

## Yong-Kyu “YK” Yoon

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### EDUCATION

- Ph.D** Georgia Institute of Technology, GA, USA, 2004  
Major: Electrical and Computer Engineering  
Dissertation: Micromachined Components for RF Systems
- MS** New Jersey Institute of Technology, NJ, USA, 1999  
Major: Electrical and Computer Engineering  
Thesis: Integrated Barcode Scanner with Combined CMOS and MEMS Technology
- MS** Seoul National University, Seoul, Korea, 1994  
Major: Electrical Engineering  
Thesis: Study of Induction-type Micro Electrohydrodynamic (EHD) Pump using Temperature Gradient
- BS** Seoul National University, Seoul, Korea, 1992

### EMPLOYMENT

- University at Buffalo, The State University of New York**, Buffalo, NY  
Assistant Professor, Department of Electrical Engineering, Aug. 2006 – Present  
Director, **Multidisciplinary nano and Microsystems Laboratory**,  
Aug. 2006 – Present  
Member, Integrated Nanostructured Systems (INS) strategic strength  
Jan. 2007 – Present
- Stony Brook University, The State University of New York**, Stony Brook, NY  
Visiting Assistant Professor, Department of Electrical Engineering,  
Aug. 1, 2007 – Present
- Georgia Institute of Technology**, Atlanta, GA  
Postdoctoral Fellow, Electrical and Computer Engineering, May 2004 – Aug. 2006
- Georgia Institute of Technology**, Atlanta, GA  
Graduate Research Assistant, Electrical and Computer Engineering,  
Aug 1999 – Apr. 2004
- New Jersey Microsystems**, Newark, NJ

Staff engineer for VLSI and MEMS design,

July 1998 – Aug. 1999

**Seoul National University**, Seoul, Korea  
Graduate Research Assistant,

Mar. 1992 – Apr. 1994

## AWARDS and HONORS

**Faculty Early Career Development (CAREER) Award from National Science Foundation (NSF)**, “RF/Microwave components and devices using micro-/nano machined metamaterial,” January 24, 2008

**Best Poster Paper**, Y. Zhao, Y.-K Yoon, and M.G. Allen, “Metal-Transfer-Micromolded RF Components for System-On-Package (SOP),” in the 57<sup>th</sup> Electronic Components and Technology Conference (ECTC), Reno, Nevada, 2007, The award will be presented at 58 ECTC in Lake Buena Vista, Orlando, FL on May 28<sup>th</sup>, 2008

**Graduate poster competition (3<sup>rd</sup> place)**, Jungkwun Kim, Sungyong Cha, and Yong-Kyu Yoon, “Automated Dynamic Mode Multidirectional UV Lithography for Complex 3-D Microstructures,” in the Electrical Engineering Department of University at Buffalo, March, 2008

**Interview with Reporter, UB’s weekly newspaper**, “Exploring micro, nanoscopic world,” vol. 38, no. 25, March 1, 2007

**Award of Excellence in Graduate Polymer Science Research**, “Enhanced wettability polymer micromolding by 3-D metal transfer process,” in the 231<sup>st</sup> American Chemical Society, Atlanta, GA, March 26-30, 2006, co-authored the paper.

**Invited Interview: ‘60 seconds with...’** Institute of Physics (IOP) Electronic Journal Website, April 21, 2006

**JMM’s Featured Article**, “Low-loss microelectrodes fabricated using reverse-side exposure for a tunable ferroelectric application,” *Journal of Micromechanics and Microengineering*, vol. 16, no. 2, 2006, pp. 225-234  
selected as Highlights of JMM in 2006

**JMM’s Featured Article and IOP Select**, “Embedded Conductor Technology for Micromachined RF Elements,” *Journal of Micromechanics and Microengineering*, vol. 15, no. 6, 2005, pp. 1317-1326  
selected as Highlights of JMM in 2005

**Student Paper Contest Award**, IEEE International Microwave Symposium Jun. 2003, Philadelphia, PA, USA, “A Reduced Intermodulation Distortion Tunable Ferroelectric Capacitor: Architecture and Demonstration,” (2<sup>nd</sup> place)

