BIOGRAPHICAL SKETCH

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NAME	POSITION TITLE
Ahn, Chong H.	M.P. Kartalia Chair Professor
eRA COMMONS USER NAME	
chan255	

EDUCATION/TRAINING *(Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)*

INSTITUTION AND LOCATION	DEGREE *(if applicable)*	YEAR(s)	FIELD OF STUDY
Inha University, Seoul, South Korea	B.S.	1980	Electrical Engineering
Seoul National University, Seoul, South Korea	M.S.	1983	Electrical Engineering
Georgia Institute of Technology, Atlanta, USA	Ph.D	1993	Electrical Engineering
IBM T.J. Watson Research Center, New York	Post-Doc	1994	Microfabrication

A. Posotion and Honors

Positions and Employment:

6/1993 – 10/1994 **Post Doctoral Associate** (Advisor: Dr. Luby Romankiw, IBM Fellow), IBM T. J. Watson Research Center, New York

10/1994 – 8/1998 **Assistant Professor**, Associate Director, Center for Microelectronic Sensors and MEMS (CMSM), Department of Electrical & Computer Engineering and Computer Science. University of Cincinnati, Cincinnati, Ohio.

9/1998 – 8/2001 **Associate Professor**, Department of Electrical & Computer Engineering and Computer Science. University of Cincinnati, Cincinnati, Ohio.

9/2001 – Present **Professor**, Director, Microsystems and BioMEMS Lab Department of Electrical & Computer Engineering and Computer Science, University of Cincinnati, Cincinnati, Ohio.

11/ 2002 – Present **Professor**, Department of Biomedical Engineering, University of Cincinnati, Cincinnati, Ohio

12/ 2004 – Present **Director**, Center for BioMEMS and Nanbiosystems, University of Cincinnati

05/2010 – Present M.P. Kartalia Endowed Chair Professor

Federal Committees

1999-2000 Member BioMEMS Study Section, National Institutes of Health

2004 – present Member Nanotechnology in Medicine and Biology Study Section, National Institutes of Health

Selected Honors and Awards

1998 Outstanding Research Award, College of Engineering (CoE), University of Cincinnati

2003 Scientific Leadership Award, 4th Annual BioMEMS and Biomedical Nanotechnology World

2004 NASA Group Achievement Award, NASA, Glennan Microsystems Initiative Technical Team, UC

2004 Fellow, The Institute of Physics

2006 Distinguished Research Faculty Award, College of Engineering (CoE), University of

2009 Emerging Entreprenuer Achievement Award, University of Cincinnati

2009 The Best Paper Award 2009, The IEEE Sensors Journal

Editorial Boards

2006- present Editor, IEEE/ASME Journal of Microeletromechanical Systems (JMEMS)

2001- present, Journal of Micromechanics and Microengineering

2007- present, Journal of Microfluidics and Nanofluidics

B. Selected Peer-Reviewed Publications (in chronological order)

(Publication selected from 100 peer-reviewed publications, 150 refereed conference proceedings, 60 invited and conference presentation. 6 US patents and 8 US patent applications)

