

이력서



박진성 (Jinsung Park)

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연락처

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학력

2007. 02 학사, 고려대학교 기계공학부
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수상실적

2003.3 - 2007.2 한국연구재단 장학금, 고려대학교
2007.2 특별졸업생 상 수상(수석졸업 *summa cum laude*), 고려대학교
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2012.5 우수포스터상 수상, 대한기계학회
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2017.4 우수논문상 수상, JSME-KSME Joint symposium, 대한기계학회
2018 제3회 KSME-SEMES 오픈 이노베이션 챌린지 동상 수상, 대한기계학회
2018 우수강의상(강의평가 상위20%) - 공업수학I, 고체역학, 고려대학교
2019 우수강의상(강의평가 상위20%) - 공업수학I, 고려대학교
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경력

2013.3 - 2014.2 연구교수, 고려대학교 기계공학부
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2018.9 - 현재 부교수, 고려대학교 전자기계융합공학과

학회활동 및 대외활동

2014.3 ~ 2015.12 대한기계학회 CAE 및 응용역학 부문 전문위원
2014.6 충남 & 세종 기술로드맵 기술위원
2015.7 충남 & 세종 경제협력권산업육성사업 기술위원
2016.11 서울과학기술대학교 교수초빙 연구실적 심사위원
2017.12 세종 경제협력권산업육성사업 품목기획위원
2015.3 ~ 2022.2 대한기계학회 CAE 및 응용역학부문 재무이사

강의과목 (학부)

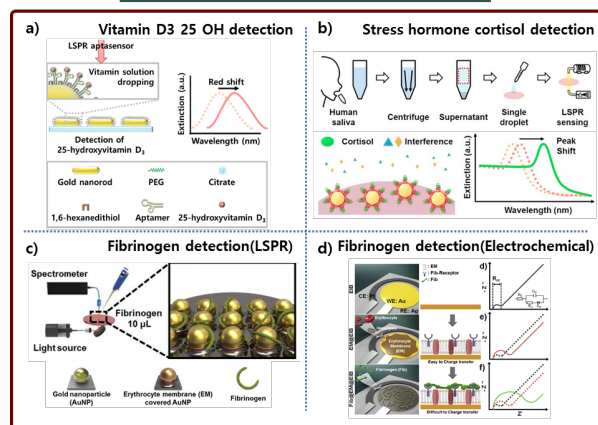
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- 공업수학 1, 2
- 동역학
- 마이크로시스템개론(MEMS 기초 이론)
- 열유체역학(열역학1, 유체역학1)
- 센서전자공학
- 기초공업수학
- 과학과 미래(온라인 녹화 강의)

강의과목 (대학원)

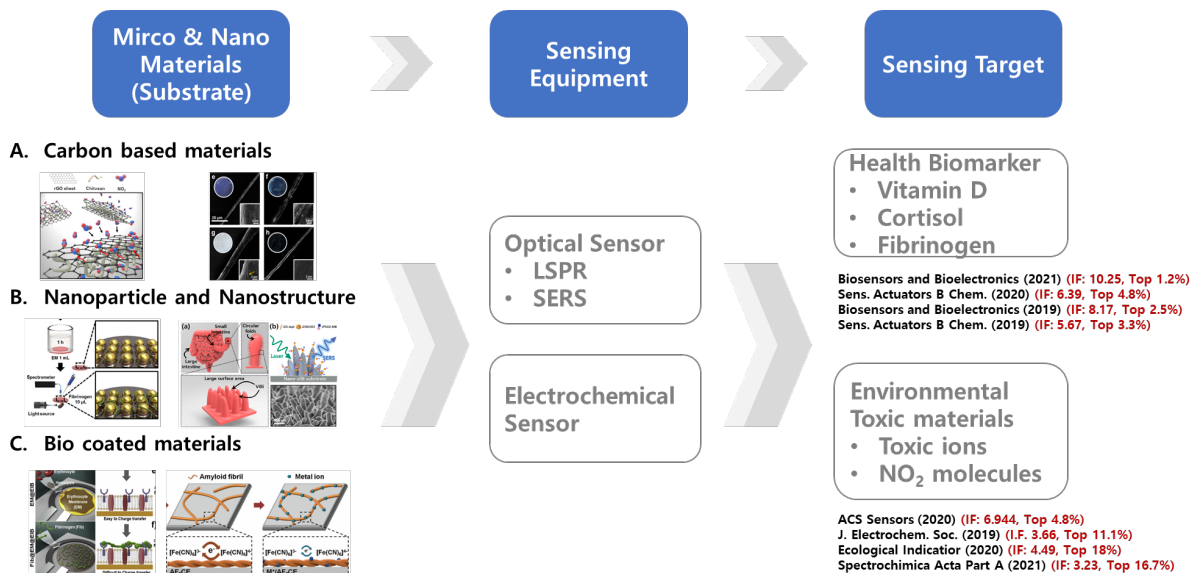
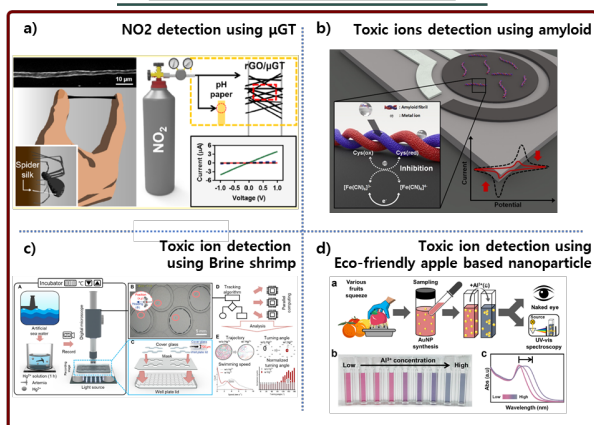
- 바이오마이크로시스템
- 바이오센서 및 바이오칩
- 연구논문론
- 연구개발론특강
- 연구논문특론
- 사물인터넷센서기술(연구계획서 작성법)

