Curriculum vitae

Personal Data

Name	Anupma Prakash
Current Position	Professor of Remote Sensing Geology & Geophysics Chair, Geophysical Institute (GI) Earth & Planetary Sc. Rem Sens Group Co-Chair, UAF Department of Geology & Geophysics (DGG) (Note: my appointment is 50% GI; 50% DGG)
Address	Geophysical Institute, University of Alaska Fairbanks 903 Koyukuk Dr., Fairbanks, AK, 99775-7320, U.S.A.
Phone	1-907-4741897
Fax	1-907-4747290
Email	prakash@gi.alaska.edu,
URL	http://www.gi.alaska.edu/~prakash
Languages	English (excellent); Hindi (mother tongue); German (Fair).

Education

1992 to 1996	PhD in Earth Sciences from University of Roorkee (India) Thesis title: *Remote Sensing - GIS based geoenvironmental studies in Jharia coalfield, India, with special reference to coalmine fires.*
1989 to 1991	MSc in Geology from Lucknow University (India).
1986 to 1989	BSc in Geology, Zoology and Botany from Lucknow University (India).

Teaching

Spring (even)	GEOS 458/658: Geoscience applications of GPS and GIS
Spring (odd)	GEOS 654: Visible and Infrared Remote Sensing
Summer	GEOS 595: GIS – GPS for Alaska Teachers or equivalent
Fall	GEOS 422: Geoscience Applications of Remote Sensing

Field Experience

September 2010	Pilgrim, Western Alaska, for geothermal exploration
August 2008	Tok, Interior Alaska, for ground validation of permafrost mapping
July 2008	Kaktovik, ANWR, Alaska North Slope for thermal airborne campaign
November 2007	Prudhoe Bay, Alaska North Slope, for lake gas sampling
August 2007	Delta Junction, Interior Alaska, for ground validation of permafrost mapping
May 2006	Jharia Coalfields, India, for FLIR data, gas and condensate samples
July 2005	Barrow, Alaska North Slope, for measurements on permafrost polygons
April 2005	Unuk River, SE Alaska, for thermal infrared airborne campaign
July 2004	Colville River, Alaska North Slope, for reconnaissance
June 2004	Healey, Interior Alaska, for taking coal fire gas and sublimate samples
April 2002	Livengood, Interior Alaska, for reconnaissance of DGGs training field site
June 2000	Tabernas, Spain to teach filed measurement techniques
November 1999	Guantanamo, Cuba, for geological mapping
August 1999	Brugge, Belgium, to teach introductory field measurements

November 1998	Balaghat, India, for geological mapping for mineral exploration
Aug – Sep, 1997	Ningxia, China, for coal fire studies
Nov 1994, 1995	Jharia, India, for coal fire studies

Students Supervised

As main supervisor (committee chair/co-chair)

Post Doc (2) / Research technician (1)

2011	Jordi Cristobal - Remote sensing based evapotranspiration mapping
2010-2011	Christian Haselwimmer - Geothermal Exploration
2009-2010	Chris Wyatt - Remote sensing based evapotranspiration estimation

Ph.D. (4)

Current	Derek Starkenburg (Co-supervisor - Javier Fochesatto, DAS)
Current	Erin Trochim (Co-supervisor - Doug Kane, INE)
Current	Jason T. Stolarski (Co-supervisor - Trent Sutton, SFOS)
Graduated in 2011	Santosh Panda

Masters (22)

Current	Stephanie Meggers (Co-supervisor - Andrew Seitz, SFOS)
Current	Arvind Chittambakkam
Current	Kate Schaefer
Current	Angelica Floyd (Co-supervisor - Dan Mann SNRAS)
Current	Matthew Balazs
Current	Pete Hickman (Co-supervisor - Dave Verbyla, NRM)
Current	Lila Tauzer (Co-supervisor - Abby Powell IAB)
Graduated in 2008	Kristin Papp, Sudipta Sarkar
Graduated in 2007	Jeff Green
Graduated in 2006	Thomas Oommen
Dropped in 2006	Erin Hess
Graduated in 2005	Antony Berthelote
Graduated in 2002	Chunqing Wang, Tilahun Kerse
Graduated in 2001	Christopher Duku, Simon Njuguna, Ebenezer Agyakwabadu, Santa Gilgonzalez, Mulumebet Yigletu, John Baga Arumba
Graduated in 2000	Kenya Nunez Cambra, Mongontsetseg Baldondarj

Undergraduates/ Summer interns (9)

Summer 2009	Christian Kienholz, Jessica Beres
Spring 2008	Robert Mikol
Summer 2006	Walter Cameron
Summer 2005	Eric Burger
Summer 2004	Stefan Gaston, Katherine Habermas
Fall 2003	Kristin Dean
Summer 2003	Christian Nielsen

As committee member since 2002 only (18 Masters; 6 Ph.D.)

