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EDUCATION

- 3/00-2/05 Seoul National University, Seoul, Korea
Ph.D. in Mechanical & Aerospace Engineering
Thesis title: "Design and Analysis of MEMS based Cell Manipulation System for Cellomics"
Advisors: Professor Kyo-II Lee.
- 3/98-2/00 Seoul National University, Seoul, Korea.
M.S. in Mechanical Design and Production Engineering
Thesis title: "Design of Integrated Neuro-Controller for an Engine/Automatic Transmission System Considering an Optimal Line Pressure."
Advisors: Professor Kyo-II Lee
- 3/94-2/98 Seoul National University, Seoul, Korea.
B.S. in Mechanical Design and Production Engineering

EXPERIENCES

- 5/06-8/07 Postdoctoral Research Associate under the supervision of Professor Andre Levchenko. (Johns Hopkins University, Biomedical Engineering, Baltimore)
- 3/05-4/06 Postdoctoral Research Associate
(Korea Institute of Science and Technology, Seoul, Korea)

AWARDS AND HONORS

10/2012	Inclusion in Emerging Investigators of Lab on a Chip
4/2010	Best oral presentation, in 12th KMEMS, 2010
5/2006-4/2007	Postdoctoral fellowship (Ministry of Education, Seoul, Korea)
12/2006	Inclusion in the Premier Edition of Who's Who of Emerging Leader, in Dec. 2006
2/2005	Thesis excellent award of the year, School of Mechanical & Aerospace Engineering, Seoul National University

ARCHIVAL JOURNAL PAPERS

International Journal Articles

1. Indong Jun, Seok Joo Kim, Eunpyo Choi, Kyung Min Park, Taiyoun Rhim, Jungyul Park, Ki Dong Park, Heungsoo Shin, "Preparation of Biomimetic Hydrogels with Controlled Cell Adhesive Properties and Topographical Features for the Study of Muscle Cell Adhesion and Proliferation," *Macromolecular Bioscience*, in print
2. Eunpyo Choi, Hyung-kwan Chang, Chae Young Lim, Taesung Kim, and Jungyul Park*, "Concentration gradient generation of multiple chemicals using spatially controlled self-assembly of particles in microchannels," *Lab on a Chip*, in print (Emerging Investigators Issue)
3. Indong Jun, Seok Joo Kim, Ji-Hye Lee, Young Jun Lee, Young Min Shin, Eunpyo Choi, Kyung Min Park, Jungyul Park*, Ki Dong Park, Heungsoo Shin, "Transfer Printing of Cell Layers with an Anisotropic Extracellular Matrix Assembly using Cell-Interactive and Thermosensitive Hydrogels," *Advanced Functional Materials*, in print
4. Eunpyo Choi, Yuri Choi, Yalda Hojabri Pooladi Nejad, Kwanwoo Shin, and Jungyul Park*, "Label-free specific detection of immunoglobulin G antibody using nanoporous hydrogel photonic crystals," *Sensors and Actuators B*, in print.
5. Su-Jin Kim, Dong-Sup Lee, In-Gul Kim, Dong-Wan Sohn, Jungyul Park*, Bum-Kyoo Choi, Sae-Woong Kim, "Evaluation of the biocompatibility of a coating material for an implantable bladder volume sensor," *Kaohsiung Journal of Medical Sciences* vol.28, pp.123-129, 2012
6. Eunpyo Choi, Indong Jun, Hyung-kwan Chang, Kyung Min Park, Heungsoo Shin, Ki Dong Park, and Jungyul Park* "Quantitatively controlled in situ formation of hydrogel membranes in microchannels for generation of stable chemical gradients," *Lab on a Chip*, vol.12, pp.302-308, 2012.
7. Min Sock Kim, Jungyul Park*, and Bumkyoo Choi, "Measurement and analysis of micro-scale adhesion for efficient transfer printing," *Journal of Applied Physics*, vol.110, 024911, 2011.
8. Siyoung Jeong, Jungyul Park*, Jimmy M. Kim, and Seungwoo Park, "Microfluidic mixing using periodically induced secondary potential in electroosmotic flow," *Journal of Electrostatics*, vol.69, no.5, pp. 429-434, 2011.
9. Junghun Lee, Youngho Kim, Younggeun Kim, Jungyul Park, and Byungkyu Kim, "Polymer microcantilever arrays for high-throughput separation using a combination of dielectrophoresis and sedimentations," *Biochip Journal*, vol. 5, no. 1, pp.8-13, 2011.
10. Dongil Kim, Eunpyo Choi, Sung Sik Choi, Sangho Lee, Jungyul Park, and Kwang-Seok Yun, "Measurement of Single-Cell Deformability Using Impedance Analysis on Microfluidic Chip," *Japanese Journal of Applied Physics*, vol. 49, pp. 127002, 2010.
11. Gil Ho Yoon and Jungyul Park, "Topological design of electrode shapes for

