

**KECK GEOLOGY CONSORTIUM
PROCEEDINGS OF THE TWENTY-THIRD
ANNUAL KECK RESEARCH SYMPOSIUM IN GEOLOGY
ISSN# 1528-7491**

April 2010

Andrew P. de Wet
Editor & Keck Director
Franklin & Marshall College

Keck Geology Consortium
Franklin & Marshall College
PO Box 3003, Lanc. Pa, 17604

Lara Heister
Symposium Convenor
ExxonMobil Corp.

Keck Geology Consortium Member Institutions:

Amherst College, Beloit College, Carleton College, Colgate University, The College of Wooster, The Colorado College
Franklin & Marshall College, Macalester College, Mt Holyoke College, Oberlin College, Pomona College, Smith College, Trinity University
Union College, Washington & Lee University, Wesleyan University, Whitman College, Williams College

2009-2010 PROJECTS

SE ALASKA - EXHUMATION OF THE COAST MOUNTAINS BATHOLITH DURING THE GREENHOUSE TO ICEHOUSE TRANSITION IN SOUTHEAST ALASKA: A MULTIDISCIPLINARY STUDY OF THE PALEOGENE KOOTZNAHOO FM.

Faculty: Cameron Davidson (Carleton College), Karl Wirth (Macalester College), Tim White (Penn State University)

Students: Lenny Ancuta, Jordan Epstein, Nathan Evenson, Samantha Falcon, Alexander Gonzalez, Tiffany Henderson, Conor McNally, Julia Nave, Maria Princen

COLORADO – INTERDISCIPLINARY STUDIES IN THE CRITICAL ZONE, BOULDER CREEK CATCHMENT, FRONT RANGE, COLORADO.

Faculty: David Dethier (Williams) Students: Elizabeth Dengler, Evan Riddle, James Trotta

WISCONSIN - THE GEOLOGY AND ECOHYDROLOGY OF SPRINGS IN THE DRIFTLESS AREA OF SOUTHWEST WISCONSIN.

Faculty: Sue Swanson (Beloit) and Maureen Muldoon (UW-Oshkosh)

Students: Hannah Doherty, Elizabeth Forbes, Ashley Krutko, Mary Liang, Ethan Mamer, Miles Reed

OREGON - SOURCE TO SINK – WEATHERING OF VOLCANIC ROCKS AND THEIR INFLUENCE ON SOIL AND WATER CHEMISTRY IN CENTRAL OREGON.

Faculty: Holli Frey (Union) and Kathryn Szramek (Drake U.)

Students: Livia Capaldi, Matthew Harward, Matthew Kissane, Ashley Melendez, Julia Schwarz, Lauren Werckenthien

MONGOLIA - PALEOZOIC PALEOENVIRONMENTAL RECONSTRUCTION OF THE GOBI-ALTAI TERRANE, MONGOLIA.

Faculty: Connie Soja (Colgate), Paul Myrow (Colorado College), Jeff Over (SUNY-Geneseo), Chuluun Minjin (Mongolian University of Science and Technology)

Students: Uyanga Bold, Bilguun Dalaibaatar, Timothy Gibson, Badral Khurelbaatar, Madelyn Mette, Sara Oser, Adam Pellegrini, Jennifer Peteya, Munkh-Od Purevtseren, Nadine Reitman, Nicholas Sullivan, Zoe Vulgaropulos

KENAI - THE GEOMORPHOLOGY AND DATING OF HOLOCENE HIGH-WATER LEVELS ON THE KENAI PENINSULA, ALASKA

Faculty: Greg Wiles (The College of Wooster), Tom Lowell, (U. Cincinnati), Ed Berg (Kenai National Wildlife Refuge, Soldotna AK)

Students: Alena Giesche, Jessa Moser, Terry Workman

SVALBARD - HOLOCENE AND MODERN CLIMATE CHANGE IN THE HIGH ARCTIC, SVALBARD, NORWAY.

Faculty: Al Werner (Mount Holyoke College), Steve Roof (Hampshire College), Mike Retelle (Bates College)

Students: Travis Brown, Chris Coleman, Franklin Dekker, Jacalyn Gorczynski, Alice Nelson, Alexander Nereson, David Vallencourt

UNALASKA - LATE CENOZOIC VOLCANISM IN THE ALEUTIAN ARC: EXAMINING THE PRE-HOLOCENE RECORD ON UNALASKA ISLAND, AK.

Faculty: Kirsten Nicolaysen (Whitman College) and Rick Hazlett (Pomona College)

Students: Adam Curry, Allison Goldberg, Lauren Idleman, Allan Lerner, Max Siegrist, Clare Tochilin

Funding Provided by: Keck Geology Consortium Member Institutions and NSF (NSF-REU: 0648782) and ExxonMobil

**Keck Geology Consortium: Projects 2009-2010
Short Contributions – MONGOLIA**

**PALEOZOIC PALEOENVIRONMENTAL RECONSTRUCTION OF THE GOBI-
ALTAI TERRANE, MONGOLIA**

Project Directors: **CONSTANCE M. SOJA**: Colgate University
CHULUUN MINJIN: Mongolian University of Science and Technology
Project Faculty: **PAUL MYROW**: The Colorado College
D. JEFFREY OVER: State University of New York at Geneseo