**Student Poster Competition Award**, Industrial Advisory Board Meeting at Georgia Tech Packaging Research Center, Feb. 2003, Atlanta, GA, USA, “An Active Cooling Substrate for IC Thermal Management,” (2<sup>nd</sup> place)

### **Student Travel Award:**

Solid State Sensors, Actuators, and Microsystems Conference (Transducers 2001), Munich, Germany

Solid State Sensors, Actuators, and Microsystems Conference (Hilton Head Conference 2002), Hilton Head, SC, USA

IEEE MEMS Conference (2003), Kyoto, Japan

IEEE MEMS Conference (2004), Miami, FL, USA

Solid State Sensors, Actuators, and Microsystems Conference (Transducers 2005), Seoul, Korea

Solid State Sensors, Actuators, and Microsystems Conference (Hilton Head Conference 2006), Hilton Head, SC, USA

**Alumni Scholarship Award for Academic Achievement**, New Jersey Institute of Technology, Spring 1998: GPA 4.0/4.0

**Scholarship Award**, Department of Electrical Engineering, Seoul National University: Fall 1989, Spring 1990, Fall 1990, and Spring 1991

## **INVITED TALKS, PRESENTATION, and SEMINAR**

“RF/Microwave Research at UB,” Syracuse Research Corporation Visitor, 217A Bonner, University at Buffalo, the State University of New York, March 07, 2008

“Micro/Nano- Machined Polymeric Biomedical Devices and Systems,” Integrated Nanostructured Systems (INS) Nano/Biotechnology Workshop, UB, June 11, 2007

“Micro/nano Fabrication and Multidisciplinary Research,” the First Annual Integrated Nanostructured Systems Workshop – Multifunctional Nanomaterials and Nanodevices, University at Buffalo, the State University of New York, May 18-19, 2007

“Micro/nano fabrication and multidisciplinary research,” Physics Department Seminar of the University at Buffalo, the State University of New York, March 20, 2007

“Metamaterial and its RF applications,” Electrical Engineering Graduate Seminar of the University at Buffalo, the State University of New York, March 9, 2007

“Multidisciplinary nano and MEMS Research @ UB,” The Ewha Womans University, Seoul, Korea, Jan. 27<sup>th</sup>, 2007

“Micromachined Components for RF Systems,” The Kwangwoon University, Seoul, Korea, Jan. 26<sup>th</sup>, 2007

“Multidisciplinary nano and MEMS Research,” Graduate Seminar at the University at Buffalo, the State University of New York, September 22, 2006

“Bio and RF Applications of MEMS and Nanotechnology,” The University of Waterloo, Waterloo, Canada, Mar. 2006

“Bio and RF Applications of MEMS and Nanotechnology,” The State University of New York at Buffalo, Feb. 2006

“Multidimensional Lithography and Its Application to Advanced Three-Dimensional (3-D) Surface Micromachined Structures,” University of Louisville, KY, Aug. 2005

“Integrated Vertical Screen Microfilter and Micromixer System Using Inclined SU-8 Structures”, Small Talk 2003 in *The microfluidics, microarrays and bioMEMS conference*, San Jose, Jul. 13-16, 2003

“Integrated Vertical Screen Microfilter System Using Inclined SU-8 Structures”, Seoul National University, Feb. 2003

## **PATENTS**

Jin-Woo Park, Paul Florent Cros, Mark Allen, and **Yong Kyu Yoon**, “Methods for Manufacturing Inductor Cores,” U.S. Patent 7,140,092 B2, Nov. 28, 2006

**Yong-Kyu Yoon**, Mark G. Allen, et al. "Surface Micromachined Millimeter-Scale RF System and Method," U.S. Patent 7,196,666, Mar. 27, 2007

Mark R. Prausnitz, Jung-Hwan Park, Mark G. Allen, **Yong-Kyu Yoon**, and Jin-Woo Park, "Methods and Devices for Thermal Treatment," Publication number: WO/2006/004595, Publication Date: Dec. 01, 2006, International Application No.: PCT/US2005/019035, International Filing Date: May 31, 2005, European Patent Office notification (Aug. 1, 2007)

