8:30 Tour Tryck's Arboretum
- 09:00-9:20 Observe black, Sitka and Lutz spruce in Bird Creek Muskeg
- 09:40-10:00 Coffee-snack stop at Girdwood
- 10:40-11:00 Discuss survivors at Johnson Ck. trail head (stop 2 minutes west of Campground before 6 mile ck. appeared to have the largest and perhaps oldest surviving spruce?)
- 12:00-12:20 Visit tri-hybrid (hybrid vigor in this cross?)
- 12:40-1:20 Quartz Creek lunch stop (Bring binoculars: Weather permitting, view Mt. sheep from Sunrise Parking Lot)
- 2:00-2:10 Lawing Work Center or Campground rest stop?
- 3:10 Arrive at Alaska Sealife Center: Tour of facilities with presentation on Research Department by Brendan Smith, Research Education Facilitator.
- 4:00 Presentation on "Accelerating Fresh to Salt Water Adaptation of Salmon" by Caroline Cherry of MariCal Corporation, Portland, Maine
- 4:30 Leave Seward
- 6:30 Arrive at Alyeska Ski Resort
- 7:00-8:00 Banquet
- 8:00- 8:45 Guest Speaker: "Wildlife Genetics in Alaska" by Dr. Mathew Cronin, Assoc. Professor of Animal Genetics, School of Natural Resource and Agricultural Sciences, UAF
- 9:40 Return to UAA – End of day

### **Thursday, June 29**

7:00 - 8:00 – Breakfast- Commons Dining Hall

Moderator: Lauren Fins

- 8:15 “Results for above- and below-ground bio-sequestration of mature F1 black spruce varying in site and family productivity” - John E. Major
- 8:40 “Limber pine forest mortality event in response to persistent 1990s low precipitation and high minimum temperatures” - Westfall, R. D.

9:05 “Condensed tannins and defoliation resistance of *Leucaena* Benth. to the leucaena Psyllid (*Heteropsylla cubana*)” - Robert A. Wheeler

9:30 Break- Beverage Service, Room 107

### **The genetics of bark beetle and host interactions**

Kimberly Wallin, Moderator

10:00 Introduction - Kimberly Wallin

10:05 “Overview and history of spruce beetle outbreaks in Alaska” – Michael Fastabend

10:30 “Host nutrition and bark beetles: Fertilization impacts of tree resistance and susceptibility”  
Stephen P. Cook

11:00 “WFGA business meeting” – Greg O’Neill

11:45 Lunch provided – Creekside Eatery Dinning Hall

### **Bark beetle host selection behavior**

12:30 “Genetics of host resistance: Linking host selection behavior in outbreak populations”  
Kimberly Wallin

1:00 “Aggregation initiation and host selection in the mountain pine beetle: The importance of body condition and tree defences” – Tanya Latty

### **Genetics: Tree response and bark beetles**

1:30 “Can Kenai Peninsula spruce resist beetle attack?” – Tricia L. Wurtz

1:55 “Genetic variability in oleoresin flow: Estimates from a loblolly pine population”  
James Roberds

2:25 “Genetic and phenotypic resistance in lodgepole pine to attack by mountain pine beetle”  
Alvin Yanchuk

2:55 Break – Beverage Service in Commons 107

### **Interactions**

3:25 “Evolutionary interactions between southern pine beetles and southern pines” - Matt Ayres

3:55 Open panel discussion: “Are there realistic tree breeding options for bark beetle resistance?”  
Alvin Yanchuk, Discussion leader

4:55 End of Session