연구분야

Research field I: Biomolecular Detection



Research field II: Environmental Toxic Material Detection



SCI급 저널

Journal Articles (IF : **SCI Impact Factor**, Ranking by field, Q)

Note: * First author, # Corresponding author

- [48] H.Park, W. Kim, S. Lee, J. Park, G. Lee, D. S. Yoon, W. Lee, **J. Park#** "Flexible and disposable paper-based gas sensor using reduced graphene oxide/chitosan composite" *Journal of materials science & technology*(2021) (IF: 8.607, Top 3.1%, Q1)
- [47] W. Kim, J. Park, W. Kim, S. Joe, M. Kim, C. Kim, H. Park, D. Bang, W. Lee, **J. Park#**, "Bio-inspired Ag nanovilli-based sandwich-type SERS aptasensor for ultrasensitive and selective detection of 25-hydroxy vitamin D3" *Biosensors and Bioelectronics* (2021). (IF: 10.257, Top 1%, Q1)
- [46] S.Jo, W. Lee, J. Park, H. Park, W. Kim, M. Kim, W. Chang, J. Hong, **J. Park#**, "Wide-range direct detection of 25-hydroxyvitamin D3 using polyethylene-glycol-free gold nanorod based on LSPR aptasensor" *Biosensors and Bioelectronics* (2021). (IF: 10.257, Top 1%, Q1)
- [45] W. Kim, C. Kim, W. Lee, **J. Park#**, D. Kim "Innocuous, highly conductive, and affordable thermal interface material with copper-based multi-dimensional filler design" *Biomolecules* (2021) (IF : 4.694)
- [44] H. Park, W. Kim, M. Kim, G. Lee, W. Lee, **J. Park#** "Eco-friendly and enhanced colorimetric detection of aluminum ions using pectin-rich apple extract-based gold nanoparticles" *SPECTROCHIMICA ACTA PART A-MOLECULAR AND BIOMOLECULAR SPECTROSCOPY* (2021) (IF : 2.931)
- [43] S.W.Lee, W. Lee, I. Kim, D. Lee, D. Park, W. Kim, **J. Park**, J. H. Lee, G. Lee, D. S. Yoon "Bio-Inspired Electronic Textile Yarn-Based NO2 Sensor Using Amyloid–Graphene Composite" *ACS Sensors* (2021) (IF : 6.944, Top 4.8%, Q1)

2020

- [42] S.W.Lee, H. G. Jung, I. Kim, D. Lee, W. Kim, S. H. Kim, J-H. Lee, **J. Park**, J. H. Lee, G. Lee, D. S. Yoon "Highly Conductive and Flexible Dopamine–Graphene Hybrid Electronic Textile Yarn for Sensitive and Selective NO2 Detection" *ACS Applied Materials & Interfaces* (2020) (IF : 8.758, Top 10%, Q1)
- [41] W. Kim, W. Lee, H. Choi, G. Lee, J. Son, S. W. Lee, J. Park, W. Kim, M. Kim, D. S. Yoon, D. Bang, S. Na, **J. Park#**, "Bioinspired Micro Glue Threads Fabricated by Liquid Bridge-to-Solidification as an Effective Sensing Platform" *ACS Sensors* (2020) (IF : 6.944, Top 10%, Q1)
- [40] M. Kim, W. Lee, J. Park, W. Kim, W. Kim, S. Jo, W. Kim, C. Kim, H. Park, G. Lee, **J. Park#** "Advanced tracking system of multiple Artemia and various behavioral endpoints for ecotoxicological analysis" *Ecological Indicators* (2020). (IF: 4.490, Top 20%, Q1)
- [39] S. Jo, W. Lee, J. Park, W. Kim, W. Kim, G. Lee, H-J Lee, J. Hong, **J. Park#** "Localized surface plasmon resonance aptasensor for the highly sensitive direct detection of cortisol in human saliva " *Sensors and Actuators B: Chemical* (2020). (IF: 6.393, Top 3%, Q1)

2019

- [38] J. Park, W. Lee, G. Lee, H. Choi, M. Kim, W. Kim, S. Na, **J. Park#** "Electrochemical Amyloid-Based Biosensor for the Determination of Metal Ions" *Journal of The Electrochemical Society* (2019). (IF: 3.120, Top 20%)
- [37] J. Park, W. Lee, I. Kim, M. Kim, S. Jo, W. Kim, H. Park, G. Lee, W. Choi, D. S. Yoon, **J. Park#** "Ultrasensitive detection of fibrinogen using erythrocyte membrane-draped electrochemical impedance biosensor" *Sensors and Actuators B: Chemical* (2019). (IF: 6.393, Top 3%, Q1)

- [36] S. Jo, I. Kim, W. Lee, M. Kim, J. Park, G. Lee, D. S. Yoon, **J. Park#**, "Highly sensitive and wide-range nanoplasmonic detection of fibrinogen using erythrocyte membrane-blanketed nanoparticles" *Biosensors and Bioelectronics* (2019). (IF: 9.518, Top 1%, Q1)
- [35] T. Lee, S. Jung, S. Kwon, W. Kim, **J. Park**, H. Lim, J. Lee "Formation of Interstitial Hot-Spots Using the Reduced Gap-Size between Plasmonic Microbeads Pattern for Surface-Enhanced Raman Scattering Analysis", *Sensors* (2019). (IF: 3.031, Top 25%, Q2)
- [34] D. Kim, C. Kim, **J. Park**, T. Y. Kim "Highly Enhanced Thermoelectric Energy Harvesting from a High-Temperature Heat Source by Boosting Thermal Interface Conduction", *Energy Conversion and Management* (2019). (IF: 7.181, Top 2%, Q1)
- [33] S. Kang, J. Cha, K. Seo, S. Kim, Y. Cha, H. Lee, **J. Park**, W. Choi, "Temperature-responsive thermal metamaterials enabled by modular design of thermally tunable unit cells", *International Journal of Heat and Mass Transfer* (2019). (IF : 4.346, Top 6%, Q1)
- [32] D. Lee, H. Lee, G. Lee, I. Kim, S. Lee, W. Kim JH. Lee, **J. Park#**, D. S. Yoon, "Extremely sensitive and wide-range silver ion detection via assessing the integrated surface potential of a DNA-capped gold nanoparticle", *Nanotechnology* (2019). (IF: 3.399, Top 23%, Q1)