Mark G. Allen, Mark Prausnitz, **Yong-Kyu Yoon** et al. "Electrical Conductivity Layer Patterning for Electrically Functional 3-D Structures," applied for provisional filing

Mark R. Prausnitz, Mark G. Allen, **Yong-Kyu Yoon**, and Jung-Hwan Park, "Methods and Devices for Delivery to Skin and Other Application," applied for provisional filing

## **PROFESSIONAL AFFILIATIONS**

AcademicKeys Who's Who in Engineering Higher Education (WWEHE): 2007 -  
Membership of IEEE

Membership of ASME

Student membership of ACS: 2003-2004

Student membership of KIEE: 1992-1994

Honorary society Alpha Epsilon Lambda (AEL)

Honorary society Sigma Xi ( $\Sigma X$ )

## **SERVICES**

### **University Service**

Graduate Faculty of the University at Buffalo in the category of Member: appointed on March 13, 2007

Participant in SUNY Bachelor's-Level Electrical Engineering (BEE) Online program supported by three SUNY campuses: Buffalo, Binghamton, and Stony Brook

Attendee for UB Alumni Event "Building the Path to Success: UB and Moog, Inc." March 14, 2007

Participant in the nano device team for New York State Center of Excellence (CoE) in Bioinformatics and Life Sciences from Dec. 2006

Contributor to ordering the CoE cleanroom equipment, Jan-2007 - present

### **College/School Service**

Coordinator of the cleanroom committee for the new engineering building with Perkins + Will, March 2008 - present

Attendee for new engineering building cleanroom meetings with Perkins + Will (March 26<sup>th</sup>, April 23<sup>rd</sup> 2008)

Attendee for new engineering building meetings with Perkins + Will (July 11, July 31, Aug. 1, Aug. 15, 2007)

Committee member of cleanroom design for the new engineering building: preparation of a cleanroom floor plan schematic and an equipment wish list

### **Departmental Service**

Initiator and proposer of a new education cleanroom, Fronczak 210D Rehab, Project 2008-099

Participator in EE Open House, Oct. 20<sup>th</sup>, 2007: Demonstration of a line follower and optoelectronics circuitry with photodiode and photodetector

Graduate seminar coordinator, Aug. 2007 – Dec. 2007

Graduate admission committee in the Department of Electrical Engineering, the University at Buffalo, Aug. 2006 – present

Attendee for an educational cleanroom meeting with Dean, Chair, Prof. Strasser: preparation of a meeting material

### **Community Service**

IEEE Buffalo section board member (July 2007 - )

- Arrangement of Greatbatch Inc. Tour (Nov. 15<sup>th</sup>, 2007)

Referee, IOP Nanotechnology, 2007, 2008

Adjudicator and referee, Journal of Micromechanics and Microengineering (JMM), 2005, 2006, 2007, 2008.

Referee, ASME International Mechanical Engineering Conference and Exhibition (IMECE), 2006.

Reviewer, IEEE Transaction on Automation Science and Engineering, 2007.

NSF Panelist and reviewer, Organic Power Device, Washington DC, National Science Foundation, May 29-30, 2007

Initiating member for the Center of RF/Microwave Engineering (CoRE) in the EE department of UB. (<http://www.ee.buffalo.edu/CORE/>) (September 26<sup>th</sup>, 2007)

MS thesis committee: Rajagopal Panchapakesan Aug. 2007

MS thesis committee: Nicolas Phaan (ENSEA, France) Aug. 2007

ME project committee: Roger Korsh: Effects of printed circuit board configurations on radiated emissions, Dec. 12, 2007

MS thesis committee: Apra Pendey: Detection of Biopotential on the Surface of Fertilized Eggs, Jan. 08, 2008

