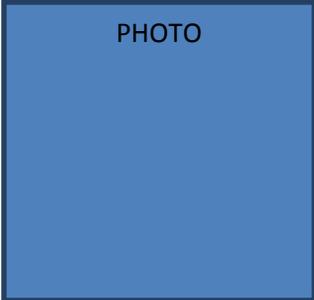


# Dr. Alak Bandyopadhyay

Associate Professor, Computer Science

PHOTO



## Contact Information

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## Education

B.S. (Mechanical Engineering), National Inst. Of Tech, Durgapur, India, 1985.  
M.S. (Mechanical Engineering – Computational Fluid Dynamics) Indian Inst. Of Technology, Kanpur, 1987  
Ph.D. (Mechanical Engineering, Computational Fluid Dynamics) University of Minnesota, 1993.  
21+ Graduate Courses in Computer Science, Syracuse University and Alabama A & M University

## Teaching

Intro to Programming – I & II  
Intro to Logic Design  
Switching Theory  
Theory of Algorithms  
Design and Analysis of Algorithms  
Computational Statistics  
Programming Languages  
Numerical Methods

## Research Interests

Algorithms and Numerical Methods  
Computational Modeling and Simulations  
Computational Fluid Dynamics and Applications  
Bioinformatics  
Cyber Security

## **Active Funded Projects**

1. NIFA Capacity Building, co PI with Food Science Department, Alabama A & M.
2. Energy Harvesting Research, Northrop Grumman Research Grant, Collaborator with Physics Department, Alabama A & M University.

## **Full list of publications**

### **Journal Papers**

1. G.K. Adil, V.R. Muppani, **A. Bandyopadhyay**, "A Review of Methodologies for Class-Based Storage Location Assignment in Warehouse", *Int. J. of Adv. Operations Management*, vol. 2, no. 3/4, 2010
2. Jian Fu, John H. Caulfield, and **Alak Bandyopadhyay**, "Pairing Mathematical Morphology with Artificial Color to extract targets from clutter", *J. of Image Science and Technology*, Vol.51, no. 2, Jan./Feb. 2007, pp 148-154.
3. **A.Bandyopadhyay**, B.V.Ramarao and S.Ramaswamy, "Transient Moisture Diffusion through Paperboard materials", *Colloids and Surfaces A, Physicochemical and Engineering Aspects*, vol.206, issues 1-3, July 2002, pp 455-467.
4. **A.Bandyopadhyay**, B.V.Ramarao and Eric C. Shih, "Transient Response of a Paper sheet subjected to a Traveling Thermal Pulse: Evolution of Temperature, Moisture and Pressure fields", *J. of Imaging Science and Technology*, Vol. 45, no. 6, November 2001, pp. 598-608.
5. **A. Bandyopadhyay**, H. Radhakrishnan, S.G.Chatterjee, and B.V.Ramarao, "Moisture Sorption Response of Paper subjected to Ramp Humidity Changes: Modeling and Experiments", *J. of Industrial and Engineering Chemistry Research*, vol. 39, no. 1, Jan 2000, pp 219-226.

### **Conference Papers**

1. **Alak Bandyopadhyay** and Neema Sumari, "Design and Development of a Secure Internet based Protocol to Control a Remote Solar Tracker", *ASEE Annual Conference*, San Antonio (2012)
2. **A. Bandyopadhyay**, B. Hamill, N. Ramachandran, and A Majumdar, "Network Flow Simulation of Fluid Transients in Rocket Propulsion Systems", *Proc., Joint Army, Navy, NASA, Air Force Modeling and Simulation Meeting*, December 2011.

3. B. Dasgupta, V. Florinski, G. Zank, **A. Bandyopadhyay**, K. Avinash, and J. Heerikhuisen, "Heliopause Instabilities Driven by Plasma Neutral Interaction: Linear Analysis from Fluid Model", American Institute of Physics Conference Proc., 1366, 77, 2011.
4. **Alak Bandyopadhyay** and Alok Majumdar, "Modeling of Compressible Flow with Friction and Heat Transfer using GFSSP", Thermal Fluid Analysis Workshop, hosted by NASA Glenn Research Center, Cleveland, September 2007.
5. S.Ramaswamy, S.Huang, A.Goel, A.Cooper, D.Choi, **A.Bandyopadhyay** and B.V.Ramarao, "The 3-D Structure of Paper and its relationship to Moisture Transport in Liquid and Vapor forms", 12<sup>th</sup> Fundamental Research Symposium, Oxford, September 2001, pp. 1289-1311.
6. S. Chairrekj, H. Gupta, W.S. Amato, **A. Bandyopadhyay**, B.V. Ramarao, "Deinking of Recycled Pulps using Column Flotation", ESPRA Research Report, no. 112, May 2000, pp. 96-114.
7. P.S.Ghoshdastidar and **A.Bandyopadhyay**, "Conjugate heat transfer in laminar pipe flow subjected to nonuniform radiation heat flux", Proceedings of ASME, National Heat Transfer Conference, Houston, Texas, 1988.

#### **Submitted & In Preparation**

1. Alak. Bandyopadhyay and Alok Majumdar. "Simulation of Fluid Transients in Rocket Propulsion Systems". (In Preparation)
2. Alak Bandyopadhyay, "Computation of Flow in Helical Pipes". (In Preparation)
3. Alak Bandyopadhyay. "Simulation of Contaminant Transport from Ground Water". (In Preparation)

#### **Technical Reports**

1. **Alak Bandyopadhyay**, "Implementation of Improved Heat Transfer Correlation in GFFSP for Two Phase Flow", NASA MSFC Summer 2012 Research Report.
2. **Alak Bandyopadhyay**, "Simulation of Water Hammer in Pipeline with entrapped air", NASA MSFC Report, 2010
3. **Alak Bandyopadhyay**, "Optimization of Algorithms for Simulation of Propellant Loading Systems", NASA Senior Design Project Report, funded by NASA Education Department, 2009-2010.
4. **Alak Bandyopadhyay**, "Compressible Flow Simulation using GFSSP", NASA MSFC Technical Report, 2006.

## **Professional Recognition/Awards**

1. University Gold Medalist for BS (Mechanical Engineering), 1985 from University of Burdwan (National Inst. Of Technology).
2. University Grant Commission, Government of India Research Fellowship, for MS study in Indian Institute of Technology, Kanpur, 1985-1987.
3. Research and Teaching Assistantship from University of Minnesota, 1988-1993.
4. NASA ESMD Faculty Fellowship, for developing Senior Design Course at Alabama A & M University, 2009-2010.

## **Other Activities**

### **Faculty Fellowship**

1. NASA Summer Faculty Fellowship, 2012, NASA MSFC
2. NASA Summer Faculty Fellowship, 2010, NASA MSFC
3. NASA Summer Faculty Fellowship 2006, 2007

### **Professional Membership**

1. Member IEEE Computer Society
2. Member ACM
3. Member AIAA
4. Member ASEE
5. Member Alabama Academy of Science