2018

- [31] D.Kim, W. Kim, S. Lee, T. Luo, C. Moon, J. Kim, H. Lee, **J. Park**, J. Lee "Paved phonon transport route in graphene by vapor phase process", *International Journal of Thermal Sciences* (2018). (IF: 3.448, Top 15%, Q1)
- [30] S. Lee, W. Lee, D. Lee, Y. Choi, W. Kim, **J. Park**, J. H. Lee, G. Lee, D. S. Yoon, "A simple and disposable carbon adhesive tape-based NO₂ gas sensor", *Sensors and Actuators B: Chemical* (2017). (IF: 6.393, Top 3%, Q1)
- [29] Y. Hong, S. Jo, J. Park, **J. Park#**, J. Yang "High sensitive detection of copper II ions using D-penicillamine-coated gold nanorods based on localized surface plasmon resonance", *Nanotechnology* (2018). (IF: 3.399, Top 23%, Q1)
- [28] T. Kim, **J. Park**, B-H Choi., S. Jeon "Effects of high pressure nitrogen annealing on ferroelectric Hf_{0.5}Zr_{0.5}O₂ films", *Applied physics letters* (2018). (IF: 3.495, Top 20%, Q1)
- [27] D. Bang, T. Lee, J. Park, G. Lee, S. Haam, **J. Park#** "Enhancement of Capturing Efficacy for Circulating Tumor Cells by Centrifugation", *BioChip Journal* (2018). (IF: 1.950, Top 60%, Q4)

2017

- [26] W. Kim, G. Lee, M. Kim, J. Park, S. Jo, D. S. Yoon, Y. H. Park, J. Hong, **J. Park#** "Al³⁺ ion sensing at attomole level via surface-potential mapping of gold nanoparticle complexes", *Sensors and Actuators B: Chemical* (2017). (IF: 6.393, Top 3%, Q1)
- [25] Y. Lee, A. D. Pamungkas, C. A. D. Medriano, **J. Park**, Seri Hong Sun, Ha Jee and Y. H. Park "High-resolution metabolomics determines the mode of onset of type 2 diabetes in a 3-year prospective cohort study", *International Journal of Molecular Medicine* (2017). (IF: 2.928, Top 48%, Q2)
- [24] J. Kim, K. Kim, **J. Park**, N. Min, "Single cytosine-based electrochemical biosensor for low-cost detection of silver ions", *Sensors and Actuators B: Chemical* (2017). (IF: 6.393, Top 3%, Q1)

2016

- [23] S.Choi, G. Lee, I.S. Park, M. Son, W. Kim, H. Lee, S.-Y. Lee, S. Na, D.S. Yoon, R. Bashir, **J. Park#**, S.W. Lee, "Detection of Silver Ions Using Dielectrophoretic Tweezers-Based Force Spectroscopy", *Analytical Chemistry* (2016). (IF: 6.350, Top 8%, Q1)
- [22] K. Jang, C. Park, J. You, J. Choi, H. Park, **J. Park**, H. Lee, S. Na, "Highly sensitive, direct and real-time detection of silver nanowires by using a quartz crystal microbalance", *Nanotechnology* (2016). (IF: 3.399, Top 23%, Q1)
- [21] K. Jang, J. You, C. Park, H. Park, J. Choi, Choi, Chang-hwan, **J. Park**, H. Lee, S. Na, "Ultra-sensitive detection of zinc oxide nanowires using a quartz crystal microbalance and phosphoric acid DNA", *Nanotechnology* (2016). (IF: 3.399, Top 23%, Q1)

2015

- [20] S. Lee, K. Jang, C. Park, J. You, T. Kim, C. Im, J. Kang, H. Shin, C.-H. Choi, **J. Park#**, S. Na, "Ultra-sensitive in situ detection of silver ions using a quartz crystal microbalance" *New Journal of Chemistry* (2015). (IF: 3.069, Top 38%, Q2)
- [19] K. Jang, **J. Park***, S. Lee, J. You, C. Park, J. Lee, W. Park, J. Yun, S. Ahn, S. Na, "In situ and fast detection of single-walled carbon nanotubes by using DNA mediated aggregation method and quartz crystal microbalance" *Journal of Applied Physics* (2015). (IF: 2.328, Top 40%, Q2)
- [18] C. Park, K. Jang, S. Lee, J. You, S. Lee, H. Ha, K. Yun, J. Kim, H. Lee, **J. Park#**, S. Na, "A highly sensitive, direct and label-free technique for Hg 2+ detection using Kelvin probe force microscopy" *Nanotechnology* (2015). (IF: 3.399, Top 23%, Q1)
- [17] J. You, K. Jang, S. Lee, D. Bang, S. Haam, C-H, Choi, **J. Park#**, S. Na, "Label-free detection of zinc oxide nanowire using a graphene wrapping method" *Biosensors and Bioelectronics* (2015). (IF: 9.518, Top 1%, Q1)

