PROCEEDINGS OF THE TWENTY-NINTH ANNUAL KECK RESEARCH SYMPOSIUM IN GEOLOGY

April 2016
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KECK GEOLOGY CONSORTIUM
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2015-2016 PROJECTS

EXHUMATION AND TECTONIC SIGNIFICANCE OF THE WOOD HILLS-EAST HUMBOLT RANGE METAMORPHIC CORE COMPLEX, NEVADA:
Faculty: JEFF RAHL, Washington & Lee University and ALLEN MCGREW, University of Dayton
Students: ZOE DILLES, Pomona (Scripps) College, COLBY HOWLAND, Union College, SARAH JORDAN, Carleton College, JOSHUA LATHAM, University of Dayton, LINDSEY PLUMMER, Amherst College, FRANKLIN WOLFE, Washington & Lee University, GABRIEL CHEVALIER, Mt. Holyoke College

ALBIAN TO CENOMANIAN (CRETACEOUS) SEDIMENTOLOGY, STRATIGRAPHY, AND PALEOECOLOGY OF AN ARCTIC FORELAND BASIN, NORTH SLOPE, ALASKA:
Faculty: Grant Shimer, Whitman College and Paul McCarthy, University of Alaska-Fairbanks
Students: JOSEPH BENINATI, Washington & Lee University, SARAH DICKSON, Smith College, KEVIN GARDNER, Whitman College, EVAN LEWIS, Franklin & Marshall College, ASHLEY RATIGAN, Oberlin College, LAUREN WILLIAMSON, Colorado College

PLIOCENE PALEOPRODUCTIVITY AND ICE DYNAMICS IN THE WEDDELL SEA: ODP SITES 693-695:
Faculty: SUZANNE O'CONNELL, Wesleyan University
Students: KATE CULLEN, Wesleyan University, CINDY FLORES, Wesleyan University, ELENA ROBAKIEWICZ, Oberlin College

TRACE METAL SUBSTITUTION IN AND RELEASE FROM SECONDARY IRON (OXY)HYDROXIDES:
Faculty: BRYN KIMBALL, Whitman College
Students: JASON ANTHONY, Whitman College, SAMANTHA SCHONBERGER, Beloit College, SHANTI PENPRASE, Carleton College

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THE NEWBERRY CRATER LAKES, OREGON:
Faculty: Johan Varekamp, Wesleyan University
Students: SAMUEL CALDWELL, Amherst College, LENA CAPECE, Wesleyan University, JULIA HORNE, Colgate University, HEATHER UPIN, Smith College

HOLOCENE ENVIRONMENTAL CHANGE AND HUMAN IMPACTS IN SOUTHERN NEW ENGLAND:
Faculty: Will Ouimet and Michael Hren, University of Connecticut
Students: SARA DONOVAN, Carleton College, CHAD FAGAN, University of Connecticut, MARY IGNATIADIS, Williams College, JIA KELLEHER, Mt. Holyoke College, CAITLIN MCMANIMON, Union College, JACKY TRAN, Pomona College

CONSTRAINING PROCESSES IN NATURAL & EXPERIMENTAL BASALTIC LAVA FLOWS:
Faculty: JEFF KARSON, Syracuse University and RICK HAZLETT, Pomona College
Students: NELSON BANDY, Carleton College, ESME FANEUFF, Pomona (Pitzer) College, ARIEL HAMPTON, Colgate University, ERIN HIGHTOWER, Colorado College, TREVOR MAGGART, Macalester College, GRADY OLSON, Macalester College

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Keck Geology Consortium: Projects 2015-2016
Short Contributions— Nevada Tectonics Project

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ALLEN J. MCGREW, The University of Dayton

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Research Advisor: Allen McGrew, University of Dayton

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Research Advisor: Matthew Manon, Union College

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JOSHUA R. LATHAM, University of Dayton
Research Advisor: Allen J. McGrew, University of Dayton

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FRANKLIN WOLFE, Washington & Lee University
Research Advisor: Dr. Jeffrey Rahl, Washington & Lee University

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GABRIEL CHEVALIER, Mount Holyoke College
Research Advisors: Michelle Markley Research Advisor & Jeffrey Rahl, Washington & Lee University

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Keck Geology Consortium: Projects 2015-2016
Short Contributions— North Slope, AK Project

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GRANT SHIMER, Whitman College
PAUL MCCARTHY University of Alaska-Fairbanks

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Research Advisor: Lisa Greer, Washington & Lee University

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SARAH DICKSON, Smith College
Research Advisor: Bosiljka Glumac, Smith College

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KEVIN GARDNER, Whitman College
Research Advisor: Grant Shimer, Whitman College

GEOCHEMICAL ANALYSIS OF THE TOROK FORMATION MUDSTONES AT SLOPE MOUNTAIN, ALASKA
EVAN LEWIS, Franklin and Marshall College
Research Advisors: Carol de Wet & Stanley Mertzman, Franklin and Marshall College

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ASHLEY RATIGAN, Oberlin College
Research Advisor: Karla Hubbard, Oberlin College

PALEOCURRENT DIRECTIONS IN THE NANUSHUK FORMATION AT SLOPE MOUNTAIN, ALASKA
LAUREN WILLIAMSON, Colorado College
Research Advisor: Dr. Paul Myrow, Colorado College

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Keck Geology Consortium: Projects 2015-2016
Short Contributions— Weddell Sea, Antarctica Project

PLIOCENE PALEOPRODUCTIVITY AND SEDIMENTATION AT ODP SITE 697 IN THE WEDDELL SEA, ANTARCTICA
SUZANNE O'CONNELL, Wesleyan University