## **TEACHING**

### **University at Buffalo, The State University of New York**

**Spring 2008: EE 353** Electronics Circuits Laboratory, 3 credits

**EE 589** Individual Problems, 3 credits

**EE 599** Master's thesis

**EE 699** Dissertation

**Fall 2007: EE 401/569** RF/Microwave Circuit 1, 3 credits

**EEO 401** RF/Microwave Circuit, 3 credits: on-line lecture

**EE 589** Individual Problems, 3 credits

**EE 599** Master's thesis

**EE 699** Dissertation

**Summer 2007: EE 499** Independent study

**Spring 2007: EE 353** Electronics Circuits Laboratory, 3 credits

**EE 589** Individual Problems, 3 credits

**EE 599** Master's thesis

**EE 699** Dissertation

**UE 141** Topical lecture on March 21, 2007, "Organic nanofiber and its application"

**Fall 2006: EE 401/569** RF/Microwave Circuit 1, 3 credits

**EE 589** Individual Problems, 3 credits

### **Georgia Institute of Technology**

ECE/ChE 4752 Microelectronics Processing Laboratory, topical lecture, Fall 2003

Electroless Plating Process, Supervisor of undergraduate research, May 2003 – Dec. 2003

High-aspect-ratio Micromolding and 3-D Metal Transfer Process, Supervisor graduate research Aug. 2004 – May 2005

Electromagnetics RF MEMS Research Group, Group leader, May 2003 – Aug. 2006

Micromolding Group, Group leader, Aug. 2004 – Aug. 2005

### **Seoul National University**

Engineering mathematics, Electromechanical dynamics, Teaching Assistant, 1993-1994

High school mathematics and English, Tutor, Nov. 1995 – Feb. 1997

## **RESEARCH SUPERVISION**

### **Postdoctoral Scholars:**

**Dr. Tae-Soon Yun:** Postdoctoral Fellow, Korea Research Foundation postdoctoral support, (Oct. 1, 2007 – Sep. 30, 2008), Research on Micromachined RF component for millimeter wave applications and metamaterial applications

**Dr. Kyoung Tae Kim:** Postdoctoral Fellow, Korea Research Foundation postdoctoral support (Jan. 2<sup>nd</sup>, 2008 – Dec. 31<sup>st</sup>, 2008), Research on Ferroelectric material and its RF application, and nano composites for biomedical applications

### **Graduate students:**

#### **Current Students**

**Jung Kwun Kim:** PhD program (Jan. 2007 – present), Teaching Assistantship (Aug. 2007 – May 2008), Research Assistantship (June 2008 – Aug 2008), Research on Three-dimensional micro/nano fabrication and its RF and Bio applications

**David Senior Elles:** PhD program (Aug. 2007 – present), Fulbright scholarship and UB EE departmental tuition scholarship, (Aug. 2007 – present), Student Assistantship

(Fall 2007 – Spring 2008), Research on Micromachined metamaterial and its RF applications

**Hongsub Jee:** PhD program (Aug. 2007 – present), Teaching Assistantship (Jan. 2008 – May 2008), Research Assistantship (June 2008 – Aug. 2008), Research on Gold nanoparticle, nano composite using electrospinning, and interference lithography

**Eric Kozarsky:** PhD program (May 2008 – present), Co-advising him with Dr. Esther Takeuchi, Research on micro battery design and fabrication

**Pit Fee Jao:** Master's program, (Jan. 2007 – present), Student Assistantship (Fall 2007, Spring 2008), Master's thesis on Gradient microfluidic mixer and its application to implantable biodegradable scaffolds

**Sung Yong Cha:** Master's program, Korea Army sponsored scholarship, (Jan. 2007 – present), Student Assistantship (Spring 2008), Master's thesis on Air-lifted monopole driven reflector antennas

### **Past Students**

**Parithimalar Gopal:** Master's program, (Jan. 2008 – May 20, 2008), Individual problem study on RF coupler using Complementary Split Ring Resonator (CSRR) and metamaterial, NASCENTechnology Inc. (Aug. 2008 - )

**Preethi Gorur Krishnamurthy:** Master's program, (Jan. 2008 – May 20, 2008), Individual problem study on RF coupler using lumped element based left-handed transmission line

**Ralson Comb:** PhD program, Schomberg fellowship and Moog fellowship, (Aug. 2007 – Dec. 2007), Research on Electromechanically tunable monopole antenna for ultra wide band (UWB) applications, Currently with Lockheed Martin