- dielectrophoresis based devices,” *Journal of Electrostatics*, vol. 68, pp.475-486, 2010.
12. Eunpyo Choi, Sung Q Lee, Tae Yun Kim, Hyung-kwan Chang, Kyoung J. Lee, and Jungyul Park*, “MEMS-based power generation system using contractile force generated by self-organized cardiomyocytes,” *Sensors and Actuators B*, vol. 151, pp. 291-296, 2010.
 13. Jae Hyun Kim, Jun-Hyuk Moon, Seung-Yop Lee, and Jungyul Park*, “Biologically inspired humidity sensor based on three-dimensional photonic crystals,” *Applied Physics Letters*, vol. 97, pp. 103701, 2010. (Nature Highlight)
 14. Jungyul Park*, Deok-Ho Kim, Gabriel Kim, Younghoon Kim, Eunpyo Choi and Andre Levchenko, “Simple haptotactic gradient generation within a triangular microfluidic channel,” *Lab on a chip*, vol.10, pp. 2130-2138 , 2010.
 15. Eunpyo Choi, Byungkyu Kim and Jungyul Park*, “High-throughput microparticle separation using gradient traveling wave dielectrophoresis,” *J. Micromech. Microeng.*, vol. 19, 125014, 2009.
 16. Deok-Ho Kim, Pak Kin Wong, Jungyul Park, Andre Levchenko, and Yu Sun, “Microengineered Platforms for Cell Mechanobiology,” *Annu. Rev. Biomed. Eng.*, vol.11, pp.203-233, 2009.
 17. Seung-Yop Lee, Vit Yim, Jaehyun Kim, and Jungyul Park*, “DVD Pick-up Based Optical Detection for diffusive mixing in microchannels,” *Biochip Journal*, vol. 3, no. 1, pp.21-27, 2009.
 18. Jaemin An, Jangwon Lee, Sang Ho Lee, Jungyul Park and Byungkyu Kim,” Separation of malignant human breast cancer epithelial cells from healthy epithelial cells using an advanced dielectrophoresis-activated cell sorter (DACS),” *Anal. Bioanal. Chem.* Vol. 394, pp.801–809, 2009.
 19. Deok-Ho Kim, Jungyul Park*, Moon K. Kim, and Keum-Shik Hong, “AFM-Based Identification of the Dynamic Properties of Globular Proteins: Simulation Study,” *Journal of Mechanical Science and Technology*, vol. 22, no. 12, pp.2203-2212, 2008.
 20. Jinseok Kim, Jungyul Park, Kyoungwan Na, Sungwook Yang, Jeongeun Baek , Euisung Yoon, Sungsik Choi, Sangho Lee, Kukjin Chun, Jongoh Park, Sukho Park, “Quantitative evaluation of cardiomyocyte contractility in a 3D microenvironment,” *Journal of Biomechanics*, vol. 41, no.11, pp. 2396-401, 2008.
 21. Jinseok Kim, Jungyul Park, Sungwook Yang, Jeongeun Baek, Byungkyu Kim, Sang Ho Lee, Eui-Sung Yoon, Kukjin Chun, and Sukho Park, “Establishment of a fabrication method for a long-term actuated hybrid cell robot,” *Lab on a chip*, vol.7, pp.1504-1508, 2007.
 22. Jungyul Park, Il Chaek Kim, Jeongeun Baek, Jinseok Kim, Sukho Park, Junghoon Lee and Byungkyu Kim, “Micro Pumping with Cardiomyocyte-Polymer Hybrid,” *Lab on a chip*, vol.7, pp.1367-1370, 2007.

