

College of Engineering and Mines

Degree Candidates

Douglas J. Goering, Interim Dean

BACCALAUREATE DEGREES

Daniel Stephen Adamczak**

B.S., Civil Engineering

Michael Orion Anderson

B.S., Mining Engineering

Nathan Allen Ayotte

magna cum laude, B.S., Petroleum Engineering. *Golden Key Honor Society*

Jeffrey Lucas Baldrige

B.S., Mechanical Engineering

Matthew E.G. Billings*

B.S., Geological Engineering

Wesley Brooks

cum laude, B.S., Electrical Engineering; Mathematics

Ray Christopher Brown

cum laude, B.S., Geological Engineering

Daniel Mark Brusehaber**

B.S., Civil Engineering

Eva Dawn Burk

cum laude, B.S., Civil Engineering. *Golden Key Honor Society*

Coleman James Chalup**

B.S., Civil Engineering

Regan Cheney

B.S., Mechanical Engineering: Aerospace

Richard David, Sr.

B.S., Civil Engineering

Matthew Ryan Dillon

cum laude, B.S., Civil Engineering

Travis Michael Eggleston

B.S., Civil Engineering

Eric Darus Hansen

cum laude, B.S., Mechanical Engineering: Aerospace. *Golden Key Honor Society*

Topu F. Hasan

B.S., Petroleum Engineering

Jason Duston Hitchcock

B.S., Civil Engineering

Raymond Hosford, Jr.

B.S., Petroleum Engineering

Lin Huang

cum laude, B.S., Electrical Engineering: Power & Control

Joshua John Hunter

B.S., Civil Engineering

Gregory Thomas Jernstrom**

B.S., Mechanical Engineering

Elizabeth Johnston**

B.S., Electrical Engineering: Computer Engineering. *Student Leadership Honors*

Brendan J. Karchere

magna cum laude, B.S., Civil Engineering. *Golden Key Honor Society*

Lauren Little*

cum laude, B.S., Civil Engineering

Karina Margaret Lovett

cum laude, B.S., Mechanical Engineering

Kelly A. Lyons

B.S., Petroleum Engineering

Michael McNulty**

cum laude, B.S., Civil Engineering. *Golden Key Honor Society*

Douglas Jay Mulliner

B.S., Civil Engineering

George L. Nash

B.S., Electrical Engineering: Computer Engineering; Computer Engineering

Daniel C. Oliva

cum laude, B.S., Mechanical Engineering

Samir Shirish Patil

B.S., Electrical Engineering: Computer Engineering

Matthew Leclair Posey

cum laude, B.S., Electrical Engineering: Computer Engineering

Jason R. Rowland

B.S., Mechanical Engineering

Shawna Lee Sastamoinen*

cum laude, B.S., Geological Engineering. *Golden Key Honor Society*

Brenton Bernhart Savikko

cum laude, B.S., Civil Engineering

Andrew Michael Schultz*

B.S., Geological Engineering

Lester Secrest

B.S., Electrical Engineering: Communication

Jeremiah Seekins**

B.S., Mechanical Engineering

Melody Dawn Shangin

B.S., Electrical Engineering: Communication. *Student Ambassador*

Matthew D. Sill**

B.S., Civil Engineering

Nathan Jefferson Stephan

B.S., Civil Engineering

Deanna S. Strunk

B.S., Civil Engineering. *Student Leadership Honors*

Matthew B. Taylor

B.S., Civil Engineering

Garrett Thatcher**

B.S., Civil Engineering

Kelly Thompson*

B.S., Electrical Engineering: Computer Engineering

Marcus Erling Trivette

B.S., Civil Engineering

Susan E. Underbakke

B.S., Civil Engineering

Rebecca Vaughan

B.S., Mechanical Engineering

Sharon T. Villanueva**

B.S., Mining Engineering

Joshua N. Wetzel

B.S., Mechanical Engineering

Michael Lawrence Wilson

B.S., Mechanical Engineering

Michael Joseph Wright, Jr.

cum laude, B.S., Electrical Engineering: Power and Control

MASTER'S DEGREES

Mohammad Javed Ahmed

M.C.E., Civil Engineering. *M.S., University of British Columbia (Canada), 1999*

Kiran Avadhanula

M.S., Mechanical Engineering. *B.T., Jawaharlal Nehru Institute of Technology (India), 2002*