2014

- [16] **J. Park***, S. Lee, K. Jang, S. Na, "Ultra-sensitive direct detection of silver ions via Kelvin probe force microscopy" *Biosensors and Bioelectronics* (2014). (IF: 9.518, Top 1%, Q1)
- [15] **J. Park***, D. Bang, K. Jang, E. Kim, S. Haam, S. Na, "Multimodal label-free detection and discrimination for small molecules using a nanoporous resonator" *Nature Communications* (2014). (IF: 11.878, Top 7%, Q1)

2013

- [14] K. Jang, **J. Park***, D. Bang, S. Lee, J. You, S. Haam, S. Na, "High-sensitive detection of self-aggregated single-walled carbon nanotubes using DNA-immobilized resonator" *Chemical Communications* (2013). (IF: 6.164, Top 19%, Q1)
- [13] T. Kwon, **J. Park**, G. Lee, K. Nam, Y. Huh, S. Lee, J. Yang, C. Y. Lee, K. Eom, "Carbon Nanotube-Patterned Surface-Based Recognition of Carcinoembryonic Antigens in Tumor Cells for Cancer Diagnosis" *Journal of Physical Chemistry Letters* (2013). (IF: 7.329, Top 11%, Q1)
- [12] **J. Park***, W. Choi, K. Jang, S. Na, "High-sensitivity detection of silver ions using oligonucleotide-immobilized oscillator" *Biosensors and Bioelectronics* (2013). (IF: 9.518, Top 1%, Q1)

2012

- [11] S. H. Yang, D. Heo, **J. Park**, S. Na, J. S. Suh, S. Haam, S. W. Park, Y. M. Huh, J. Yang "Role of surface charge in cytotoxicity of charged manganese ferrite nanoparticles towards macrophages" *Nanotechnology* (2012). (IF: 3.399, Top 23%, Q1)
- [10] K. Nam, K. Eom, J. Yang, **J. Park**, G. Lee, K. Jang, H. Lee, S. W. Lee, D. S. Yoon, C. Y. Lee, T. Kwon, "Aptamer-functionalized nano-pattern based on carbon nanotube for sensitive, selective protein detection" *Journal of Materials Chemistry – cover article* (2012). (IF: 6.626, Top 9%, Q1)
- [9] **J. Park***, D. Bang, K. Jang, S. Haam, J. Yang, S. Na, "The work function of doped polyaniline nanoparticles observed by Kelvin probe force microscopy" *Nanotechnology* (2012). (IF: 3.399, Top 23%, Q1)
- [8] K. Eom, H. Jung, G. Lee, **J. Park**, K. Nam, S. Y. Lee, D. S. Yoon, J. Yang, T. Kwon, "Nanomechanical actuation driven by light-induced DNA fuel" *Chemical Communications – cover article* (2012). (IF: 6.164, Top 19%, Q1)

2011

- [7] **J. Park***, J. Yang, G. Lee, C. Y. Lee, S. Na, S. Y. Lee, S. Haam, Y. Huh, D. S. Yoon, K. Eom, T. Kwon, "Single-Molecule Recognition of Biomolecular Interaction via Kelvin Probe Force Microscopy" *ACS Nano* (2011). (IF: 13.903, Top 6%, Q1)
- [6] K. Nam, G. Lee, H. Jung, **J. Park**, C. Kim, J. Seo, D. S. Yoon, S. Y. Lee, T. Kwon, "Single-step electropolymerization patterning of a polypyrrole nanowire by ultra-short pulses via an AFM cantilever" *Nanotechnology* (2011). (IF: 3.399, Top 23%, Q1)

2010

[5] Y. Sohn, **J. Park***, G. Yoon, J. Song, S.W. Jee, J.H. Lee, S. Na, T. Kwon, K. Eom, "Mechanical Properties of Silicon Nanowires" *Nanoscale Research Letters* (2010). (IF: 3.125, Top28%, Q2)

2009

[4] T. Kwon, **J. Park***, J. Yang, D.S. Yoon, S. Na, C.W. Kim, Y. Huh, S. Haam, K. Eom, "Nanomechanical *In Situ* Monitoring of Proteolysis of Peptide by Cathepsin B," *PLoS ONE* (2009). (IF: 2.776, Top35%, Q2)

[3] K. Eom, J. Yang, **J. Park**, G. Yoon, Y. Sohn, S. Park, D.S. Yoon, S. Na, T. Kwon, "Experimental and Computational Characterization of Biological Liquid Crystals: A Review of Single-Molecule Bioassays." *International Journal of Molecular Sciences* (2009). (IF: 4.183, Top26%, Q2)

2008

[2] T. Kwon, K. Eom, **J. Park**, D.S. Yoon, H.L. Lee, T.S. Kim, "Micromechanical observation of the kinetics of biomolecular interactions," *Applied Physics Letters* (2008) (IF: 3.521, Top21, Q1)

[1] J. Yang, K. Eom, E. Lim, **J. Park**, Y. Kang, S. Na, E. K. Koh, J. Suh, D.S. Yoon, Y. Huh, T. Y. Kwon, S. Haam, "In Situ Detection of Live Cancer Cells by Using Bioprobes Based on Au Nanoparticles," *Langmuir* (2008). (IF : 3.683, Top26%, Q2)