**Mohammed Asim Hafeez:** Master's program, (Jan. 2007 – Feb. 1, 2008), Individual problem study on High frequency (13.56MHz) induction heating system for wireless microheating

**Nicolas Phaen:** Intern from Ecole Nationale Supérieure de l'Electronique et de ses Applications (ENSEA), France, (Apr. 25, 2007 – Sep. 30, 2007), Research on Lumped-element based metamaterial approach for RF components

**Vincent Foo:** UB MS graduate intern, (June 2007 – Feb. 2008), Research on rectenna and RF sputtering system setup

### **Undergraduate students:**

#### **Current students:**

**Erik Zavrel:** Undergraduate Research, (April, 2008 – present), work on bio fuel cell and wireless energy transfer

**Chang Feng Jiang:** Undergraduate Research, (April, 2008 – present), work on a microfluidic system

**Matthew Cohen:** Undergraduate Research, (April, 2008 – present), work on alternating thin film electrodeposition

**Marcia Torrico:** Undergraduate Research, (April, 2008 – present), work on conductor roughness and its effect to RF loss

**Clifford Chen:** Undergraduate Research, (April, 2008 – present), work on nano fiber fabrication

**Past students:**

**Azeem Hassan:** Undergraduate, (June 1, 2007 – Aug. 31, 2007), Independent study on inductor coil design and fabrication for high frequency (400 kHz – 700 kHz) induction heating system

**Undergraduate Capstone design (EE 494) supervision** on Wireless energy harvesting using a rectenna for wall clock operation (Witricity), Ryan McCombs, Jesse Evers, John Hallauer

**Undergraduate Capstone design (EE 494) supervision** on Wireless signal transfer for automobile reverse image monitoring, David Cadigan, Constantine Kapatos, and Maria Bucukovska

**Outreach:**

Mentor in 2007 BEAM/SEAS Honors Research Summer Program: Buffalo-area Engineering Awareness for Minorities (BEAM), (July 10<sup>th</sup> – Aug. 9<sup>th</sup>, 2007)  
Winston Liu: 12<sup>th</sup> grade, Saint Francis High School

**GRANTS**

**National Science Foundation (NSF)**, “MRI: Acquisition of a Dual Beam Electron Beam/Focused Ion Beam System for Research and Education,” Co-PI, (PI: Gottfried Strasser, Other Co-PI’s: Andrea Markelz, Joseph Gardella): Pending

**EEO 401 RF/Microwave Circuit (3 credits):** on-line course development, Awarded from SUNY systems

**The Center of Industrial Effectiveness (TCIE)** sponsored program, Trek Inc., “UB Lab RF signal generator usage,” Oct. 2007 – Nov. 2007 (8 hours), Co-PI (PI: James W. Whalen): Awarded

**National Science Foundation (NSF) CAREER proposal**, “RF/microwave components and devices using micro-/nano machined metamaterial,” 2/1/08-1/31/13, PI (100%): Awarded on Jan. 24<sup>th</sup>, 2008 (ECCS-0748153)

**UB Interdisciplinary Research Development Foundation (IRDF) proposal**, “Micromachined implantable gradient scaffold for guided SGN cell culturing,” 7/1/07 – 7/1/08, PI (50%): Funded

**EmTech Bio Seed Grant**, “TransThermal Drug Delivery,” 7/1/05 – 6/30/06, Co-investigator (PI: Mark Prausnitz): Funded

**EmTech Bio Seed Grant**, “TransThermal Drug Delivery,” 7/1/06 – 6/30/07, Co-investigator (PI: Mark Prausnitz): Funded

**Tyco Healthcare Group**, “Thermally enhanced transdermal drug delivery,” 1/09/06 – 1/08/07, Co-investigator (PI: Mark Prausnitz): Funded

