

# Anupma Prakash



**Professor, Geophysical Institute**

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Science and Mathematics (CNSM)**

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*"Don't give up. It [the environmental field] is worth it if you want to give something back to your community and the world." Anupma Prakash, 2006.*

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## Overview

Dr. Anupma Prakash is the Associate Dean for the College of Natural Science and Mathematics, and professor Geophysics at the Geophysical Institute at the University of Alaska-Fairbanks. Prakash research uses remote sensing and geographic information system (GIS) to map changes in the earth surface, to understand how the evolution of the Earth, and its future manifestation. Her selected publications include:

- Stracher, G.B., Rein, G., Prakash, A. and Sokol, E.V. (Eds.), *Coal and peat fires: A global perspective*, Volume 4, Peat – Geology, combustion, and case studies, (in preparation, expected publication in 2013-2014).
- Stracher, G.B., Prakash, A. and Sokol, E.V. (Eds.), *Coal and peat fires: A global perspective*, Volume 3, Case studies, (in preparation, expected publication in 2013).
- Prakash, A., Chapter 25 - World's densest congregation of coal mine fires: A case study of the Jharia Coalfield, India in *Coal and peat fires: A global perspective, Volume 3, Case studies*, edited by Stracher, G.B, Prakash, A. and Sokol, E.V. (expected publication in 2013).
- Haselwimmer, C. and Prakash, A., Chapter 17 - Thermal infrared remote sensing of geothermal systems in *Thermal Remote Sensing*, edited by Kuenzer, C., Springer and Praxis, ~500 p. (in review).
- Watson, I.M. and Prakash, A., Chapter 2 - Satellite systems and interactions in *Monitoring Volcanoes in the North Pacific: Observations from Space*, edited by Dean, K.J. and Dehn, J., Springer and Praxis, 500 p., ISBN: 978-3-540-24125-6.

*This interview was conducted in 2015.*

## **Early Life and Career**

Anupma Prakash has been fortunate enough to realize her dream of a career in the earth sciences - a dream that allows her to conduct international research while contributing to the betterment of her native country of India. Prakash says that she knew as she grew up that she wanted to work in education, preferably in a university setting. She studied and excelled at geology, botany and zoology at Lucknow University, India, and earned a master's degree in geology from the same university. While choosing what to focus on for her doctoral work at the Indian Institute of Technology - Roorkee, Prakash decided she wanted to study something that would bring tangible benefits to her community. "Coming from a developing country, I wanted to do something that wasn't just theoretical—something that would benefit India operationally," she says.

Prakash pursued geo-environmental studies with a dissertation research focus on the Jharia coalfield and the prevalence and impact of coalmine fires. As a post-doctoral researcher at the International Institute for Geo-information Science and Earth Observation (ITC) in the Netherlands, she went on to publish several papers about the problem of coalmine fires and the ensuing pollution. Those papers helped earn her a faculty job as assistant professor at ITC, where she served as the principal remote sensing scientist in a joint Chinese-Dutch governmental project examining coal mining areas in China. In 2002, Prakash got a position as an associate professor at the University of Alaska Fairbanks' Geophysical Institute where she splits her time equally between teaching and research. Her current research focus is on using satellite imagery and GIS techniques to study and monitor Arctic processes.

## **Importance of Mentoring to Career**

For Prakash, a career highlight has been the ability to learn, experience, mentor and be mentored in several different countries and cultures. "Having research exposure on three different continents has been amazing," she says. "I not only got to visit, but actually live and work in three completely different research, teaching, and living environments. It's been such a rich experience for me." Prakash has benefited from the mentorship of her doctoral advisor Dr. R. P. Gupta, who taught her how to do research, and Dr. J. L. van Genderen, with whom she worked in the Netherlands as a post-doctoral fellow. "He was a phenomenal mentor," Prakash says. "He is a really dynamic person who brought out the best in me, and provided me with international connections and exposure I never could have gotten in India. He also showed me that it's not just what you know, but who you know that's important."

## **Mentoring Others**

Prakash says the most significant achievement of her career so far has been playing a similar mentoring role to students in the field. "My ability to mentor so many different people from different communities and cultures, people who will be able to put their knowledge to good use

in those communities, means I've been effective," she says. At ITC Prakash mentored a number of students, nearly all of them from countries in the developing world. She is currently mentoring several graduate students and has already graduated one young man of Native descent. "I'm very happy that he is doing so well—he is on an academic track and wants to become a professor at a tribal college," Prakash notes. She has also worked on a National Aeronautics and Space Administration (NASA)-sponsored project to get students in minority communities involved in interdisciplinary sciences, and has received NSF funding to teach remote sensing to school teachers in rural Native communities. Although quite a change from anything she has experienced previously, Prakash says she has also come to enjoy what Alaska has to offer for living and researching. "Alaska is a place that really grows on you," she notes. "I really like it."

## **Advice to Young Professionals**

As for why she sticks with a career in the environmental field, Prakash says simply, "Because I love it. I just think that this is the field where all the investment in your academic upbringing really pays back to society. For me it is really important that I reach out to society through my work. I think it's the best repayment I can make for the taxpayers' dollars." Although following her career path has had its own challenges—for Prakash, the most difficult period was being separated from her husband while caring for their young child—she says the rewards of her work have far outweighed any temporary difficulties. For people like herself who want to give back to their communities and countries through work in the environmental field, Prakash has this advice: "Persevere. Don't give up...I sometimes see people getting lost and turning back midway. The perseverance is worth it if you want to do something for your community and the world. There are rough spots, but it will pay back."

## **For More Information**

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