국제 학회 Articles

2019

- [58] **J. Park** group, "The interaction between amyloid fibrils and heavy metal ions" 8th International Conference on Mechanics of Biomaterials and Tissues, December 15-19, Hawaii, USA
- [57] **J. Park** group, "Biomimetic fabrication technique of nanomaterials mixed micro wire for sensing nitrogen dioxide molecules" 8th International Conference on Mechanics of Biomaterials and Tissues, December 15-19, Hawaii, USA
- [56] **J. Park** group, "Ultrasensitive and wide-range detection of fibrinogen with erythrocyte membrane-covered gold nanoparticles based on localized surface plasmon resonance" 8th International Conference on Mechanics of Biomaterials and Tissues, December 15-19, Hawaii, USA
- [55] **J. Park** group, "Highly sensitive detection of aluminum ions using gold nanoparticles and Kelvin Probe Force Microscope" The 17th International Nanotech Symposium & Nano-Convergence Expo NANO KOREA 2019, July 2-5, Kintex, Korea
- [54] **J. Park** group, "Colorimetric detection of aluminum ions using eco-friendly gold nanoparticles" The 17th International Nanotech Symposium & Nano-Convergence Expo NANO KOREA 2019, July 2-5, Kintex, Korea
- [53] **J. Park** group, "Multi-object tracking *Artemia franciscana* for behavior toxicity evaluation" The 17th International Nanotech Symposium & Nano-Convergence Expo NANO KOREA 2019, July 2-5, Kintex, Korea
- [52] **J. Park** group, "Cortisol detection via aptamer functionalized gold nanoparticles based on localized surface plasmon resonance" The 17th International Nanotech Symposium & Nano-Convergence Expo NANO KOREA 2019, July 2-5, Kintex, Korea
- [51] **J. Park** group, "Electrochemical impedance biosensor for Fibrinogen using RBCM coated gold electrode" The 17th International Nanotech Symposium & Nano-Convergence Expo NANO KOREA 2019, July 2-5, Kintex, Korea
- [50] **J. Park** group, "Nitrogen dioxide gas detection based on bioinspired micro-wire and fabrication" The 17th International Nanotech Symposium & Nano-Convergence Expo NANO KOREA 2019, July 2-5, Kintex, Korea
- [49] **J. Park** group, "Cyclic voltammetry with amyloid functionalized screen-printed electrodes for analysis of interaction between amyloids and metal ions" The 17th International Nanotech Symposium & Nano-Convergence Expo NANO KOREA 2019, July 2-5, Kintex, Korea

2018

- [48] **J. Park** group, "Electrochemical Analysis of the Interplay Between Amyloid Fibrils and Heavy Metal Ions" 7th International Symposium on the Fusion of Science & Technology ISFT 2018, December 16-20, Bangkok, Thailand
- [47] **J. Park** group, "Erythrocyte membrane-coated electrochemical sensor for detection of fibrinogen" 7th International Symposium on the Fusion of Science & Technology ISFT 2018, December 16-20, Bangkok, Thailand
- [46] **J. Park** group, "Detection of cortisol using aptamer functionalized gold nanoparticles based on localized surface plasmon resonance" 7th International Symposium on the Fusion of Science & Technology ISFT 2018, December 16-20, Bangkok, Thailand
- [45] **J. Park** group, "Colorimetric detection of aluminum ions using green synthesized gold nanoparticles" 7th International Symposium on the Fusion of Science & Technology ISFT 2018, December 16-20, Bangkok, Thailand
- [44] **J. Park** group, "Direct Electrochemical Measurement and Numerical Analysis of Bio-Conjugation Between Beta-lactoglobulin Fibrils and Metal ion" The 16th International Nanotech Symposium & Nano-Convergence Expo NANO KOREA 2018, July 11-13, Kintex, Korea
- [43] **J. Park** group, "Colorimetric detection of Al³⁺ ions using green synthesized gold nanoparticles" The 16th International Nanotech Symposium & Nano-Convergence Expo NANO KOREA 2018, July 11-13, Kintex, Korea

- [42] **J. Park** group, "Fibrinogen sensing using Red Blood Cell membrane covered gold nanoparticles substrate based on Localized Surface Plasmon Resonance" The 16th International Nanotech Symposium & Nano-Convergence Expo NANO KOREA 2018, July 11-13, Kintex, Korea
- [41] **J. Park** group, "Mechanical property analysis of polyvinylpyrrolidone (PVP) micro wire" The 16th International Nanotech Symposium & Nano-Convergence Expo NANO KOREA 2018, July 11-13, Kintex, Korea
- [40] **J. Park** group, "Nano-toxicity evaluation method using *Artemia franciscana* via multi-motion analysis" The 16th International Nanotech Symposium & Nano-Convergence Expo NANO KOREA 2018, July 11-13, Kintex, Korea

2017

- [39] **J. Park**, S. Jo, Y. Hong, J. Park, W. Kim, J. Yang, "Copper II ions detection via localized surface plasmon resonance", 8th International Conference and Exhibition on Biosensors and Bioelectronics, September 27-28 2017, Chicago, USA
- [38] M. Kim, W. Kim, J. Park, S. Jo, W. Kim, C. Kim, **J. Park**, "The review of detecting ultra-sensitive nano toxic ions using various methods", The 15th International Nanotech Symposium & Nano-Convergence Expo NANO KOREA 2017, July 12-14 2017, Kintex, Korea
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특허 등록

