College of Natural Science and Mathematics

Degree Candidates

Joan Braddock, Dean

Baccalaureate Degrees

Kelsey A. Alexander
magna cum laude, B.S., Experimental Neuroscience: Interdisciplinary Program. *Honors Program*

Ashley Karen Anderson
B.S., Chemistry

Spencer Audie**
B.A., Biological Sciences. *Golden Key Honor Society*

Zachary Larion Baer**
B.S., Biological Sciences

Daniel K. Barnes**
B.S., Computer Science

Timothy Joseph Barry
B.S., Mathematics

Ryan Clarke Baum
B.S., Wildlife Biology

Christopher Wayne Benshoof
B.S., Mathematics

Chad W. Bieberich
magna cum laude, B.S., Wildlife Biology

Sarah Boone**
B.S., Biological Sciences

Joshua David Brewer
B.S., Geology

Sally J. Brown
B.S., Chemistry: Biochemistry and Molecular Biology

Lilia Canady**
B.S., Computer Science

Hilary Kathleen Carlisle
cum laude, B.S., Biological Sciences

Bryan Bob Carlson**
magna cum laude, B.S., Biological Sciences

Kathleen Cary**
cum laude, B.S., Biological Sciences

Andrew Case**
B.A., Biological Sciences

James L. Chmielowski
B.S., Computer Science

Megan Lynn Conley*
B.S., Biological Sciences

Jamie Lynn Coon
B.S., Chemistry: Juristic

Jolie D. Crow
B.S., Chemistry: Biochemistry/Molecular Biology

Sunit M. Das**
B.S., Computer Science; Mathematics

Amanda Nichole Davis**
cum laude, B.A., Biological Sciences

Todd Denny
B.S., Computer Science

Jodee L. Deutsch
B.A., Biological Sciences. *Golden Key Honor Society*

Jennifer Jean Dewar
B.S., Biological Sciences. *Golden Key Honor Society*

Jennifer Dawn Dukette
B.S., Biological Sciences

Elizabeth Katherine Dunkle
B.S., Biological Sciences

Brittany Lynn Dykstra
cum laude, B.S., Chemistry: Biochemistry/Molecular Biology

Sarah Marie Elder
B.S., Biological Sciences

Jerry R. Farnam**
B.S., General Science

Megan Ann Faulkner
B.S., Biological Sciences

Jonathan Linus Fiely**
B.S., Wildlife Biology

Emma G. Flores
B.A., Biological Sciences

Keysha Ann Fontaine
B.S., Biological Sciences

John Taylor Fortner
B.S., Mathematics; Statistics

Jake Foster**
B.S., Mathematics

Paul Charles Gentemann
B.S., Mathematics

Jeffrey Lee Gimbel**
B.S., Chemistry: Biochemistry/Molecular Biology

Paige Gingrich**
B.S., Wildlife Biology

Joshua Lang Governale
cum laude, B.S., Computer Science

Erik Gregg*
B.S., Computer Science

Jason David Gresehover**
B.S., Mathematics

Robert M. Gumpert**
B.S., Biological Sciences

Rodney Douglas Guritz**
cum laude, B.S., Chemistry: Environmental Chemistry

John Gabriel Hagood
B.S., Wildlife Biology

Danielle Gray Harris*
B.S., Chemistry: Biochemistry/Molecular Biology

Jason Hoisington
magna cum laude, B.S., General Science. *Golden Key Honor Society. Phi Kappa Phi Honor Society.*

Jimie Horath**
B.S., Mathematics

Joshua M. Hull
B.S., Geology

Michael Jaramillo**
B.S., Chemistry

Erik D. Johnson
cum laude, B.S., Physical Biochemistry: Interdisciplinary Program. *Golden Key Honor Society*