ANTARCTIC WEDDELL SEA ODP SITE 697 SEDIMENTOLOGICAL CHANGES
KATE CULLEN,Wesleyan University
Research Advisor: Professor Suzanne O'Connell,Wesleyan University

UNDERSTANDING CLIMATE: BIOGENIC SILICA AS A PROXY FOR INTERGLACIAL AND GLACIAL PERIODS 3 TO 5 MILLION YEARS AGO
CINDY EUNICE FLORES, Wesleyan University
Research Advisor: Suzanne O'Connell, Wesleyan University

PLIOCENE DIATOM ABUNDANCE AS PROXY FOR TEMPERATURE IN WEDDELL SEA: ODP SITE 697
ELENA ROBAKIEWICZ, Oberlin College
Research Advisors: Karla Hubbard, Oberlin College & Suzanne O'Connell, Wesleyan University _

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Keck Geology Consortium: Projects 2015-2016
Short Contributions— Trace Metal Mobility Project

TRACE METAL SUBSTITUTION IN AND RELEASE FROM SECONDARY IRON (OXY)HYDROXIDES
BRYN KIMBALL, Whitman College

TRACE METAL SUBSTITUTION IN AND RELEASE FROM JAROSITE
JASON ANTHONY, Whitman College
Research Advisor: Bryn Kimball, Whitman College

STABILITY OF SCHWERTMANNITE AND COBALT SUBSTITUTED SCHWERTMANNITE IN MINING ENVIRONMENTS
SAMANTHA SCHONBERGER, Beloit College
Research Advisor: James Rougvie, Beloit College

ACID MINE DRAINAGE SIMULATED LEACHING BEHAVIOR OF GOETHITE AND COBALT SUBSTITUTED GOETHITE
SHANTI PENPRASE, Carleton College
Research Advisor: Dr. Cameron Davidson, Carleton College

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Keck Geology Consortium: Projects 2015-2016
Short Contributions— Crater Lakes, Oregon Project

THE NEWBERRY CRATER LAKES, OREGON
JOHAN C. VAREKAMP, Wesleyan University, SAM CALDWELL, Amherst College, LENA CAPECE, Wesleyan University, JULIA HORNE, Colgate University, HEATHER UPIN, Smith College

GEOCHEMISTRY OF TWO CRATER LAKES IN THE NEWBERRY CALDERA
SAMUEL CALDWELL, Amherst College
Research Advisor: Anna Martini, Amherst College

CARBON DYNAMICS IN EAST LAKE, NEWBERRY VOLCANO, OR
LENA CAPECE, Wesleyan University
Research Advisor: Johan Varekamp, Wesleyan University

NEWBERRY CRATER LAKES, OREGON: PAULINA LAKE
JULIA HORNE, Colgate University
Research Advisors: Karen Harpp, Colgate University; Johan Varekamp, Wesleyan University

A STUDY OF THE GEOCHEMICAL AND GEOMORPHOLOGIC EVIDENCE FOR PREHISTROIC FLOODS FROM PAULINA LAKE, NEWBERRY VOLCANO, CENTRAL OREGON
HEATHER UPIN, Smith College
Research Advisor: Robert Newton, Smith College

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Keck Geology Consortium: Projects 2015-2016
Short Contributions— New England Holocene Climate Change Project

HOLOCENE ENVIRONMENTAL CHANGE AND HUMAN IMPACTS IN SOUTHERN NEW ENGLAND
WILL OUIMET, University of Connecticut
MICHAEL HREN, University of Connecticut

THE EFFECTS OF HISTORIC CHARCOAL PRODUCTION ON SOIL MORPHOLOGY AND GEOCHEMISTRY IN NORTHWESTERN CONNECTICUT
SALLY DONOVAN, Carleton College
Research Advisor: Mary Savina, Carleton College

AN ORGANIC MOLECULAR RECORD OF POST-GLACIAL CLIMATE AND FIRE OCCURRENCE IN A SOUTHERN NEW ENGLAND WETLAND CORE
CHAD FAGAN, University of Connecticut
Research Advisor: Michael Hren & Will Ouimet, University of Connecticut

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MARY IGNATIADIS, Williams College
Research Advisor: David Dethier, Williams College

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Jia S. Kelleher, Mt. Holyoke College
Research Advisor: Al Werner, Mt. Holyoke College

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CAITLIN MCMANIMON, Union College
Research Advisor: David P. Gillikin, Union College

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Keck Geology Consortium: Projects 2015-2016
Short Contributions— Basalt Lava Flow Project

CONSTRAINING PROCESSES IN NATURAL & EXPERIMENTAL BASALTIC LAVA FLOWS:
JEFF KARSON, Syracuse University
RICK HAZLETT, Pomona College

CHARACTERIZATION OF HYALOCLASTITE DERIVED FROM A BASALTIC PARENT MAGMA, LOCATED AT LEIRHNJÚKUR, NE ICELAND
NELSON BANDY, Carleton College
Research Advisors: Cameron Davidson, Carleton College

CHARACTERIZING DEVELOPMENT OF CHANNELIZED LAVA FLOWS AT KRAFLA VOLCANO, ICELAND
ESME FANEUFF, Pitzer College
Research Advisor: Eric Grosfils, Pomona College

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ARIEL HAMPTON, Colgate University
Research Advisor: Karen Harpp, Colgate University

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ERIN HIGHTOWER, Colorado College
Research Advisor: Jeff Noblett, Colorado College

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TREVOR T. MAGGART, Macalester College
Research Advisor: Karl R. Wirth, Macalester College

INFLATED SHEET FLOWS AND THE ORIGIN OF BULBOUS SQUEEZE-UPS
GRADY D. OLSON, Macalester College
Research Advisor: Karl R. Wirth

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