

## **1. Name: Abolghassem (Bob) Mahmoodi Ph.D.**

### **2. Education**

Ph.D. Electrical Engineering & Control Sciences, University of Minnesota, 1982  
MSEE, Electrical Engineering, University of Minnesota, 1978  
BSEE with Distinction, Electrical Engineering, University of Minnesota, 1976

### **3. Academic Experience**

University of Minnesota, Electrical and Computer Engineering, Adjunct/Extension Professor, Jan. 1988 – Present  
University of St. Thomas – Engineering Department , Adjunct Faculty 2012 – Present  
Normandale Community College, Bloomington, Minn., Adjunct professor, March 1979-March 1982

### **4. Non-academic experience**

3M, Imation Corp., Senior Engineering Specialist, July 2011-Jan. 2012 (Full time)  
3M, Building Services and Commercial Services, Division Safety & Security Market, Technical Supervisor, Jan. 2002 - June 2011 (Full time)  
3M, New Product Lab I and C Market Center, Technical supervisor, Sept 1996-Dec. 2001 (Full time)  
3M, Corporate Research Lab, Patent Liaison Specialist, May 1994-Aug1996 (Full time)  
3M, Medical Imaging System Division, Electrical Engineering Specialist, Sept. 1989 - April 1994 (Full time)  
3M, Graphic Research Lab, Research Specialist, Jan 1984-August1989 (Full time)  
3M, Graphic Research Lab, Senior Electrical Engineer, March 1982-Dec. 1983 (Full Time)  
Honeywell, Defense Systems Division, Systems Engineer, Jan 1979-Feb1982 (Part Time)

### **5. Certifications or professional registrations**

### **6. Current membership in professional organizations**

- Member of the ACR-NEMA (American College of Radiography - National Electronic Manufacture Association) Committee on Image Compression & Coding Standards
- Past Chairman of IEEE Twin Cities Chapter of Acoustic Speech & Signal Processing, 1989-1990

### **7. Honors and Awards**

- 3M Circle of technical excellence corporate award 2010.

### **8. Service activities**

- 3M Tech Forum Imaging Chapter secretary, vice chair & chair 1986 – 1988

- IS&T Conference Chair on Electronic Imaging Symposia May 1991
- ICASSP Committee Member for 1993 International Conference of IEEE Acoustics Speech & Signal Processing

## 9. Publications and Presentations

### Papers

Paper presentation at 3M Tech forum fall symposium: 1985, 1988, 1992, 1998, 2004, 2006, 2010 (sensor chapter tech forum)

Paper presentation at Graphic Sector World Wide Conferences: 1987, 1989, 1990.

### Publications, Presentations

“Image Transmission & Compression,” Chapter 11 of Imaging Process & Materials

Neblette's 8th edition 1989. R.E. Grant A.B. Mahmoodi & O.L.Nelson

"Optimal Target Detection in Variable Clutter" 20th IEEE Conference On Decision & Control Dec 1981. A.B. Mahmoodi & M.K. Sundareshan.

"Signal Processing Consideration for a Millimeter Wave Seeker "

27th SPIE International Symposium Aug 1983. A.B. Mahmoodi & M. Kaveh.

“A Real Time Adaptive Target Detection Algorithm for an Airborne Millimeter Wave Seeker,” 27th SPIE International Symposium

Aug 1983. A.B. Mahmoodi & M. Kaveh

“An Adaptive Contrast & Edge Enhancement Technique Based On Unsharp-Masking,” SPIE Medicine XII Conference Feb 1984. A.B. Mahmoodi & O.L. Nelson

“Image Enhancement in Four Color Printing Process,” SPSE International Conference, May 1986

“Adaptive Image & Text Enhancement & its VLSI Implementation” IS&T International Conference May 1992. A.B. Mahmoodi

“Multi kernel Image Expansion Algorithm for Printing Text & Image Information “TAGA Conference April 1992. A.B. Mahmoodi

“Print vs film quality in medical imaging application” Care stream technologies .Expert Consultant Paper June 2013.

### **Patents (Seven US patents)**

“Method of image enhancement by raster scanning ” US patent 4,571,635, 1986

“System and method for adaptive image interpolation of image data” US patent 5,774,601 ,1994

“Projection display system using diffuse polarizer” US patent # 6,992,822 ,2006

“Monitoring of frying oil quality using combined optical interrogation method & devices” US patent # 8,257,976 2012

“Hand Hygiene Delivery System” utilizing biometric sending system US patent # 8,299,896 , 2012

“Method & devices for monitoring Oil quality” US patent # 8,325,345 Dec 2012

“Method and devices for acquiring an oil sample and monitoring the quality “ US patent #8,829,928, 2013