Mrinal Singh Balaji

M.S., Electrical Engineering. *B.Tech., Jawaharlal Nehru Technological University (India), 2004*

Ashok Balasubramanian*

M.S., Electrical Engineering. *B.E., University of Madras (India), 2004*

Winston Starr Burbank, Jr.**

M.S., Mechanical Engineering. *B.S., Oregon State University, 2004*

Tania Clucas

M.S., Science Management. *B.S., University of Alaska Fairbanks, 1995*

Jeevana Dasari*

M.S., Mechanical Engineering. *B.T., Vignanjyothi Institute of Engineering and Technology (India), 2003*

Preetham Dhoopati*

M.S., Mechanical Engineering. *B.T., Jawaharlal Nehru Technological University (India), 2003*

Chineme Ruphina Eke*

M.S., Petroleum Engineering. *B.E., Federal University of Technology (Nigeria), 2004*

Braden Galloway*

M.S., Environmental Engineering. *B.S., Washington State University, 2003*

Venkata Aditya Gudimetla**

M.S., Mechanical Engineering. *B.T., International College of India, 2003*

Chidiebere G.C. Igbokwe*

M.S., Petroleum Engineering. *B.E., Federal University of Technology Owerri (Nigeria), 2004*

Praveen Kumar Kandulapati**

M.S., Mechanical Engineering. *B.T., Jawaharlal Nehru Technological University, (India), 2003*

Nagaprasad V. Kotipalli

M.S., Electrical Engineering. *B.T., Jawaharlal Nehru Technological University (India), 2003*

Shawna Renee Laderach**

M.S., Civil Engineering. *B.A., Sheldon Jackson College (Alaska), 1991*

Baozhong Liu

M.S., Petroleum Engineering. *B.S., Zhengshou University (China), 1996; M.S., University of Alaska Fairbanks, 2004*

Akshaya Vishal Nandam

M.S., Mechanical Engineering. *B.E., Osmania University (India), 2003*

Chinenye C. E. Ogugbue*

M.S., Petroleum Engineering. *B.E., Federal University of Technology (Nigeria), 2003*

Thomas Oommen**

M.S., Systems Engineering: Interdisciplinary Program. *B.E., Bangalore University (India), 1999*

Santosh B. Patil*

M.S., Petroleum Engineering. *B.E., Shivaji University Kolhapur (India), 2000; M.S. Texas A & M University, 2002; M.S., University of Alaska Fairbanks, 2004*

John William Peirce

M.S., Petroleum Engineering. *B.S., University of Arizona, 1982; B.B.A., University of Alaska Anchorage, 1996*

Travis Peltier*

M.S., Mechanical Engineering. *B.S., Oregon Institute of Technology, 2004*

Hemant Ashok Phale*

M.S., Petroleum Engineering. *B.S., Mumbai University Institute of Chemical Technology (India), 2003*

Radha Krishna V. Proddaturi

M.S., Electrical Engineering. *B.T., Jawaharlal Nehru Technological University (India), 2003*

Prasada Rao Raghupatruni

M.S., Mechanical Engineering. *B.E., Osmania University (India), 2002*

Venkatramana Reddy Revuri

M.S., Electrical Engineering. *B.T., Jawaharlal Nehru Technological University (India), 2004*

Patrick Jason Rider**

M.S., Electrical Engineering. *B.S., Gustavus Adolphus College (Minnesota), 2001*

Trivikram Srinivas Singaraju

M.S., Electrical Engineering. *B.E., Maturi Venkata Subba Rao Engineering College (India), 2001*

Victor Octavio Tenorio*

M.S., Mining Engineering. *B.E., Pontificia Universidad Catolica Del Peru, 1987*

Frank Joseph Toth

M.S., Engineering Management. *B.S., University of Alaska Fairbanks, 2004*

Ali Turan*

M.S., Electrical Engineering. *B.S., Istanbul Technical University (Turkey), 2002*

Hong Zhang**

M.S., Environmental Engineering. *B.S., Southeast University (China), 2000; M.S., Southeast University (China), 2003*

DOCTORAL DEGREES

Ashish N. Agrawal***Ph.D. Engineering: Electrical**

Ph.D., B.E., University of Pune, (India), 1999; M.S., University of Alaska Fairbanks, 2003

Thesis: Hybrid Electric Power Systems in Remote Arctic Villages: Economic and Environmental Analysis for Monitoring, Optimization, and Control

A standalone hybrid electric power system model was developed using MATLAB® Simulink® to perform economic and environmental analysis for remote arctic communities. The model was used to study the long-term performance of three hybrid power systems in Alaska and results are comparable with those predicted by HOMER.

