

Schedule for the 17th Annual
Harold W. Borns, Jr. Symposium

Climate Change Institute

University of Maine
Orono, ME USA

May 7-8, 2009

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1 Thursday, May 7, 2009

Coffee and Pastries 7:30 a.m.

1.1 Morning Session

1.1.1 Welcome and Introduction by George Jacobson 8:00 a.m.

1.1.2 Posters introductions by:

- Ann Dieffenbacher-Krall
- Jong-Suk Kim
- Molly Schaufler

1.1.3 Glaciology and Sea Level 8:20 a.m.

8:20 a.m.

RAPID TRANSMISSION OF SUBTROPICAL WARMING TO THE GREENLAND ICE SHEET

Presented by: **Gordon Hamilton**

8:32 a.m.

THE OUTLET GLACIERS OF GREENLAND'S LARGEST ICE STREAM

Presented by: **William A. Sneed**

8:44 a.m.

MAPPING THE GROUNDING LINE OF ANTARCTICA

Presented by: **Monica L. Hall**

8:56 a.m.

ENVIRONMENTAL CONTROLS ON CALVING EVENTS IN GREENLAND

Presented by: **Kristin Schild**

9:08 a.m.

EVIDENCE FOR ABRUPT CLIMATE OSCILLATIONS DURING DEGLACIATION IN MAINE

Presented by: **Chase, Brenda**

9:20 a.m.

A DROWNED, FORMERLY INHABITED BAY/LAKE SHORELINE OFF MOUNT DESERT ISLAND, MAINE

Presented by: **Joseph T. Kelley**

9:32 a.m.

**WHAT DO SALT MARSH STRATIGRAPHIC RECORDS REFLECT?
LOCAL DYNAMICS OR REGIONAL SEA-LEVEL FLUCTUATIONS?**

Presented by: **Wilson, Kristin R.**

9:44 a.m.

ARE MAINE'S MARSHES DROWNING - OR COULD THEY SOON?

Presented by: **Daniel F. Belknap**

9:56 a.m.

**POCKMARK FIELD NEAR SURFACE SEDIMENT STRENGTH,
A CASE STUDY: BELFAST BAY, ME**

Presented by: **Laura L. Brothers**

1.1.4 Physical properties of Ice Core Records 10:08 a.m.

10:08 a.m.

**DUST AND DISPLACEMENT: AUTOMATION OF WAIS CORE
DATA COLLECTION**

Presented by: **Daniel Breton**

10:20 a.m.

**CHARACTERIZATION OF SEVEN EAST ANTARCTIC ICE CORES
USING SCANNING ELECTRON MICROSCOPY**

Presented by: **Nicole Spaulding**

1.1.5 Break 10:32-11:00 a.m.

1.2 Keynote Speech 11:00 a.m.

“What is Causing Temperature Trends Over the Americas?” by **Dr. Martin Hoerling**

Meteorologist, NOAA Earth System Research Laboratory, Boulder, Colorado;

Lead Scientist, NOAA Climate Change Attribution Team;

Chair, U.S. CLIVAR Program.

1.3 Lunch 12:00- 1:00 p.m.

1.4 Poster Session 1:00 p.m.

THE FOUR EPOCHS OF GLACIOLOGY

Presented by: **Hughes, T. J.**

1.4.1 Paleoclimate

**CLIMATE VARIABILITY IN SOUTH WESTLAND, NEW ZEALAND
FROM 30,000-15,000 CAL YR BP**

Presented by: **Dieffenbacher-Krall A.C.**

**RECENT CHANGES IN THE STREAM FLOW CALENDAR OF
WESTERN UNITED STATES**

Presented by: **Jong-Suk Kim**

1.4.2 Climate Change and Policy

**INVESTIGATING CLIMATE USING TECHNOLOGY, INQUIRY,
AND DATA IN GRADES 6-12**

Presented by: **Molly Schauffler**

1.5 Afternoon Session 1:30 p.m.

1.5.1 Climate Prediction and Modeling 1:30 p.m.

1:30 p.m.