- J.-W. Choi, C. H. Ahn, S. Bhansali, and H. T. Henderson, "A New Magnetic Bead-Based, Filterless Bio-Separator with Planar Electromagnet Surfaces for Integrated Bio-Detection Systems," Sensors and Actuators B, Vol. 68, pp. 34-39, 2000.
- J. -W. Choi, T. M. Liakopoulos, and C. H. Ahn, "An On-Chip Magnetic Bead Separator Using Spiral Electromagnets with Semi-Encapsulated Permalloy", Biosensors and Bioelectronics, Vol. 16, No. 6, pp. 409-416, 2001.
- E. Starkey, A. Han, J. J. Bao, C. H. Ahn, K. R. Wehmeyer, M. C. Prenger, H. B. Halsall, and W. R. Heineman, "Fluorogenic Assay for glucuronidase Using Microchip-Based Capillary Electrophoresis," Journal of Chromatography B: Biomedical Sciences and Applications, Vol. 762, No. 1, pp. 33-41, 2001.
- J.-W. Choi, K. W. Oh, A. Han, N. Okulan, C. A. Wijayawardhana, C. Lannes, S. Bhansali, K. T. Schlueter, W. R. Heineman, H. B. Halsall, J. H. Nevin, A. J. Helmicki, H. T. Henderson, and C. H. Ahn, "Development and Characterization of Microfluidic Devices and Systems for Magnetic Bead-Based Biochemical Detection," Biomedical Microdevices, Vol. 3, No. 3, pp. 191-200, 2001.
- J.-W. Choi, K. W. Oh, J. H. Thomas, W. R. Heineman, H. B. Halsall, J. H. Nevin, A. J. Helmicki, H. T. Henderson, and C. H. Ahn, "An Integrated Microfluidic Biochemical Detection System for Protein Analysis with Magnetic Bead-Based Sampling Capabilities," Lab-on-a-Chip, Vol. 2, Issue 1, pp. 27-30, 2002.
- Puntambekar, J.-W. Choi, C. H. Ahn, S. Kim, and V. B. Makhijani, "Fixed-Volume Metering Microdispenser Module," Lab-on-a-Chip, Vol. 2, Issue 4, pp. 213-218, 2002.
- C-C. Hong, S. Murugesan, S. Kim, G. Beaucage, J. -W. Choi and C. H. Ahn, "A Functional On-Chip Pressure Generator Using Solid Chemical Propellant for Disposable Lab-on-a-Chip," Lab Chip., 3, pp. 281 - 286, 2003.
- X. Zhu, J. W. Choi, and C. H. Ahn, "A Dynamic Electrochemical Transduction Mechanism for Interdigitated Array Microelectrodes", Lab Chip, pp.212-217, 2004.
- Chien-Chong Hong, Jin-Woo Choi, and Chong H. Ahn, "A Novel In-Plane Passive Microfluidic Mixer With Modified Tesla Structures," Lab Chip, 2004, Vol. 4, No. 2, pp.109-113.
- C.H. Ahn, J. -W. Choi, G. Beaucage, J. Nevin, J. -B. Lee, A. Puntambekar, and J, Y. Lee, "Disposable Smart Lab on a Chip for Point-of-Care Clinical Diagnostics" (Invited Paper), Proceedings of the IEEE, Special Issue on Biomedical Applications for MEMS and Microfluidics, 2004, Vol. 92, pp. 154 – 173.
- X. Zhu, C. Gao, J. W. Choi, and C. H. Ahn, "On-Chip Generated Mercury Microelectrode for Heavy Metal Ion Detection", Lab Chip, pp. 581-587, 2005.
- X. Zhu, C. Gao, J. W. Choi, P. L. Bishop and C. H. Ahn, "On-Chip Generated Mercury Microelectrode for Heavy Metal Ion Detection," Lab Chip, 5, pp.212-217, 2005. (Selected as the hot article by Lab on a Chip)
- X. Zhu, and C. H. Ahn, "Electrochemical Determination of Reversible Redox Species at Interdigitated Array Micro/Nanoelectrodes Using Charge Injection Method," IEEE Transaction on NanoBioscience, Vol.4. No. 2, pp. 164-169, 2005.
- D. S. Kim, S. H. Lee, T. H. Kwon and C. H. Ahn, "A serpentine laminating micromixer combining splitting/recombination and advection," Lab Chip, Vol. 5, 7, 2005, pp. 739-747.
- SP. Aigars, I. Nikcevic, S. H. Lee, C. H. Ahn, W. R. Heineman, P. A. Limbach and C. J. Seliskar, "The Autofluorescence of plastic materials and chips under laser irradiation," Lab chip, 2005, 5, 1348-1354. (Selected as the hot article by Lab Chip)
- Kwang W. Oh and Chong Ahn, "A Review of Microvalves", Journal of Micromechanics and Microengineering (JMM), Vol. 16, pp, R13-39, 2006.
- D. S. Kim, S. H. Lee, C. H. Ahn, J. Y. Lee and T. H. Kwon, "Disposable Integrated Microfluidic Biochip for Blood Typing by Plastic Microinjection Molding," Lab Chip, Vol. 6, pp. 794-802, 2006.
- I. Nikcevic, S. H. Lee, A. Piruska, C. H. Ahn, T. H. Ridgway, P. A. Limbach, K. R. Wehmeyer, W. R. Heineman, and C. J. Seliskar, "Characterization and performance of injection mold ed poly(methylmethacrylate) (PMMA) microchips for capillary electrophoresis," Journal of Chromatography A, Vol. 1154, Issue:1-2, June 22, 2007, pp. 444-453.
- Z. Zou, J. Kai, M.J. Rust, J. Han, and C.H. Ahn, "Functionalized nano interdigitated electrodes arrays on polymer with integrated microfluidics for direct bio-affinity sensing using impedimetric measurement," Sensors and Actuators A: Physical, vol. 136, no. 2, pp. 518-526, May 2007.
- J. Park, D. Lee, W. Kim, S. Horiike, T. Nishimoto, S. H. Lee, C. H. Ahn, "Fully packed capillary electrochromatographic microchip with self-assembly colloidal silica beads," Analytical Chemistry, Vol. 79, No. 8, pp. 3214-3219, April 2007.
- C. Li **,** J. Han and C.H. Ahn, "Flexible biosensors on spirally rolled micro tube for cardiovascular in vivo monitoring," Biosensors and Bioelectronics, vol. 22, No. 9-10, pp. 1988-1993, April 2007.
- Z. Zou, J. Han, A. Jang, P.L. Bishop, and C.H. Ahn, “A Disposable On-chip Phosphate Sensor with Planar Cobalt Microelectrodes on Polymer Substrate,” Biosensors and Bioelectronics, Vol. 22, No. 9-10, pp. 1902-1907, April 2007.

- C. Li, P.M. Wu, J. Han and C.H. Ahn, "A flexible polymer tube lab-chip integrated with microsensors for smart microcatheter," Biomedical Microdevices, vol. 10, pp. 671-679, 2008.
- S. H. Lee, S.-W. Kim, J. Y. Kang, and C. H. Ahn, "A polymer lab-on-a-chip for reverse transcription (TR)-PCR based point-of-care clinical diagnostics," Lab on a Chip, Vol. 8, No. 12, pp. 2121-2127, December, 2008.
- J. Do and C. H. Ahn, "A polymer lab-on-a-chip for magnetic immunoassay with on-chip sampling and detection capabilities," Lab on a Chip, Vol. 8, No. 4, pp. 542-549, March 2008.
- Z. Zou, A. Jang, E. MacKnight, et al, "Environmentally-Friendly Disposable Sensors with Microfabricated On-Chip Planar Bismuth Electrode for in situ Heavy Metal Ions Measurement," Sensors and Actuators B: Chemical, 134, 2008, pp. 18-24.