

## Professor Bongtae Han

Dr. Bongtae Han received his BS and MS degrees from Seoul National University and his Ph.D. degree in Engineering Mechanics from Virginia Polytechnic Institute & State University in 1991. He is currently an Associate Professor of the Mechanical Engineering Department of the University of Maryland at College Park and one of Research Directors at CALCE Electronic Products and Systems Center, directing the Laboratory for Opto-Mechanics and Multi-layer Systems. His research interest is centered on design/process optimization of microelectronics devices for optimum mechanical reliability. His previous professional industrial career includes Advisory Engineer at IBM Microelectronics (1992-1996).

Dr. Han is responsible for development of Portable Engineering Moiré Interferometer, and holds a related patent. He has co-authored a text book entitled "High Sensitivity Moiré : Experimental Analysis for Mechanics and Materials", Springer-Verlag, 1994. He edited two books and has published over 90 journal and conference papers in the field of microelectronics and experimental mechanics.

He served as an Executive Board Member and the Chairman of the Electronic Packaging Division of the Society for Experimental Mechanics (SEM). He served as an Associate Technical Editor for the international journal, *Experimental Mechanics*, from 1999 to 2001 and is currently serving as an Associate Technical Editor of *Journal of Electronic Packaging*, Transaction of the ASME. He holds a membership in ASME, IEEE, IMAPS and SPIE.

He received the *IBM Excellence Award for Outstanding Technical Achievements* in 1994. He was a recipient of the *2001 Brewer Award* at the Annual Conference of the SEM in Emerging Technologies for his contributions to experimental characterization of microelectronics devices.

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### **EDUCATION**

Ph.D., Virginia Polytechnic Institute and State University, 1991, Engineering Mechanics

M.S., Seoul National University, 1983, Rock Mechanics

B.S., Seoul National University, 1981, Mineral and Petroleum Engineering

### **PROFESSIONAL EXPERIENCE**

1999–Present	Associate Professor and Research Director of LOMS, CALCE Electronic Products and Systems Center, Department of Mechanical Engineering, University of Maryland,
1996–1999	Assistant Professor, Mechanical Engineering Department, Clemson University
1995–1996	Advisory Engineer, Microelectronics Division, IBM
1992–1995	Development Staff Member, IBM Microelectronics Division, IBM

1991–1992      Research Scientist, Engineering Science and Mechanics Department, Virginia Polytechnic Institute and State University

### ***DISTINCTIONS***

1. Member of Phi Kappa Phi, Honor Society
2. IBM Excellence Award for Outstanding Technical Achievements, 1994.
3. Brewer Award, Outstanding Experimental Stress Analyst, Society for Experimental Mechanics, 2001

### ***EDITORSHIP***

**Associate Technical Editor**, International Journal “Experimental Mechanics”, 1998-2001.

**Associate Technical Editor**, Journal of Electronic Packaging, Transaction of ASME, 2004-.

**Reviewer**, Journal of Electronic Packaging (Transaction of ASME), IEEE Transactions on Components and Packaging Technologies, IEEE Transactions on Advanced Packaging, Experimental Mechanics, Experimental Techniques, Applied Optics, Optical Engineering, Optics and Lasers in Engineering, Journal of Composite Materials, American Society of Testing and Materials (ASTM).

**External Examiner for PhD Candidate**, Nanyang Technological University, Singapore, 2001

### ***PATENT***

"Portable Engineering Interferometer and Corresponding Moiré Interferometric Method", US Patent No. 5,898,486, April 27, 1999.

### ***TEACHING***

#### **Courses Taught**

##### **Undergraduate Courses:**

Statics, F99  
Mechanics of Materials, F96, S96, F97, S98, F02  
Mechanical Engineering Laboratory II, F98

##### **Graduate Courses:**

Theory of Elasticity, F97, F98  
Experimental Photomechanics, S98  
Experimental Stress Analysis, S00, S02  
Mechanical Fundamentals of Electronic Systems, F00, F01  
Experimental Characterization of Micro- and Nano-Structures, S01, S03

## ***PROFESSIONAL SERVICE***

### **Memberships**

1. Member, Society for Experimental Mechanics, SEM (1986–)
2. Member, American Society of Mechanical Engineers, ASME (1992–)
3. Member, Institute of Electrical and Electronics Engineers, IEEE (1998–)
4. Member, International Society for Optical Engineering, SPIE (1998–)
5. Member, International Microelectronics and Packaging Society IMAPS (1998–)
6. Member, Korean-American Scientists and Engineers Association (1991–)
7. Member, Korean American University Professors Association (1996–)

### **Offices**

1. **Chair**, Electronics Packaging Division, Society for Experimental Mechanics, ('94–'98)
2. **Executive Board Member**, Society for Experimental Mechanics, '97–'99
3. **Secretary General**, Korean American University Professors Association ('00–)
4. **Member of Technical Council**, Korean-American Scientists and Engineers Association ('01–)

### **Conference/Symposium Organization**

1. **Symposium Chair**, "The 1<sup>st</sup> International Symposium on Optical Methodologies and Metrologies for Microelectronics and Photonics," Sponsored by the SEM, Hilton Costa Mesa, Costa Mesa, CA (June 2004).
2. **Symposium Chair**, "The International Symposium on Recent Developments of Experimental Mechanics," 1999 ASME Summer Annual Meeting, Sponsored by the ASME, Blacksburg, VA (June 1999).
3. **Symposium Vice-Chair**, "The 2<sup>nd</sup> International Symposium on Experimental/Numerical Mechanics in Electronic Packaging," Sponsored by Society for Experimental Mechanics, Seattle, WA (June 1997).
4. **Symposium Chair**, "The First International Symposium on Experimental/Numerical Mechanics in Electronic Packaging," Sponsored by Society for Experimental Mechanics, the American Society of Mechanical Engineers, the IEEE CPMT Division, the Japanese Society of Mechanical Engineers, and the Korean Society of Mechanical Engineers, Nashville, TN (June 1996).
5. **Symposium Chair**, "1995 Symposium on Moiré Interferometry: Theory, Practice and Applications to Structural Composites," Sponsored by the 10<sup>th</sup> International Conference on Composite Materials (ICCM) and IBM, Whistler, Canada (August 1995).
6. **Symposium Chair**, "1995 SEM Symposium on Experimental Mechanics in Electronic Packaging," Sponsored by Society for Experimental Mechanics and the American Society of Mechanical Engineers, Grand Rapids, MI (June 1995).