**EVALUATION OF HIGH-RESOLUTION REGIONAL CLIMATE
MODEL (WRF) IN ASIA**

Presented by: **Bjorn Grigholm**

1:42 p.m.

**ASSESSING THE FIDELITY OF CLIMATE DOWNSCALING FOR
NORTH AMERICA USING THE WRF MODEL**

Presented by: **Kirk Allen Maasch**

1:54 p.m.

**WATERSHEDS IN TRANSITION: HYDROCLIMATIC CHANGE
AND THE EMERGENT FLOOD REGIME IN NORTHERN MAINE,
USA**

Presented by: **Jong-Suk Kim**

2:06 p.m.

**MODIFIED Morland-MacAyeal MODEL FOR ICE-STREAM FLOW
(The work is supported by CReSIS)**

Presented by: **Aitbala Sargent**

2:18 p.m.

**MODELING NORTHERN MID-LATITUDE GLACIATION WITH
GCM-DRIVEN CLIMATE: FOCUS ON DEUTERONILUS-PROTONILUS
MENSAE VALLEY**

Presented by: **James L. Fastook**

2:30 p.m.

IMPLICATIONS OF A NON-NEWTONIAN UPPER MANTLE

Presented by: **Peter O. Koons**

2:42 p.m.

**EARTH'S "HYDROGEN" DEGASSING, OZONOSPHERE, GLOBAL
WARMING AND NATURAL HAZARDS**

Presented by: **Vladimir Smorodin**

1.5.2 Break 2:54-3:20 p.m.

1.5.3 Paleoecology 3:20 p.m.

3:20 p.m.

**EVOLUTION OF CONTROLS ON PHOSPHORUS AVAILABIL-
ITY IN AQUATIC ECOSYSTEMS: PERI-GLACIAL TO RECENT
TIMES**

Presented by: **Stephen A. Norton**

3:32 p.m.

**METAL CONTROLS AND ACIDITY CONTROLS ON FOREST
FLOOR AND B-HORIZON EXTRACTABLE PHOSPHORUS IN
FORESTED WATERSHEDS**

Presented by: **Michael D. SanClements**

3:44 p.m.

**FOREST ECOSYSTEM RESPONSE TO A CHANGING CLIMATE
- WHY NITROGEN MATTERS**

Presented by: **Ivan J. Fernandez,**

3:56 p.m.

QUANTIFYING THE IMPACT OF INDUSTRIAL COPPER SMELTING ON REGIONAL SOIL CHEMICAL VARIABILITY, SOUTH COASTAL PERU

Presented by: **Laura Labbe**

4:08 p.m.

ALLOCATING WATER FOR HUMAN AND ECOLOGICAL USE IN THE FACE OF CHANGING NEW ENGLAND STREAMFLOWS

Presented by: **Krista Ricupero**

4:20 p.m.

A 16.5 ka LEAD ISOTOPE-INFERRED LAKE SEDIMENT RECORD OF POST-GLACIAL CATCHMENT EVOLUTION AT SARGENT MOUNTAIN POND, MAINE

Presented by: **Randall H. Perry**

4:32 p.m.

ARSENIC IN THE WATER: HOW MICROBES AND MINERALS INTERACT TO POLLUTE OUR GROUNDWATER

Presented by: **Jean D. MacRae**

2 Friday, May 8, 2009

Coffee and Pastries 7:30 a.m.

2.1 Morning Session

2.1.1 Day 2 Overview 8:00 a.m.

2.1.2 Day 2 Poster introduction 8:10 a.m.

- Debra Kenneway
- Vladimir Smorodin
- Karl Kreutz
- Andrei Kurbatov

2.1.3 Paleoecology 8:20 a.m.

8:20 a.m.