순번	발명 명칭	국가	등록번호
25	중금속 검출 센서 및 그의 제조 방법	KOREA	10-2269193
24	25(OH)D3 검출을 위한 전기화학적 지시자 및 그의 제조방법과 25(OH)D3의 전기화학적 검출방법	KOREA	10-2227595
23	피브리노겐 검출 센서 및 그의 제조방법	KOREA	10-2200894
22	마이크로 와이어의 제조방법 및 그 제조장치	KOREA	10-2165918
21	알루미늄 이온 검출기, 그 제조 방법 및 이를 이용한 알루미늄 이온 검출 방법	KOREA	10-2165537
20	이산화질소 가스센서 및 그 제조방법	KOREA	10-2138442
19	마이크로 와이어의 제조방법, 그의 제조장치, 및 마이크로 와이어를 이용한 복합 센서	KOREA	10-2138469
18	중금속 검출 센서, 및 그 제조방법, 그리고 중금속 검출 방법	KOREA	10-2107907
17	생체 스트레스 호르몬 검출 센서 및 그 제조방법	KOREA	10-2103081
16	국소 표면 플라즈마 기반의 수은 이온 검출 프로브, 그 제조 방법 및 이를 이용한 수은 검출 방법	KOREA	10-2103075
15	생물 객체 영상추적방법 및 그 장치	KOREA	10-2087508
14	피브리노겐 검출 센서 및 그 제조방법	KOREA	10-2073507
13	시료 중 독성 금속 이온의 검출 방법	KOREA	10-1978683
12	시료 중 독성 금속 이온의 검출 방법	U.S.A.	10,254,268
11	산화아연 나노와이어 검출용 센서 및 이를 이용한 수계 중 산화아연 나노와이어 검출방법	U.S.A.	10,196,682
10	유전영동기술을 이용한 금속이온 검출방법	KOREA	10-1945757
9	이온 검출을 위한 국소 표면 플라즈몬 공명 센서용 프로브, 이를 이용한 이온 검출 방법 및 이온 검출 센서	KOREA	10-1884518
8	싱글 사이토신을 이용한 은 이온 검출용 바이오센서 및 그의 제조방법	KOREA	10-1809905
7	나노다공성 캔틸레버 센서를 이용한 멀티센싱 플랫폼	U.S.A.	9709561
6	산화아연 나노와이어 검출용 센서 및 이를 이용한 수계 중 산화아연 나노와이어 검출방법	KOREA	10-1663910
5	수계 중 단일벽 탄소나노튜브 검출용 센서 및 이를 이용한 이를 이용한 수계 중 단일벽 탄소나노튜브의 검출방법	KOREA	10-1603089
4	나노다공성 캔틸레버 센서를 이용한 멀티센싱 플랫폼	KOREA	10-1556378
3	표면전하현미경을 이용한 나노 전도성 고분자의 도핑 여부	KOREA	10-1459716

	검출 방법		
2	은 이온 검출용 올리고뉴클레오타이드 고정 마이크로 오실레이터 및 이의 공진을 이용한 은 이온 검출방법	KOREA	10-1293968
1	AFM을 이용한 효소 반응의 실시간 정량 분석 방법, 및 상기 분석을 위한 AFM 용 캔틸레버 및 AFM 시스템	KOREA	10-1135086

특허 출원

순번	발명 명칭	국가	출원번호
17	폴리에틸렌글리콜을 이용하지 않은 금 나노막대 기반의 국소 표면 플라즈몬 공명 압타센서 제작 방법과 이를 이용한 비타민 D 검출	KOREA	10-2021-0050078
16	용털모사 은 나노 기판과 Sandwich-assay 기반의 표면증강 라만 산란을 이용한 고민감 25-hydroxyvitamin D3 검출	KOREA	10-2021-0031552
15	비타민D 검출을 위한 전기화학적 표지자 합성 및 전극 개발	KOREA	10-2021-0030409
14	행동 분석기법 기반 독성평가 장치, 그를 이용한 독성평가 방법, 및 그 데이터 베이스 생성 방법	KOREA	10-2020-0182321
13	독성 물질 검출 센서 및 그의 제조방법	KOREA	10-2020-0130922
12	행동 분석기법 기반 독성평가 장치, 그를 이용한 독성평가 방법, 및 그 데이터 베이스 생성 방법	KOREA	10-2020-0075787
11	생체 물질 검출 센서 및 그 제조방법	PCT	PCT/KR2019/013737
10	중금속 검출 센서, 및 그 제조방법, 그리고 중금속 검출 방법	U.S.A.	16/657,332
9	다공성 비스무스 전극 제작 기법	KOREA	10-2019-0125208
8	알루미늄 이온 검출기, 그 제조 방법 및 이를 이용한 알루미늄 이온 검출 방법	U.S.A.	16/540,374
7	25(OH)D3 검출을 위한 전기화학적 지시자 제작 및 그 검출 방법	KOREA	10-2019-0041720
6	환원된 그래핀 옥사이드 겔 코팅 페이퍼를 이용한 이산화질소 가스 센서 개발	KOREA	10-2018-0107290
5	국소 표면 플라즈몬 공명 기판 및 그 제조방법	KOREA	10-2017-0096546
4	시료 중 독성 금속 이온의 검출 방법	KOREA	10-2016-0033951
3	수계 중 단일벽 탄소나노튜브 검출용 센서 및 이를 이용한 이를 이용한 수계 중 단일벽 탄소나노튜브의 검출방법	PCT	PCT/KR2014/005504
2	표면전하현미경을 이용한 나노 독성물질의 검출방법 및 키트	KOREA	10-2014-0070983
1	은 이온 검출용 올리고뉴클레오티드 고정 마이크로 오실레이터 및 이의 공진을 이용한 은 이온 검출방법	U.S.A.	13/688,389

연구비 수주 실적

순 번	연구과제 명	주관부처	연구 시작	연구 종료	역할	총 연구비 (참여지분)
19	질병유발 환경 나노 독성 물질의 고감도 검출 기법 개발	한국연구 재단	2013-11- 01	2015-10- 31	연구책임	122,058,000
18	질병유발 환경 나노 독성 물질의 고감도 검출 기법 개발	한국연구 재단	2015-09- 01	2018-08- 31	연구책임	152,489,000
17	충남·세종 기계부품 뿌리 기술 기업의 산업 생태계 지원사업 (김희국)	한국산업 기술진흥 원	2015-08- 01	2018-04- 30	참여	68,097,888
16	축전기 원리를 이용한 나노 독성물질(알루미늄 이온) 검출방법 개발	한국과학 창의재단	2015-03- 01	2015-12- 31	연구책임	8,500,000
15	세종 자동차부품산업의 고부가가치 창출 및 지속 성장을 위한 제품 고급 화 지원 (정현환)	한국산업 기술진흥 원	2016-07- 01	2017-06- 30	참여	91,576,000
14	금속나노입자의 표면 플라즈몬을 이용한 나노 독성물질 (알루미늄 이온) 검출	한국과학 창의재단	2016-03- 01	2016-12- 31	연구책임	8,500,000
13	환경 내 질병유발 독성물질 검출 옵토-메카니컬-일렉트로-케미컬 나노 구조 센서 플랫폼 개발 및 생체기반 검증 연구	한국연구 재단	2017-11- 01	2022-10- 31	연구책임	500,000,000
12	국소표면 플라즈몬 공명 센서 기반 바이오마커의 생체리듬 모니터링 기기 개발	한국연구 재단	2017-11- 01	2019-12- 31	세부책임	684,000,000
11	스마트 홈 구현을 위한 온수분배기	한국산업	2017-04-	2018-12-	세부책임	123,400,000