Ashley Marie Jones
B.S., Chemistry: Environmental Chemistry

Daniel H. Jordan
B.A., Earth Science

Eugeniy Kalinin
B.S., Computer Science

Heidi Kristenson**
magna cum laude, B.S., Biological Sciences

Troy A. Lawlor
cum laude, B.S., Mathematics

Troy A. Lawlor
cum laude, B.S., Computer Science

Andrew J. Lutz
B.S., Biological Sciences

Brandon Ashlee Marken**
B.S., Physics

Molly Jo Marvel
B.S., Biological Sciences

Stephanie McDougal
cum laude, B.S., Biological Sciences

Pamela S. Meadors
B.S., Biological Sciences

Lara Medinger
B.A., Biological Sciences

Heather Helene Moncrief
B.S., Biological Sciences

Danielle Marie Mondloch
magna cum laude, B.S., Biological Sciences

Joy Elizabeth Moser
B.S., Biological Sciences

Laura Lee Mueller**
B.S., Mathematics

Robin K. Mullican
B.S., Biological Sciences

Kenneth C. Murray*
B.S., Biological Sciences

George L. Nash
B.S., Computer Science

Melissa Dale Nelson
B.S., Wildlife Biology

Karen Oliver-Colbert
B.S., Biological Sciences

Travis John Orient**
cum laude, B.S., Wildlife Biology

Dominique A. Payan
B.S., Biological Sciences

Suzette Marie Peep**
B.S., Biological Sciences . *Golden Key Honor Society*

Ian Pennell-Walklin**
B.S., Biological Sciences

May Phelps
B.S., Biological Sciences

Dara Lynn Rehder
cum laude, B.S., Wildlife Biology . *Golden Key Honor Society*

Ariel Nicole Robinson**
B.S., Biological Sciences

Margaret A. Roth**
B.S., Biological Sciences

Shawna Lee Sastamoinen*
cum laude, B.S., Geology. *Golden Key Honor Society*

Tara E. Scribner de Metcalf**
cum laude, B.S., Biological Sciences

Sargent Shriver
B.S., Philosophy of Science and Neuroscience: Interdisciplinary Program. *Honors Program*

Payton Snider III
B.S., Computer Science

Bethany Elizabeth Sweet
B.S., Biological Sciences

Nina Timblin
B.S., Biological Sciences

Jan Tomsen
B.S., Wildlife Biology

Angela Kay Totemoff
B.S., Computer Science

Edward James Trochim
cum laude, B.S., Computer Science

Julia A. Turner
cum laude, B.S., Biological Sciences

Lovro Valcic
B.S., Computer Science

Crystal Lee Warner**
B.A., Biological Sciences

Simon C Wigren
B.S., Wildlife Biology

Michael J. Wilkinson
summa cum laude, B.S., Biological Sciences. *Honors Program*

Ann Lynnette Wilson**
cum laude, B.S., Chemistry: Biochemistry/Molecular Biology. *Golden Key Honor Society*

Mark Winterstein
B.S., Biological Sciences

Elizabeth Medina Wookey
B.S., Biological Sciences

Cherish Yuke
B.S., Wildlife Biology

Judith H. Zacharius
B.S., Wildlife Biology

MASTER'S DEGREES

Lars G. E. Backstrom
M.S., Geophysics. *B.S., Uppsala University (Sweden), 1993; M.S., Uppsala University (Sweden), 1994*

Torsten Bentzen
M.S., Wildlife Biology. *B.S. University of Alaska Fairbanks, 2002*

Emma Betts*
M.S., Biology. *B.S., Macquavie University (Australia), 2002*

Andrew P. Borner*
M.S., Biology. *B.A., University of Colorado Boulder, 1997*

Adlai J. Burman**
M.S., Biochemistry/Molecular Biology. *B.S., University of Alaska Fairbanks, 1999*

Dan Cardin
M.S., Computer Science. *B.S., Northern Michigan University, 2003*

Hannah Marie Clilverd
M.S., Biology. *B.S., University of Sussex (England), 2003*

Annie Crater*
M.S., Biology. *B.A., Carroll College (Montana), 2003*

Eric Cray
M.S.E., Software Engineering. *B.S., University of Alaska Fairbanks, 2005*

Ryan S. Cross
M.S., Geophysics. *B.S., University of Alaska Fairbanks, 2004*

Thomas Daniel Dempsey**
M.S., Wildlife Biology. *B.A., Dartmouth College (New Hampshire), 2002*

Dayton Dove
M.S., Geology. *B.S., College of Charleston (South Carolina), 2003*

Anna K. Ferry
M.S., Biology. *B.A., California State University-Sacramento, 2002*

Deborah M. Fieldman
M.S., Biology. *B.A., University of Colorado-Boulder, 2001*

H. Blair French
M.S., Wildlife Biology. *B.S., Colorado State University, 1986*

Jessica Inez Garron
M.S., Biology. *B.A., University of Maine, 1997*

Jeffrey Douglas Green
M.S., Geophysics. *B.S., University of Minnesota-Duluth, 2003*

Valeriy Groshev**
M.S., Mathematics. *B.S., Samara State University (Russia), 2003*

Richard James Hallock
M.A., Chemistry. *B.S. University of Alaska Fairbanks, 2005*

Shannon K. Hanna**
M.S., Marine Biology. *B.S., University of West Florida, 2004*

Christopher Hecker
M.S., Computer Science. *B.S., University of Alaska Fairbanks, 1997*

John Richard Henry
M.S.E., Software Engineering. *B.A., University of Alaska Fairbanks, 1997*