LATE HOLOCENE PALEOCLIMATE RECORDS FROM LAKE TANGANYIKA, EAST AFRICA

Presented by: **Curt J. Stager**

8:32 a.m.

IMPACTS OF WHITE PERCH INTRODUCTIONS ON FOOD WEB DYNAMICS: PALEOLIMNOLOGICAL RECORD OF ZOOPLANKTON GRAZING AND NUTRIENT CYCLING

Presented by: **Kristin Ditzler**

8:44 a.m.

USING GLACIALLY-DERIVED NITROGEN PULSES INTO ALPINE LAKE ECOSYSTEMS AS INDICATORS OF CLIMATE CHANGE

Presented by: **Andrea Nurse**

8:56 a.m.

EFFECTS OF GLACIAL MELT WATER ON THE ECOSYSTEM STRUCTURE OF ALPINE LAKES

Presented by: **Jasmine Saros**

9:08 a.m.

QUANTIFYING SURFACE WATER NITRATE CONCENTRATIONS THAT ELICIT DIATOM COMMUNITY CHANGES IN LAKES ACROSS THE ROCKY MOUNTAINS

Presented by: **Heather Arnett**

9:20 a.m.

ECOLOGICAL INTERACTIONS AFFECTING DIATOM CLIMATE RECONSTRUCTIONS IN PRAIRIE SALINE LAKES OF THE NORTHERN GREAT PLAINS (USA)

Presented by: Courtney R. Salm

2.1.4 Break 9:32-10:00 a.m.

2.1.5 Climate Change and Policy 10:00 a.m.

10:00 a.m.

PAST CLIMATE, FUTURE PERSPECTIVE: EXPLORATORY ANALYSIS USING CLIMATE PROXIES TO INFORM WATER ALLOCATION POLICY IN MAINE

Presented by: Sen Gupta Avirup

10:12 a.m.

HUMAN HEALTH CONCERNS IN MAINE – AN OVERVIEW OF CLIMATIC INFLUENCES ON DISEASE, ALLERGENS, & TOXINS

Presented by: Ryan Guillemette

10:24 a.m.

DEVELOPING A REGIONAL FORENSIC TAPHONOMY: CLIMATOLOGICAL AND OTHER ENVIRONMENTAL INPUTS

Presented by: Marcella H. Sorg

2.1.6 Ice core records 10:36 a.m.

10:36 a.m.

BEHAVIOR OF THE SOUTHERN HEMISPHERE WESTERLIES FROM THE MID HOLOCENE TO THE PRESENT

Presented by: Daniel A. Dixon

10:48 a.m.

DETROIT PLATEAU ICE-CORE

Presented by: Mariusz Potocki

11:00 a.m.

EEMIAN INTERGLACIAL AND GLACIAL TRANSITION IN A MOUNT MOULTON (WEST ANTARCTICA) GLACIOCHEMICAL RECORD.

Presented by: Elena Korotkikh

11:12 a.m.

**DUST AND IRON BIOGEOCHEMISTRY IN WEST ANTARCTICA
AT THE WAIS DIVIDE SITE**

Presented by: **Bess Koffman**

2.1.7 Paleoclimate, Part I 11:24 a.m.

11:24 a.m.

GLACIAL HISTORY AND ENVIRONMENTAL CHANGE OF TORRES DEL PAYNE (51°S) REGION IN SOUTHERN SOUTH AMERICA DURING THE LAST ICE AGE

Presented by: **Juan L. García**

11:36 a.m.

RAPID ICE RETREAT IN THE CORDILLERA DARWIN DURING THE MYSTERY INTERVAL

Presented by: **Brenda L. Hall**

11:48 a.m.