	시스템 개발	기술진흥 원	01	31		
10	브라인 쉬림프 다중 객체 추적 시스템을 이용한 나노 독성물질 (Al ³⁺ , Hg ²⁺) 검출방법 개발	한국과학 창의재단	2017-03- 01	2017-12- 31	연구책임	8,500,000
9	세종 자동차부품산업의 산업생태계 활성화 및 지속 성장을 위한 제품 고 급화 지원 (박강박)	한국산업 기술진흥 원	2017.3.1.	2018.2. 28.	참여	53,792,800
8	노화 예방을 위한 전기화학 기반 체액 내 25(OH) Vitamin D3 검출 및 모니터링 기기 개발	중소벤처 기업부	2018-08- 01	2019-12- 31	참여	111,900,000
7	전기화학적 분석을 통한 나노 독성물질과 아밀로이드 반응성 연구	한국과학 창의재단	2018-03- 01	2018-12- 31	연구책임	8,500,000
6	생태모방 기반 질병유발 중금속/화합물의 수계 내 멀티센싱 플랫폼 시스템 개발	한국환경 산업기술 원	2019-04- 17	2023-12- 31	연구책임	1,347,000,000
5	여러 과일 추출물을 이용한 친환경 금 나노입자의 합성 및 이를 통한 알루미늄 이온의 비색법 검출 센서 개발	한국과학 창의재단	2019-03- 01	2019-12- 31	연구책임	8,500,000
4	세포막 코팅 기술 기반 생체모방 스마트 마이크로 메디봇 및 광학 검출 시스템 개발	범부처전 주기의료 기기연구 개발사업 단	2020-09- 01	2022-12- 31	참여	275,400,000
3	국소표면 플라즈몬 공명 센서 기반 바이오마커의 생체리듬 모니터링 기기 개발	한국연구 재단	2020-01- 01	2022-03- 31	세부책임	434,000,000

2	세종시 지역연고 소재부품산업의 발굴/육성/고도화를 위한 기술융복합 기반 기업지원사업(정현환)	한국산업 기술진흥 원	2020-06- 01	2021-05- 31	참여	66,520,000
1	나노 독성물질(Pb2+)의 전기화학적 검출을 위한 생체모사 나노 다공성 전극 개발	한국과학창 의재단	2020-03- 01	2020-12- 31	연구책임	8,500,000

언론 보도

Number	관련 논문	일자	보도	인터넷 사이트
66	Flexible and disposable paper-based gas sensor using reduced graphene oxide/chitosan composite	2021. 07.02	한국강사신문	http://www.lecturernews.com/news/articleView.html?idxno=70846
65			천지일보	http://www.newscj.com/news/articleView.html?idxno=876082
64			쿠키뉴스	http://www.kukinews.com/newsView/kuk202107040098
63			충청뉴스	http://www.ccnnews.co.kr/news/articleView.html?idxno=224487
62			충청일보	http://www.ccdailynews.com/news/articleView.html?idxno=2067581
61			정보통신신문	http://www.koit.co.kr/news/articleView.html?idxno=86465
60			충북일보	https://www.inews365.com/news/article.html?no=673179
59			한국대학신문	https://news.unn.net/news/articleView.html?idxno=511774
58			베리타스알파	http://www.veritas-a.com/news/articleView.html?idxno=375280
57			충남일보	http://www.chungnamilbo.co.kr/news/articleView.html?idxno=610995
56	Bio-inspired Ag nanovilli-based sandwich-type SERS aptasensor for ultrasensitive and selective detection of 25-hydroxy vitamin D3	2021. 05.31	아주경제신문	https://www.ajunews.com/view/20210531133422449
55			한국강사신문	http://www.lecturernews.com/news/articleView.html?idxno=68396
54			내외일보	http://www.naewoeilbo.com/news/articleView.html?idxno=350445
53			베리타스알파	http://www.veritas-a.com/news/articleView.html?idxno=369833
52			한국공보뉴스	https://www.kpnnews.org/bbs/board.php?seccion=mm_02&bo_table=local&wr_id=641992&city=lc_11&gugun=lc_11_11
51			천지일보	http://www.newscj.com/news/articleView.html?idxno=865169
50			충청뉴스	http://www.ccnnews.co.kr/news/articleView.html?idxno=220516
49			브레이크뉴스	https://www.breaknews.com/sub_read.html?uid=810213
48			충청일보	http://www.ccdailynews.com/news/articleView.html?idxno=2060584