## PUBLICATIONS

### Journal Papers (Peer Reviewed):

1. A.P. Zhang, R. Burzynski, Y.-K. Yoon, P. Prasad, and S. He, "Double-Layer Fabrication Scheme for Large-Area Polymeric Photonic Crystal Membrane on Silicon Surface by Multi-Beam Interference Lithography," *Optics Letter*, accepted (April 25, 2008)
2. X. Wu, G. Yuan, Y.-K. Yoon, and M.G. Allen, "Kinematically Stabilized Microbubble Actuator Array," *Journal of Microelectromechanical Systems (MEMS)*, vol. 17, no. 1, pp. 124 – 132, 2008
3. J.-H. Park, S.-O. Choi, R. Kamath, Yong-Kyu Yoon, M.G. Allen, and M.R. Prausnitz, "Polymer particle-based micromolding to fabricate novel microstructures," *Biomedical Microdevices*, vol. 9, no. 2, 2007, pp. 223 – 234
4. J.-H. Park, Yong-Kyu Yoon, S.-O. Choi, M.R. Prausnitz, and M.G. Allen, "Tapered Conical Polymer Microneedles Fabricated Using Integrated Lens Technique for Transdermal Drug Delivery," *IEEE Trans. Biomedical Engineering*, vol. 54, no. 5, 2007, pp. 903-913
5. B. Pan, Yong-Kyu Yoon, J. Papapolymerou, M. Tentzeris, and M. Allen, "Analysis and Characterization of a High Performance Ka-band Surface Micromachined Elevated Patch Antenna," *IEEE Antenna and Wireless Propagation Letters (AWPL)* vol. 5, no. 1, 2006, pp. 511 – 514
6. S. Choi, S.-H. Kim, Yong-Kyu Yoon, and M.G. Allen, "A Magnetically Excited and Sensed MEMS-Based Resonant Compass," *IEEE Trans. Magnetics*, vol. 42, no. 10, 2006, pp. 3506-3508
7. Wenjing Ye, Yong-Kyu Yoon, and Mark G. Allen, "Theoretical Investigation of Gas Separation in a Micro Channel by Thermal Diffusion," *Engineering Analysis with Boundary Elements (EABE)*, vol. 30, no. 11, Nov. 2006, pp. 1006 – 1010
8. Yong-Kyu Yoon, Jung-Hwan Park, and Mark G. Allen, "Multidirectional UV Lithography for Complex 3-D MEMS Structures," *Journal of Microelectromechanical Systems (MEMS)*, vol. 15, no. 5, pp. 1121-1130, 2006
9. Y. Wang, G. Yuan, Yong-Kyu Yoon, M.G. Allen, and S.A. Bidstrup, "Optimization of Synthetic Jet Fluidic Structures in Printed Wiring Boards," *Journal of Electronic Packaging*, vol. 128, pp. 353 – 359, Dec. 2006
10. Y. Wang, G. Yuan, Yong-Kyu Yoon, M.G. Allen, and S.A. Bidstrup, "Large Eddy Simulation (LES) for Synthetic Jet Management," *International Journal of Heat and Mass Transfer*, vol. 49, no. 13-14, July 2006, pp. 2173-2179
11. Yong-Kyu Yoon, J. S. Kenney, A.T. Hunt, and M.G. Allen, "Low-loss Microelectrodes Fabricated Using Reverse-side Exposure for Tunable Ferroelectric Capacitor," *Journal of Micromechanics and Microengineering*, vol. 16, 2006, pp. 225-234
12. Yong-Kyu Yoon, Jin-Woo Park, and Mark G. Allen, "Polymer-Core Conductor Approaches for RF MEMS," *Journal of Microelectromechanical Systems (MEMS)*, vol. 14, no. 5, 2005, pp. 886-894

13. Yong-Kyu Yoon and Mark G. Allen, "Embedded Conductor Technology for Micromachined RF Elements," *Journal of Micromechanics and Microengineering*, vol. 15, no. 6, 2005, pp. 1317-1326
14. Yong Wang, Guang Yuan, Yong-Kyu Yoon, Mark G. Allen, and Sue Ann Bidstrup, "Active Cooling Substrates for Thermal Management of Microelectronics," *IEEE Trans. Components and Packaging Technologies*, vol. 28, no. 3, 2005, pp. 477-483
15. Yong-Kyu Yoon, Dongsu Kim, Mark G. Allen, J. Stevenson Kenney, and Andrew T. Hunt, "A Reduced Intermodulation Distortion Tunable Ferroelectric Capacitor-Architecture and Demonstration," *IEEE Trans. Microwave Theory and Techniques*, vol. 51, no. 12, December 2003, pp. 2568-2576
16. Yong K. Yoon and Yong K. Kim, "Micro Pumps using Electrostatic Forces", Trans. Korean Institute of Electrical Engineering (KIEE), vol.43, no.12 pp.2010-2019, 1994