Masters:	Courtney Kerney, Andrea Steffke, Steve Smith, Cynthia Peters, Kathy Smikrud; Dragos Vas; Jena Hecker, Rachael Puchrik, Jeff Perschbacher, Lisa South, Meghan Tillapaugh, Abigail Gleason, David Roon, Angela Ekstrand, Lisa South, Christine Woll, Cheryl Sanders
Ph.D.:	Reginald R. Muskett, Luo Huayang, Ken Papp (discontinued), and Stan Triebenbach (discontinued); Ashwani Raju (foreign); Chas Jones.

As foreign Ph.D. examiner (2)

Daniel Limpitlaw:	Joint Ph.D. between E University of Witwatersrand, Johannesburg, South Africa and ITC, the Netherlands.
Debashis Mitra:	Joint Ph.D. between University of Burdwan, India and ITC

Professional Experience

2009 to current	Professor at UAF Geology & Geophysics (50%); Geophysical Institute (50%)
2002 to 2009	Assoc. Prof. UAF Geology & Geophysics (50%); Geophysical Institute (50%)

Projects

<u>As Principal Investigator</u>:

- Department of Military & Veterans Affairs: Developing a Decision Support System for Emergency Management Services in the Fairbanks North Star Borough. $25,000
- Delaware State University: Enhancing Geographic Information System Education and Delivery through Collaboration: Curricula Design, Faculty, Staff, and Student Training and Development, and Extension Services (Prakash PI for UAF Subaward; Original grant through U.S. Department of Agriculture). Subaward value $ 47,951
- NASA EPSCoR: Estimating Spatio-Temporal Variability in Evapotranspiration in Interior Alaska Using Field Measurements, Modeling and Remote Sensing. $ 749,998 + $ 375,035
- USDI Geological Survey: Effects of Habitat Change on Fish Condition in Undeveloped Beaufort Sea Coastal Lagoons (Former PI: J. Margraf). $ 1,071,616
- U.S. Fish and Wildlife Service: Fish Stocks and Habitat Assessment of the near-shore Beaufort Sea (Former PI: J. Margraf). $ 763,711
- NASA: Characterizing Water Tracks in Headwater Drainage Basins of the Alaskan Arctic – Fellowship for graduate student. $101,405
- NASAs Alaska EPSCoR Program: Mapping Alaskan Arctic Surface Composition and Change Using Multispectral / Hyperspectral Remote Sensing. $ 40,000
- Alaska Space Grant Program: Establishing Baseline Data to Support Fairbanks Community Climate Observatory at Creamer's Refuge. $32,178 + $ 34,987.56
- City of Akutan: Thermal Infrared Data Analysis for Akutan Area. $ 19,991.00
- Bureau of Land Management: Arctic North Slope Natural Gas Hydrate Assessment and Exploration Project. $ 199,970

- University of Colorado: Ice Patch Geoarcheology and Cultural Ecology. Subcontract through UAF faculty Will Harrison. $ 11,017
- University of Alaska VPAA: Data Acquisition Instrumentation to Promote Student Based Research and Inquiry Based Learning. $17,950
- National Science Foundation OEDG: AMIDST: Attracting Minorities to Geosciences through Involved Digital Story Telling. $ 94,737
- George Mason University: Incorporating NASA data and geobrain technology in post-secondary research and education. $ 20,007
- Alaska Division of Geological and Geophysical Surveys: Remote Sensing Investigations for the Alaska Pipeline Corridor. $ 40,000
- Alaska Space Grant Program: Remote Sensing Investigations for the Alaska Pipeline Corridor – 1:1 contribution to the Industry partnership from DGGS: $ 40,000
- NASA and University Space Research Association funded module development for space based observations and data integration supporting the International Polar Year; and developing the ESSE Design guide chapter on data, tools and models. $ 27,500
- NASA and University Space Research Association program: Earth System Science for the 21st Century funded project entitled "Introduction to Geoinformatics for Earth System Science Education" $139,360
- Alaska Space Grant Program: Project for "Sequel educational CD and web site creation" $ 18,000
- Bureau of Land Management: Hyperspectral detection of pingos and other gas hydrate indicators in Alaska North Slope. $ 132,000
- Fire Trade LLC: Green house gas reduction and emission trading in the Jharia Coalfield, India. $ 8,600
- Alaska Space Grant Program: Promoting GIS – GPS in Alaska Schools. $17,600
- Alaska Space Grant Program: Generating education web site and CD for middle schools. $ 17,600
- Geographic Information Network of Alaska: Content development for learning resource. $ 5,700
- North Slope Borough School District: GIS and GPS instructional activities in the schools district. $ 2,355

<u>As Co-Investigator</u>: (second $ figure if present denotes matching funds)