Shuo Jiao*
M.S., Statistics. *B.S., University of Science and Technology of China, 2003*

Joni M. Johnson*
M.S., Botany. *B.S., Lewis and Clark College (Oregon), 1994; B.S., Lewis and Clark College (Oregon), 1994*

Jed Kallen-Brown*
M.S., Mathematics. *B.S., University of Alaska Fairbanks, 2004; B.S., University of Alaska Fairbanks, 2004*

Amy Barnsley Keith
M.A.T., Mathematics. *B.S., University of Alaska Fairbanks, 1993*

Kelly Kore*
M.S., Geophysics. *B.S., University of Utah, 2002; B.S., University of Utah, 2002*

David William Krnavek
M.S., Computer Science. *B.S., University of Montana, 2002*

Lena Krutikov**
M.S., Geology. *B.A., Colgate University (New York), 1997*

Richard R. Lessard**
M.S., Geology. *B.S., University of New Hampshire, 2001*

Robert Adam Luz**
M.S., Mathematics. *B.A., Keene State College (New Hampshire), 2004*

Jennifer Susanne Mitchell**
M.S., Biology. *B.S., University of Alaska Fairbanks, 1997*

Emily Molhoek
M.S., Geology. *B.S., Grand Valley State University (Michigan), 2002*

E. Fleur Nicklen*
M.S., Biology. *B.S., Rutgers University (New Jersey), 2002*

Matthew Allan Page
M.S., Computer Science. *B.S., University of Alaska Anchorage, 2002*

Lincoln S. Parrett
M.S., Wildlife Biology. *B.A., University of Alaska Fairbanks, 2001; B.S., University of Alaska Fairbanks, 2001*

Kumi Rattenbury**
M.S., Biology. *B.A., Colorado College, 1997*

Joy Ritter
M.S., Wildlife Biology. *B.S., Fort Lewis College (Colorado), 1982; B.S., University of Colorado, 1984*

Michael Todd Shultz
M.S., Biology. *B.S., Humboldt State University (California), 1995*

Samik Sil*
M.S., Geophysics. *B.S., (India), 1997; M.S., (India), 2000*

Jacob Nathaniel Stroh**
M.S., Mathematics. *B.S., York College of Pennsylvania, 2001*

Ramaswamy A. S. R. Tiruchirapalli**
M.S., Atmospheric Sciences. *B.E., Annamalai University (India), 2001*

Patrick Webb
M.S., Computer Science. *B.S., University of Alaska Fairbanks, 2005*

Christina C. Williams**
M.S., Geophysics. *B.S., John Hopkins University (Maryland), 2003*

Yingte Zhang*
M.S., Statistics. *B.S., Tianjin University of Commerce (China), 1999; M.A., University of New Brunswick (Canada), 2004*

DOCTORAL DEGREES

Jerrold L. Belant**
Ph.D. Biological Sciences: Wildlife Biology
B.S., University of Wisconsin, 1985; M.S., State University of New York College, 1991

Thesis: Resource Partitioning by Sympatric Brown and American Black Bears
I evaluated diet in relation to body condition and reproduction for sympatric brown bears (Ursus arctos) and American black bears (U. americanus) in Southcentral Alaska during 1998â€“2000, and assessed population-level seasonal habitat selection in 2000. Coexistence of these species appears dependent on the abundance and availability of salmon and berries.
Major Professor: Dr. Erich Follmann

James Robert Campbell**
Ph.D. Atmospheric Sciences
B.S., University of Utah, 1993

Thesis: Autonomous Full-Time Lidar Measurements of Polar Stratospheric Clouds at the South Pole
A continuous four-year lidar dataset collected at the South Pole was investigated for polar stratospheric clouds (PSC). PSC play a primary role in the ozone hole that develops each Antarctic spring. Cloud properties were examined relative to thermal and chemical structure. Correlations were drawn between cloud occurrence and ozone losses.
Major Professor: Dr. Kenneth Sassen

Kriya Lee Dunlap
Ph.D. Nutrition: Interdisciplinary Program
B.S., Cornell University (New York), 1998; M.S., University of Alaska Fairbanks, 2003

Thesis: Sled Dogs as a Sentinel and Model for Nutritional and Physiological Adaptation in the Circumpolar North
In Alaska, sled dogs are still an integral part of the subsistence lifestyle. Sled dogs maintained on traditional foods provided a model for studying the effects of diet on contaminant exposure and immune function. This research provides additional insight into the effects of seasonal factors such as day length and temperature on the endocrine system.
Major Professor: Dr. Lawrence Duffy