Major Professor: Dr. Richard Wies

Murat Barut**

Ph.D. Engineering: Electrical

B.S., Istanbul Technical University, 1995; M.S., Istanbul Technical University, 1997

Thesis: Speed-Sensorless Estimation and Position Control of Induction Motors for Motion Control Applications

Robust estimation and control methods for sensorless motion control of induction motors were developed, based on an Extended Kalman Filter and sliding mode control. These address well-known challenges of parameter uncertainties and problems related to operation over a wide speed range, particularly at and near zero speed.

Major Professor: Dr. Seta Bogosyan

W. Robert Bolton*

Ph.D. Hydrologic Engineering: Interdisciplinary Program

B.A., California Lutheran University, 1991; M.S., University of Alaska Fairbanks, 1996

Thesis: Dynamic Modeling of the Hydrologic Processes in Areas of Discontinuous Permafrost

The presence or absence of permafrost is the defining hydrologic characteristic in the subarctic environment. The influence of permafrost distribution, active layer thaw depth, and wildfire on the soil moisture regime and stream flow were explored through a combination of field-based observations and computer simulation.

Major Professor: Dr. Larry Hinzman

Margaret Marie Darrow

Ph.D. Engineering: Arctic

B.S., University of Washington, 1993; M.S., University of Alaska Fairbanks, 1995; B.S., University of Alaska Fairbanks, 2002

Thesis: Experimental Study of Adsorbed Cation Effects on the Frost Susceptibility of Natural Soils

Results from laboratory experiments, including measurements of clay content and mineralogy, soil-moisture characteristic curves, unfrozen water content, zeta potential, and frost heave testing, indicate that the frost susceptibility of natural soil is dependent on adsorbed cations, unfrozen water content and amount of smectite, kaolinite and chlorite present in the soil.

Major Professors: Dr. Scott Huang and Dr. Yuri Shur

Sridhar Dutta*

Ph.D. Mining Engineering: Interdisciplinary Program

B.T., Onissa School of Mining Engineering (India), 2000; M.T., Indian Institute of Technology, 2002

Thesis: Predictive Performance of Machine Learning Algorithms for Ore Reserve Estimation in Sparse and Imprecise Data

In this thesis, machine learning algorithms, namely the neural network and support vector machines, were applied and various modeling issues discussed in order to successfully implement them to estimate the ore reserve in two datasets of varying degrees of complexities as opposed to the traditional geostatistical estimation techniques.

Major Professor: Dr. Sukumar Bandopadhyay

John T. Hollow*

Ph.D. Mineral Processing Engineering: Interdisciplinary Program

B.S., Montana Technology at University of Montana, 1982; B.S., Montana Technology at University of Montana, 1987

Thesis: An Evaluation of Variables Affecting Gold Extraction at a Mineral Processing Plant Operated in a Sub-Arctic Environment

Chemical process models and energy balance models were developed to accurately predict the impact of slurry

temperature on the performance of a cyanide leach, gold recovery plant in Alaska. This thesis includes development and validation of these models, justification for a plant improvement project and a review of project economics.

Major Professors: Dr. Hsing Kuang Lin and Mr. Daniel E. Walsh

Shirish Patil

Ph.D. Mineral Resource Engineering: Interdisciplinary Program

B.S., (India), 1981; M.S., University of Pittsburgh (Pennsylvania), 1983; M.S., University of Alaska Fairbanks, 1987; M.S., University of Alaska Fairbanks, 1995

Thesis: Modeling of Depressurization and Thermal Reservoir Simulation to Predict Gas Production from Methane-Hydrate Formations

Gas hydrates represent a huge potential future resource of natural gas. However, significant technical issues need to be resolved before this resource can be economically produced. This work demonstrates the use of CMG STARS by coupling a kinetic and thermodynamic model to describe the hydrate dissociation and production techniques.

Major Professor: Dr. Gang Chen