### **Conference Papers (Peer Reviewed) and Presentations:**

1. A.P. Zhang, K.T. Kim, R. Burzynski, M. Samoc, Y.-K. Yoon, P.N. Prasad, and S. He, "Patterning of Nanoparticles in Polymer by holographic Lithography and Reactive Ion Etching," HP Photonic Interconnect Forum, May 2008
2. *Sungyong Cha*, Tae-soon Yun, Jungkwun Kim, and Y.-K. Yoon, "Pillar Array-type Parabolic Reflector Antenna Driven by Air-lifted Monopole Fed by CB-CPW for 2.4GHz Applications," Accepted for IEEE Antennas and Propagation Symposium, July 5-12, 2008, San Diego, CA
3. *Jungkwun Kim*, M.G. Allen, and Y.-K. Yoon, "Automated dynamic mode multidirectional UV lithography for complex 3-D microstructures," *Proceedings of International Conference of IEEE Micro Electro Mechanical Systems*, Jan. 13- Jan. 17, 2008, Tucson, AZ, pp. 399 – 402
4. Y. Zhao, Y.-K. Yoon, X. Wu, and M.G. Allen, "Micro metal transfer molding of high frequency air-lifted components," *International Conference on Solid-State Sensors, Actuators, and Microsystems (Transducers '07)*, Lyon, France, June 10-14, 2007, pp. 659-662
5. Y. Zhao, Y.-K. Yoon, and M.G. Allen, "Metal-Transfer-Micromolded RF Components for System-On-Package (SOP)," *Proceedings of the 57<sup>th</sup> Electronic Components and Technology Conference (ECTC)*, May 29 – June 1, 2007, Reno, Nevada, pp. 1877 – 1883, 2007
6. S. Choi, S.-H. Kim, Y.-K. Yoon, and M.G. Allen, "Exploitation of nonlinear effects for enhancement of the sensing performance of resonant sensors," *International Conference on Solid-State Sensors, Actuators, and Microsystems (Transducers '07)*, Lyon, France, June 10-14, 2007, pp. 1745-1748
7. B. Pan, G. DeJean, J. Papapolymerou, M.M. Tentzeris, Y. Yoon, and M.G. Allen, "High Performance System-on-Package Integrated Yagi-Uda Antennas for W-band Applications and mm-Wave Ultra-Wideband Data Links," *Proceeding of 56<sup>th</sup> IEEE Electronic Components and Technology Conference (ECTC)*, pp.1712-1717, 2006