- U.S. Fish and Wildlife Service: Togiak River Chinook Salmon Habitat Use and Genetic Analysis. $ 171,121
- Department of Energy: Validation of Innovative Exploration Techniques: Pilgrim Hotsprings, Alaska. $ 4,616,879
- Alaska Energy Authority: Pilgrim Hot Springs Geothermal Resource Assessment. $ 1,748,343
- Alaska Space Grant Program: Habitat change and avian communities as indicators of environmental change at Creamer's Refuge, Fairbanks, AK $19,999 + $20,000
- National Space Grant Program: University of Alaska Space Grant Program's year four proposal. $ 534,983 + $ 399,987

- NASAs National EPSCoR Program: Alaska's NASA EPSCoR Program. $400,000 + $400,000
- National Space Grant Program: University of Alaska Space Grant Program's year three proposal. $400,000 + $ 300,000
- National Space Grant Program: Augmentation for the Alaska Space Grant Program Geospatial Workforce Development Project. $168,000
- National Science Foundation GeoEd: Experiential Discoveries in Geoscience Education (EDGE). $285,215
- Department of Energy: Integrated geothermal exploration program for the Chena Hot Spring $1.3 million; UAF subcontract $ 48,088
- Mineral Management Service: Development of a Platinum exploration GIS database for the Goodnews Bay region, Alaska. $137,625
- National Space Grant Program: Geospatial Workforce Development. $100,000
- National Space Grant Program: Augmentation for the Alaska Space Grant Program FY04. $174,920

1998 to 2002 Assistant professor at the Geological Survey Division, International Institute for Geoinformation Science and Earth Observation (ITC), Enschede, The Netherlands; Responsibility: teaching (primary), research and consultancy

Projects

<u>As Principal Investigator</u>:

- PI of ITC for DLR-ITC project on "Remote Sensing investigations of coal mining areas in China" ~$300,000

<u>As Co-Investigator</u>:

- European Space Agency project on "ERS SAR interferometry to monitor ground deformation due to subsurface material transfer"
- Indian Institute of Remote Sensing - ITC project on mineral exploration
- European Unions INCO program funded project: "A Euro-Latin American Network on Environmental Assessment and Management (ELANEM)"
- European Research Network project for the application of "Geomorphology and Environmental Impact Assessment to Transportation System (GETS)"

1996 to 1998 Post-Doctoral Researcher at the Applied Geomorphological Survey Division, International Institute for Geoinformation Science and Earth Observation (ITC), Enschede, The Netherlands

Projects

<u>As Co-Investigator</u>:

- Dutch and Chinese Government collaborative project "Environmental Monitoring of Spontaneous Combustion in North China Coalfields"
- Western European Union project "Development of a multimedia tutorial on image and data fusion"

Referee for

International Journals:

- International Journal of Image and Data Fusion
- International Journal of Remote Sensing
- IEEE Transactions on Geoscience and Remote Sensing
- International Journal of Applied Earth Observation and Geoinformation
- International Journal of Coal Geology
- Journal of Volcanology
- Journal of Geography
- Journal of Environmental Engineering and Science
- Photogrammetric Engineering and Remote Sensing
- Terra Nova

National/Regional Journals:

- Asian Studies Review
- Publications of the Indian Geological Congress
- Journal of National Institute of Environmental Health Sciences

Funding Agencies:

- Indo-US Science and Technology Forum
- NASAs Solid Earth Program
- NASAs Earth Science Enterprise Education Product review
- NASAs ESSE21 program
- NASAs National Space Grant Research and Education Award program
- NASAs Earth Science Enterprise REASONCAN program
- NSF GeoEd Program
- NSF CyberInfrastructure Program
- NSF Office of Polar Program
- US Fish and Wildlife Service
- Volkswagen Stiftung (Germany)

Membership

Professional Societies:

- American Geophysical Union – Life member
- American Society of Photogrammetry and Remote Sensing
- Association of Women Geoscientists
- Geological Society of America
- Indian Geological Congress – Life member
- Indian Society of Remote Sensing – Life member
- National Association of Geoscience Teachers
- Sigma Xi, Alaska Chapter – Life member
- Alaska Geological Society

Working Groups:

- Member, NASA's Hyperspectral Infrared Imager (HyspIRI) Thermal Infrared Science Working Group (since 2007).
- Chair, Data Access Working Group for the Digital Library of Earth Science Education (DLESE) (2005-2007); member since 2004

- Member, Education Evaluation Working Group for ESSE21 (2005-2006)

Science Investigation Teams:

- Member, Science Investigation team for BIRD data, a satellite infrared sensor of the German Space Agency (1999-2005)
- Member, Science Investigation team for FOCUS, a planned satellite thermal infrared sensor of the German Space Agency (2003-2004)