**CHEMOSTRATIGRAPHY OF THE LOWER SILURIAN SCHARCHULUUT
FORMATION, YAMAAN-US, SHINE JINST REGION, GOBI-ALTAI TERRANE,
MONGOLIA**

UYANGA BOLD: Mongolian University of Science and Technology
Research Advisor: Chuluun Minjin

**GEOLOGIC MAP AND PALEOECOLOGY OF THE LOWER SILURIAN
SCHARCHULUUT FORMATION AT “WENLOCK HILL”, SHINE JINST
REGION, GOBI-ALTAI TERRANE, MONGOLIA**

BILGUUN DALAIBAATAR: Mongolian University of Science and Technology
Research Advisor: Chuluun Minjin

**SEDIMENTOLOGY, DEPOSITIONAL HISTORY AND DETRITAL ZIRCON
GEOCHRONOLOGY OF THE LOWER DEVONIAN TSAKHIR FORMATION,
SHINE JINST REGION, MONGOLIA**

TIMOTHY M. GIBSON: Colorado College
Research Advisor: Paul Myrow

**BRACHIOPODS FROM THE LOWER SILURIAN SCHARCHULUUT
FORMATION, YAMAAN-US, SHINE JINST REGION, GOBI-ALTAI TERRANE,
MONGOLIA**

BADRAL KHURELBAATAR: Mongolian University of Science and Technology
Research Advisor: Chuluun Minjin

CHEMOSTRATIGRAPHY AND MAGNETIC STRATIGRAPHY OF THE UPPER ORDOVICIAN DARAVGAI AND GASHUUNOVOO FORMATIONS, GOBI-ALTAI TERRANE, SHINE JINST AREA, SOUTHERN MONGOLIA

MADelyn METTE: Macalester College
Research Advisor: Ray Rogers

SEQUENCE STRATIGRAPHY AND PALEONTOLOGY OF THE UPPER ORDOVICIAN DARAVGAI AND GASHUUNOVOO FORMATIONS, GOBI-ALTAI TERRANE, SHINE JINST, MONGOLIA

SARA E. OSER: University of Cincinnati
Research Advisor: Carlton E. Brett

PALEOECOLOGY OF LOWER DEVONIAN (EMSIAN) SHELF DEPOSITS IN THE CHULUUN FORMATION, GOBI-ALTAI TERRANE, MONGOLIA

ADAM FRANCIS ANTONIO PELLEGRINI: Colgate University
Research Advisor: Constance M. Soja

TRILOBITE PALEOECOLOGY OF THE MIDDLE DEVONIAN TSAGAANKHAALGA FORMATION NEAR TSAKHIR WELL, SHINE JINST, MONGOLIA

JENNIFER A. PETEYA: Mount Union College
Research Advisor: Lee Gray

GEOLOGIC MAP SHOWING EAST-TO-WEST FACIES TRANSITIONS IN THE LOWER SILURIAN SCHARCHULUUT FORMATION, SCHARCHULUUT, SHINE JINST REGION, GOBI-ALTAI TERRANE, MONGOLIA

MUNKH-OD PUREVTSEREN: Mongolian University of Science and Technology
Research Advisor: Chuluun Minjin

PALEOECOLOGY AND CHEMOSTRATIGRAPHY OF THE AMANSAIR AND TSAGAANBULAG FORMATIONS, GOBI-ALTAI TERRANE, MONGOLIA

NADINE G. REITMAN: Vassar College
Research Advisor: David P. Gillikin

**THE EIFELIAN GIVETIAN BOUNDARY (MIDDLE DEVONIAN) AT TSAKHIR,
GOVI ALTAI REGION, SOUTHERN MONGOLIA**

NICHOLAS SULLIVAN: State University of New York at Geneseo
Faculty Advisor: D. Jeffrey Over

**PALEOENVIRONMENTS AND DEPOSITIONAL HISTORY OF UPPER
SILURIAN-LOWER DEVONIAN LIMESTONE IN THE AMANSAIR AND
TSAGAANBULAG FORMATIONS AT ULAANSHAND AND TSAKHIR, GOBI-
ALTAI TERRANE, MONGOLIA**

ZOE VULGAROPULOS: Oberlin College
Research Advisor: Dennis Hubbard

Funding provided by: Keck Geology Consortium Member Institutions and NSF (NSF-REU: 0648782)

Keck Geology Consortium
Franklin & Marshall College
PO Box 3003, Lancaster Pa, 17603
Keckgeology.org

CHEMOSTRATIGRAPHY OF THE LOWER SILURIAN SCHARCHULUUT FORMATION, YAMAAN-US, SHINE JINST REGION, GOBI-ALTAI TERRANE, MONGOLIA

UYANGA BOLD: Mongolian University of Science and Technology
Research Advisor: Chuluun Minjin

I measured a section 160 meters thick in the Schar-
chuluut Formation and plan to document and in-
terpret the chemostratigraphic profile of those rocks
for my M.S. thesis. I also began chemostratigraphic
research with Badral Khurelbaatar on rocks exposed
east of the Tsakhir basin in the Lower Devonian
Amansair Formation (Fig. 1).



Figure 1. Discussions with Badral Khurelbaatar (middle) and Prof. Jeff Over (right) in the field (A); with advisor, Prof. Chuluun Minjin (B); and typing up notes in the ger's field "office" (C).