8. J.-H. Park, S.-O. Choi, Y.-K. Yoon, M.G. Allen, M.R. Prausnitz, "Polymer Particle-Based Micromolding to Fabricate Novel Microstructures," submitted to *AICHE 2006 Annual Meeting*
9. J.-H. Park, J.-W. Park, Y.-K. Yoon, J.-W. Lee, S.-O. Choi, Y.-H. Joung, R. Kamath, Y.-C. Kim, M.G. Allen, and M.R. Prausnitz, "Wireless Induction Heating of Stratum Corneum for Transdermal Drug Delivery," submitted to *AICHE 2006 Annual Meeting*
10. Yong-Kyu Yoon and M.G. Allen, "Proximity Mode Inclined UV Lithography," *Solid-State Sensor, Actuator, and Microsystems Workshop*, Hilton Head Island, SC, June 4-8, 2006, pp. 98 – 99 (oral presentation)
11. X. Wu, G. Yuan, S.-O. Choi, Y. Zhao, S.-H. Kim, Y.-K. Yoon, M.G. Allen, "Lateral Lamination Approach for Multilayer Piezoelectric Microactuator," *Solid-State Sensor, Actuator, and Microsystems Workshop*, Hilton Head Island, SC, June 4-8, 2006, pp. 372 – 375 (poster presentation)
12. S.-O. Choi, S. Rajaraman, Y.-K. Yoon, X. Wu and M.G. Allen, "3-D Metal Patterned Microstructure using Inclined UV Exposure and Metal Transfer Micromolding Technology," *Solid-State Sensor, Actuator, and Microsystems Workshop*, Hilton Head Island, SC, June 4-8, 2006, pp. 348 – 351 (poster presentation)
13. X. Wu, Y. Zhao, Y.-K. Yoon, S.-O. Choi, J.-H. Park, and M.G. Allen, "Enhanced Wettability Polymer Micromolding by a 3-D Metal Transfer Process," *The 231<sup>st</sup> American Chemical Society National Meeting*, Atlanta, GA, Mar. 26 – 30, 2006
14. S. Choi, S.-H. Kim, Y.-K. Yoon, and M.G. Allen, "A Magnetically Excited and Sensed MEMS-Based Resonant Compass," *IEEE International Magnetics Conference (Intermag)*, San Diego, CA, May 8-12, 2006 (Accepted for oral presentation)
15. Wenjing Ye, Yong-Kyu Yoon, and Mark G. Allen, "Investigation of Gas Separation Induced by Thermal Loading," *IEEE Nano/Micro Engineered and Molecular Systems (NEMS) conference*, Zhuhai, China, Jan. 18-20, 2006
16. J.S. Kenney, Y.K. Yoon, M. Ahn, M.G. Allen, Z. Zhao, X. Wang, A. Hunt, and D. Kim, "Low-Voltage Ferroelectric Phase Shifters from L- to C-Band," *IEEE Aerospace Conference*, March 4-11, Big Sky, MT, 2006 (Invited talk of Prof. Kenney)
17. B Pan, Y. Yoon, J. Papapolymerou, M. Tentzeris, and M. Allen, "Design and Fabrication of Substrate-Independent Integrated Antennas Utilizing Surface Micromachining," *Asian-Pacific Microwave Conference (APMC)*, Dec. 4-7, Suzhou, China, 2005
18. J.-H. Park, J.-W. Park, Y.-K. Yoon, Y. Joung, S. Choi, J. Lee, M.G. Allen, M.R. Prausnitz, "Wireless thermal micro-ablation of skin for transdermal drug delivery," *BMES conference*, Sep. 28-Oct. 1, 2005, Baltimore, MD
19. X. Wu, Y. Zhao, Yong-Kyu Yoon, S.-O. Choi, J.-H. Park, and M.G. Allen, "Wafer-scale Micromolding of Unitary Polymeric Microstructures with Simultaneously Formed Functional Metal Surface," *Proceeding of International Conference on micro Total Analysis Systems ( $\mu$ -TAS)*, Boston MA, pp. 205-207, Oct. 2005

20. Y. Zhao, X. Wu, Yong-Kyu Yoon, J.-H. Park, S.J. Kennedy, Z. Schwartz, B.D. Boyan, and M.G. Allen, "Fabrication of Micromachined Mold Masters for 3-D, High-aspect-ratio Cell Culturing Substrates," *Proceeding of 2005 ASME IMECE*, Paper number IMECE2005-81991, pp.1-7, Nov. 5-11, Orlando, FL, 2005
21. Yong-Kyu Yoon, B. Pan, M.M. Tentzeris, J. Papapolymerou, and M.G. Allen, "Surface-Micromachined Millimeter-Wave Antennas," *International Conference on Solid-State Sensors, Actuators, and Microsystems (Transducers '05)*, Seoul, Korea, June 5-9, 2005, pp. 1986-1989
22. J.-W. Park, J.-H. Park, Yong-Kyu Yoon, Y.-H. Joung, S.-O. Choi, M.R. Prausnitz, and M.G. Allen, "Wireless Thermal Micro-Ablation of Skin for Transdermal Drug Delivery," *International Conference on Solid-State Sensors, Actuators, and Microsystems (Transducers '05)*, Seoul, Korea, June 5-9, 2005, pp. 1238-1241
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