RESOLVING THE TIMING OF MOUNTAIN GLACIER ACTIVITY IN THE MIDDLE LATITUDES OF BOTH POLAR HEMISPHERES DURING THE LAST ICE AGE

Presented by: **Aaron Putnam**

2.2 Lunch 12:00- 1.00 p.m.

2.3 Poster Session 1:00 p.m.

2.3.1 Climate Prediction and Modeling

BETTER PHYSICS USING FULL MOMENTUM SOLVER IN 2D VERTICAL SLICE DOMAIN, WHERE DOES LONGITUDINAL STRESS REALLY MATTER? APPLICATION TO THE THWAITES GLACIER FLOWLINE

Presented by: **Debra Kenneway**

EARTH'S OZONOSPHERE, WEATHER "ANOMALIES" AND GLOBAL WARMING

Presented by: **Vladimir Smorodin**

2.3.2 Environment and Ice Core Records

IMPACT OF ROSS SEA PRIMARY PRODUCTIVITY ON SNOW CHEMISTRY IN DRY VALLEYS, ANTARCTICA

Presented by: **Shelly M. Griffin**

QUEST for the OLDEST ICE ON EARTH

Presented by: **Andrei V. Kurbatov**

2.4 Afternoon Session 1:30 p.m.

2.4.1 Paleoclimate, Part II 1:30 p.m.

1:30 p.m.

A GLACIOLOGICAL RECONSTRUCTION OF THE WIND RIVER ICE CAP, WIND RIVER MOUNTAINS, WYOMING

Presented by: **Birkel Sean D**

1:42 p.m.

THE LOCH LOMOND READVANCE IN SCOTLAND - A BØLLING / ALLERØD ADVANCE?

Presented by: **Gordon R. M. Bromley**

1:54 p.m.

¹⁰Be SURFACE EXPOSURE CHRONOLOGY OF MORAINES OF THE FORMER PUKAKI GLACIER LOBE IN THE MACKENZIE BASIN, SOUTH ISLAND, NEW ZEALAND

Presented by: **Kelley Samuel**

2.4.2 Anthropology I 2:06 p.m.

2:06 p.m.

“THE WATERLESS REALMS OF THE HUMAN SEASCAPE”

Presented by: **V. Constanza Ocampo-Raeder**

2:18 p.m.

DIETARY CHANGE THROUGH TIME: A VIEW FROM HINDS CAVE

Presented by: **Samuel Belknap III**

2.4.3 Archaeology 2:42 p.m.

2:42 p.m.

PINNIPEDS, PEOPLE, AND PETROGLYPHS: ANALYSIS OF THE MACHIAS BAY FAUNAL ASSEMBLAGES

Presented by: **Robert C. Ingraham**

2:54 p.m.

THE ARCHAEOLOGY OF ATLANTIC SALMON AND CLIMATE CHANGE

Presented by: **Brian S. Robinson**

3:06 p.m.

CHRONOLOGY OF LATE PLEISTOCENE/EARLY HOLOCENE LANDSCAPE DEVELOPMENT IN THE CENTRAL PENOBSCOT RIVER VALLEY: GEOARCHAEOLOGY AND OSL CHRONOLOGY

Presented by: **Alice Kelley**

2.4.4 Cyberinfrastructure 3:18 p.m.

3:18 p.m.

The iceREADER DATA REPOSITORY

Presented by: **Mark Royer**

3:30 p.m.

***P301dx*: A TOOLKIT FOR EXPLORING CLIMATE-CHANGE DATA**

Presented by: **Sudarshan S. Chawathe**

2.4.5 Break 3:42-4:00 p.m.

2.5 Graduate Students Awards Ceremony 4:12 p.m. FRIDAY, MAY 8, 2009

2.4.6 Anthropology II 4:00 p.m.

4:00 p.m.

**DIETARY INTAKE OF PREBIOTIC INULIN-TYPE FRUCTANS
IN PREHISTORY**

Presented by: **Kristin Sobolik**

2.5 Graduate Students Awards Ceremony 4:12 p.m.

2.6 Closing Remarks by Kristin Sobolik 4:20 p.m.