Nancy Fresco*
Ph.D. Biological Sciences: Biology
B.A., Harvard University (Massachusetts), 1994; M.S., Yale University (Connecticut), 1999

Thesis: Carbon Sequestration in Alaskaâ€™s Boreal Forest: Planning for Resilience in a Changing Landscape
This thesis analyzes potential forest carbon management in Interior Alaska. I assessed circumboreal historical trends; model fire and growth under three climate scenarios; and analyzed the feasibility of utilizing wood energy in Interior villages. I concluded that village projects are more likely than landscape-level fire suppression to bolster social-ecological resilience.
Major Professor: Dr. F. Stuart (Terry) Chapin III

Dana M. Greene
Ph.D. Biological Sciences: Biology
B.S., University of North Carolina-Charlotte, 1999

Thesis: Nest-Building in House-Mice (Mus musculus), a Potential Model of Obsessive-Compulsive Disorder in Humans
Obsessive-compulsive disorder (OCD) is a debilitating psychiatric condition. This study validated a novel mouse model of OCD. Compulsive-like behaviors of big nest-building mice resemble compulsions in humans with OCD and data suggest it has good face, predictive and construct validity, and potentially can be used to further OCD research in humans.
Major Professor: Dr. Abel Bult-Ito

Kelly J. Hochstetler
Ph.D. Biological Sciences: Biology
B.A., Luther College (Iowa), 1991

Thesis: Patterns of Behavioral Entrainment in Mice
This work showed that wheel-running behavior and the suprachiasmatic nuclei could be entrained to scheduled feeding in mice. Differences between mouse lines in circadian rhythm characteristics were not related to the likelihood of entrainment. Other non-photic signals, in addition to food availability, were determined to influence the likelihood of entrainment.
Major Professor: Dr. Abel Bult-Ito

Andrew Mahoney*
Ph.D. Geophysics
B.S., University of East Anglia-Norwich(United Kingdom), 1999

Thesis: Alaska Landfast Sea Ice Dynamics
This thesis involved comprehensive multi-scale study of landfast sea ice extent and variability in northern Alaska in recent years. Comparison with 1970s data suggests landfast ice is forming later in the year and breaking up earlier. This may be related to overall Arctic sea ice retreat and earlier onset of spring thawing.
Major Professor: Dr. Hajo Eicken

Tanja Petersen**
Ph.D. Geophysics
B.S., Christian-Albrechts UniversitÃ¤t Kiel (Germany), 2000

Thesis: Long-Period Seismicity at Shishaldin Volcano, Alaska
This thesis provides a case study of Shishaldin Volcano, Alaska. The study investigates Shishaldinâ€™s unusual volcanic behavior by mainly focusing on short-period continuous seismic data. The observations suggest that Shishaldinâ€™s sustained long-period seismicity that consists of many hundreds to thousands of long-period earthquakes per day is driven by a hydrothermal system.
Major Professor: Dr. Stephen R. McNutt

Sarah A. Sonsthagen*
Ph.D. Biological Sciences: Biology
B.S., University of Wisconsin, 2000

Thesis: Population Genetic Structure and Phylogeography of Common Eiders (Somateria mollissima)
Population genetic structure of Common Eiders was examined at increasing spatial scales (microgeographic to their circumpolar distribution), using molecular techniques. Genetic subdivision was observed at all spatial scales, indicating kin recognition among female eiders and high natal philopatry. Site fidelity observed in waterfowl has predictable effects on population genetic structure.
Major Professor: Dr. Kevin McCracken

Nobuhiro Suzuki**
Ph.D. Engineering Physics: Interdisciplinary Program
B.S., Tokyo Institute of Technology (Japan), 1992; M.S., Tokyo Institute of Technology (Japan), 1994

Thesis: Observations of Metal Concentrations in E-Region Sporadic Thin Layers Using Incoherent-Scatter Radar
Metallic positively charged ions of meteoric origin (e.g. Fe^+, Mg^+, Si^+) are deposited in the Earthâ€™s upper

atmosphere over a height range of about 85â€“120 kilometers. A large radar facility in Greenland has been used to study these ion-layer structures and found the ion mass values to be in the range of 20-40 amu.
Major Professor: Dr. Brenton J. Watkins

Heather Marie Wilson
Ph.D. Biological Sciences: Wildlife Biology
B.A., University of California, 1999

Thesis: Population Ecology of Pacific Common Eiders on the Yukon-Kuskokwim Delta, Alaska
I examined variation in components of survival and reproduction of Pacific Common Eiders on the Yukon-Kuskokwim Delta, Alaska, in order to test hypotheses about the influence of specific ecological factors on life history variables and to investigate their relative contributions to local population dynamics.
Major Professor: Dr. Abby N. Powell