Awards and Honors

2011	Honored at UAF author's reception for edited book Coal and peat fires: A global perspective, Volume 1, Coal- combustion and geology.
2011	Online curricula on Arctic sea ice selected for inclusion in the NSF Climate Literacy & Energy Awareness Network (CLEAN) collection.
2010	Terris and Katrina Moore Prize for outstanding research at the Geophysical Institute (first female recipient)
2009	Best Technical Paper Award to team for paper on CO_2 emissions from coalfires presented at the Annual International Coal Conference by Kolker.
2009	Promotion to the rank of Professor
2009	Faculty Bonus from UAF for establishing Geoinformatics program
2008	Recognition from UAF College of Natural Sciences and Mathematics for Excellence in Teaching
2006	Awarded Tenure as Associate Professor at UAF
2006	Teaching Excellence: Dean's Annual Recognition List
2003	On Top of the World: The Best Applications of 2003: For my GIS work for coal mine fire monitoring, I received a third place in this annual contest run by the *Geospatial Solutions* magazine.
1999	'Best of the Session' award at the Thirteenth International conference and workshop on Applied Geologic Remote Sensing, Vancouver, British Columbia, Canada
1996	First and second Khosla Research Prizes for research papers published in the International Journal of Remote Sensing.
1994 to 1996	Senior Research Fellowship of the Council of Scientific and Industrial Research (India).
1994 to 1995	Most Outstanding Scholar certificate of the Forum of Research Scholars at the University of Roorkee.
1992 to 1994	Junior Research Fellowship of the Council of Scientific and Industrial Research (India).
1991	Gold Medal from the Palaeontological Society of India.
1989	University Gold Medal for standing first in Geology, Zoology, Botany Group.

Research Publications

Several research articles in international refereed journals (see attached list).

Professional Service

- Associate Editor for International Journal of Image and Data Fusion (since 2009)
- Secretary & Treasurer, Coal Geology Division, Geological Society of America (2006-2009)
- Panel reviewer for 2 NSF panels and 6 NASA panels (since 2004)
- Frequent reviewer for several peer reviewed journals and funding agencies
- Mentor for TASK (Teaching Alaskans Sharing Knowledge) fellows (2005-2009)
- Local organizer and host, 2005 ESSE21 meeting of ~75 participants; and GIS training workshops for a consortium on minority-serving institutes (2003-2007)
- Convenor for several special sessions at professionals meetings of AGU; GSA; ASPRS and speciality conferences.
- Member of working groups for Data Access and HyspIRI science team;
- Member advisory board for UAFs NSF Advance program for women faculty recruitment, retention, and equity.

University Service and Governance

- Co-chair, UAF Department of Geology and Geophysics (since June 2011)
- Chair, UAF Geophysical Institute's Remote Sensing Group (since May 2011)
- Member, UAF Honorary Degree Selection Committee (since 2009)
- Member, UAF Graduate Academic Advisory Committee (2009-2011)
- Faculty Senate Alternate for CNSM (2009-2011)
- Member, DGGS graduate intern selection committee for Department of Geology and Geophysics (2008)
- Member Advisory Board for UAFs Faculty Development Program (since 2006)
- Co-chair Remote Sensing Group, GI Faculty Council (since 2006)
- Member University wide Exceptional Student Needs Committee (2006)
- Faculty Senate Member for CNSM (2004-2006)
- Member, University wide committee on Faculty Affairs (2004-2006)
- Member, Graduate Admissions committee for Department of Geology and Geophysics (2004; 2006)
- Member, Faculty Search Committees for Remote Sensing (2002-2003); and DGG (2010)
- Dean of students for ITC's geological resource management and environmental geology program (2000-2002)

Public Service in Professional Capacity

- Lectures and talks to school students, museum audience and general public (routinely)
- Newsletter Editor, Coal Geology Division, Geological Society of America (2006-2009)
- Instructor for Earth and Space Science Module for the Alaska Summer Research Academy (ASRA) (2007; 2008)
- Professional development workshops for Alaska school teachers (2004-2009)
- Served as judge for several local, district, and Alaska regional science fairs (since 2006)
- Gave several interviews to radio, news papers and magazines (see publication list)

- Designed and maintain a personal web site at www.gi.alaska.edu/~prakash. The coal fire section of this site is one of internets most comprehensive web site of coal mine fires (www.coalfires.net)
- Contributed routinely to GI/CNSM newsletters, remote sensing program flyer and poster
- Generated 3 web-based resources for undergraduate education (2005-2007)
- Generated 3 CDs and 4 web based educational product for middle schools (2003; 2006; 2008; 2009)
- Introduced GIS and GPS education in Alaskan Schools: Barrow (2003); Fairbanks Schools (2004; 2005; 2009); Teller and Nome (2008)