23. Jungyul Park, Il Chaek Kim, Jaemin Cha, Sukho Park, Junghoon Lee, and Byungkyu Kim, “Mechanotransduction of Cardiomyocytes Interacting with Thin Membrane Transducer,” *Journal of Micromechanics and Microengineering*, vol.17, no.6, pp.1162–1167, 2007.
24. Jungyul Park‡, Suk-Kyu Ryu‡, Jinseok Kim, Junghun Cha, Jeongeun Baek, Sukho Park, Byungkyu Kim and Sang Ho Lee, “A three-dimensional model of fluid–structural interactions for quantifying the contractile force for cardiomyocytes on hybrid biopolymer microcantilever,” *Journal of Biomechanics*, vol.40, no.13, pp. 2823-2830, 2007. Jungyul Park and Suk-Kyu Ryu contributed equally to this work.
25. Junghun Cha, Jinseok Kim, Sukkyu Ryu, Jungyul Park, Yongwon Jeong, Sewan Park, Sukho Park, HyenCheol Kim and Kukjin Chun, “A Highly Efficient 3D Micromixer Using Soft PDMS Bonding,” *Journal of Micromechanics and Microengineering*, vol.16, no.9, pp.1778-1782, 2006.
26. Jungyul Park, Jinseok Kim, Dukmoon Roh, Sukho Park, Byungkyu Kim and Kukjin Chun, “Fabrication of Complex 3D Polymer Structures for Cell based Hybrid Sensors and Actuators,” *Journal of Micromechanics and Microengineering*, vol.16, no.8, pp.1614-1619, 2006.
27. Deok-Ho Kim, Jungyul Park, Kahp. Y. Suh, Pilnam Kim, Seung Kyu Choi, Seokchang Ryu, Sukho Park, Sang Ho Lee, and Byungkyu Kim, “Fabrication of Patterned Micromuscles with High Activity for Powering Biohybrid Microdevices”, *Sensors and Actuators B*, vol.117, p.391-400, 2006.
28. Jungyul Park, Byungkyu Kim, Seung Kyu Choi, Sang Ho Lee and Kyo-II Lee, “An Efficient Cell Separation System using 3D-Asymmetric Microelectrodes,” *Lab on a chip*, vol.5, no.11, pp.1264-1270, 2005.
29. Jungyul Park, Jaewook Ryu, Seungkyu Choi, Eunseok Seo, Jae Min Cha, Seokchang Ryu, Jinseok Kim, Byungkyu Kim, and Sang-Ho Lee, ”Real time measurement of the contractile force of self-organized cardiomyocytes on hybrid biopolymer microcantilevers,” *Analytical Chemistry*, vol. 77, pp.6571-6580, 2005.
30. Jinseok Kim, Byungkyu Kim, Jaewook Ryu, Yongwon Jeong, Jungyul Park, Hyeon cheol Kim, Kukjin Chun, “Potential of Thermo-Sensitive Hydrogel as an Actuator,” *Japanese Journal of Applied Physics*, vol.44, no.7B, pp.5764-5768, 2005.
31. Jaewook Ryu, Jungyul Park, Byungkyu Kim, and Jong-Oh Park, ”Design and Fabrication of a Large-deformed Smart Sensorized Polymer Actuator,” *Biosensors and Bioelectronics*, vol.21, no.5, pp. 822-826, 2005.
32. Jungyul Park, Seng-Hwan Jung, Young-Ho Kim, Byungkyu Kim, Seung-Ki Lee, and Jong-Oh Park, “Design and Fabrication of an Integrated Bio Cell Processor for Single Embryo Cell Manipulation,” *Lab on a chip*, vol.5, no.1, pp.91-96, 2005. (special issue: Lab on a Chip devices for cell biology)

33. Jungyul Park, Sangmin Kim, Deok-Ho Kim, Byungkyu Kim, SangJoo Kwon, Jong-Oh Park, and Kyo-II Lee, "Identification and Control of a Sensorized Microgripper for Micromanipulation," *IEEE/ASME Transaction on Mechatronics*, vol.10, no.5, pp.601-606, 2005.
34. Innam Lee, Gil Ho Yoon, Jungyul Park, Seonho Seok, Kukjin Chun, and Kyo-II Lee, "Development and analysis of the vertical capacitive accelerometer," *Sensor and Actuator A*, vol.119, pp.8-18, 2005.
35. Jungyul Park, Deok-Ho Kim, Taesung Kim, Byungkyu Kim, and Kyo-II Lee "Design and Performance Evaluation of a 3-DOF Mobile Microrobot for Micro/Nano Manipulation," *KSME International Journal*, vol.17, no. 9, pp.1268-1275, Sept., 2003.

PATENT

1. Sukho Park, Jungyul Park, Jinseok Kim, Junghoon Lee, Byungkyu Kim, "Micropump using Muscle Cell and Method of Manufacturing the same," Korea patent (Application date: 2006. 1. 2, Application No.:2006-97).
2. Sukho Park, Jungyul Park, Jinseok Kim, Dukmoon Roh, Byungkyu Kim, "Hybrid Bio actuator and Method of manufacturing the same using 3-dimensional micro molding aligner," Korea patent (Application date: 2005. 12. 20, Application No.:2005-126160).
3. Byungkwon Ju, Deok-Ho Kim, Jungyul Park, Byungkyu Kim, Sun Yu, and Brad Nelson, "Cell Separation Microsystem Using Ultrasound Field and Travelling Wave Dielectrophoresis," Korea patent (Application date: 2004. 12. 17, Application No.: 2004-107948).
4. Byungkyu Kim, Jungyul Park, Deok-Ho Kim, and Jong-Oh Park, "Autonomous Bio-Manipulation Factory System for Manipulating Single Cell," Korea Patent (Issued: 2005. 2. 24, Patent No.: 0475098).
5. Byungkyu Kim, Jungyul Park, Deok-Ho Kim, and Jong-Oh Park, "Automatic Bio-Manipulation Factory System for Manipulating Single Cell," US Patent (Issued: 2005. 5. 20, Patent No.: US2004-0092002).

REFERENCES

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