47			국제뉴스	http://www.gukjenews.com/news/articleView.html?idxno=2234690
46			충북넷	http://www.okcb.net/94579
45	Wide-range direct detection of 25-hydroxyvitamin D3 using polyethylene-glycol-free gold nanorod based on LSPR aptasensor	2021. 03.25	내외일보	http://www.naewoeilbo.com/news/articleView.html?idxno=331742
44			베리타스알파	http://www.veritas-a.com/news/articleView.html?idxno=361483
43			중도일보	http://www.joongdo.co.kr/web/view.php?key=20210325010010378
42			이웃집과학자	http://www.astronomer.rocks/news/articleView.html?idxno=89886
41	Bioinspired micro glue threads fabricated by liquid bridge-to-solidification as an effective sensing platform	2020. 07.24	한국강사신문	http://www.lecturernews.com/news/articleView.html?idxno=44597
40			스마트에프엔	https://cnews.smartfn.co.kr/view.php?ud=2020072319192445235161f817b7_46
39			에너지경제	https://www.ekn.kr/web/view.php?key=513160
38			핀포인트뉴스	https://cnews.pinpointnews.co.kr/view.php?ud=202007231722064771b45d942afb_45
37			베리타스알파	http://www.veritas-a.com/news/articleView.html?idxno=333154
36	Localized surface plasmon resonance aptasensor for the highly sensitive direct detection of cortisol in human saliva - <i>Sensors and Actuators B: Chemical</i>	2019. 11.26	충청신문	http://www.dailycc.net/news/articleView.html?idxno=565782
35			메디컬투데이	http://www.mdtoday.co.kr/mdtoday/index.html?no=371246
34			뉴데일리	http://cc.newdaily.co.kr/site/data/html/2019/11/26/2019112600052.html
33			중도일보	http://www.joongdo.co.kr/main/view.php?key=20191126010010904
32			대전일보	http://www.daejonilbo.com/news/newsitem.asp?pk_no=1398036
31			뉴스원	http://news1.kr/articles/?3778423
30	Ultrasensitive detection of fibrinogen using erythrocyte membrane-draped electrochemical impedance biosensor - <i>Sensors and Actuators B: Chemical</i>	2019. 05.14	이웃집과학자	http://www.astronomer.rocks/news/articleView.html?idxno=87680
29			코리아플러스	http://www.kplus.kr/news/articleView.html?idxno=312635
28			충청신문	http://www.dailycc.net/news/articleView.html?idxno=540989
27			브릿지경제	http://www.viva100.com/main/view.php?key=20190514010004217
26	Highly sensitive and wide-range nanoplasmonic	2019. 04.30	아시아뉴스통신	https://www.anews.com/detail.php?number=1718298

25	detection of fibrinogen using erythrocyte membrane-blanketed nanoparticles - <i>Biosensors and Bioelectronics</i>		eMD	http://www.mdon.co.kr/news/article.html?no=21301
24			내외통신	http://www.nwtnews.co.kr/news/articleView.html?idxno=43923#0AHI
23			대학저널	http://www.dhnews.co.kr/news/articleView.html?idxno=101661
22			아시아타임즈	https://www.asiatime.co.kr/news/articleView.html?idxno=242949
21			더 리더	http://theleader.mt.co.kr/articleView.html?no=2019043015277867066
20			베리타스알파	http://www.veritas-a.com/news/articleView.html?idxno=152454
19	Al ³⁺ ion sensing at attomole level via surface-potential mapping of gold nanoparticle complexes - <i>Sensors and Actuators B: Chemical</i>	2017. 09.14	아시아뉴스통신	https://www.anews.com/detail.php?number=1219934
18			세종시민일보	http://www.sejongyeonhap.co.kr/coding/news.aspx/6/1/10673#.XlDeh2gzaUk
17			충북일보	https://www.inews365.com/news/article.html?no=508283
16			헬스조선	http://health.chosun.com/news/dailynews_view.jsp?mn_idx=203053
15			충청신문	http://www.dailycc.net/news/articleView.html?idxno=385734
14			일요신문	http://ilyo.co.kr/?ac=article_view&entry_id=269395
13			ATN 뉴스	http://www.atnnews.co.kr/news/articleView.html?idxno=10641
12			연합뉴스	https://www.yna.co.kr/view/AKR20170914066600063
11	Detection of Silver Ions Using Dielectrophoretic Tweezers-Based Force Spectroscopy - <i>Anal. Chem</i>	2016. 11.17	강원타임즈	http://www.kwtimes.co.kr/n_news/news/view.html?page_code=&area_code=&no=61838&code=netfu_44711_17340&s_code=netfu_18573_42426&ds_code=
10			대학저널	http://www.dhnews.co.kr/news/articleView.html?idxno=66166
9	Label-free detection of zinc oxide nanowire using a graphene wrapping method- <i>Biosensors and Bioelectronics</i>	2015. 01.26	글로벌이코노믹	http://www.g-enews.com/ko-kr/news/article/sh/201501261309390134219_1/%EA%B3%A0%EB%A0%A4%EB%8C%80+%EC%97%B0%EA%B5%AC%ED%8C%80%2C+1%EC%B0%A8%EC%9B%90+%EB%82%98%EB%85%B8%EB%8F%85%EC%84%B1%EB%AC%BC%EC%A7%88+%EA%B2%80%EC%B6%9C+%EA%B8%B0%EC%88%A0+%EC%84%

				B8%EA%B3%84+%EC%B2%AB+%EA%B0%9C%EB%B0%9C.html
8			베리타스알파	http://www.veritas-a.com/news/articleView.html?idxno=36243
7			미디어펜	http://www.mediapen.com/news/view/62886
6			충청일보	http://www.ccdailynews.com/news/articleView.html?idxno=750107
5			전자신문	https://www.etnews.com/20150126000084
4			연합뉴스	https://www.yna.co.kr/view/AKR20150126178800004
3	Multimodal label-free detection and		뉴스와이어	https://news.v.daum.net/v/20140402135713744
2	discrimination for small molecules using a	2014. 04.02	정책뉴스	http://www.korea.kr/news/pressReleaseView.do?newsId=155954154
1	nanoporous resonator - <i>Nature Communications</i>		뉴스타운	http://www.newstown.co.kr/news/articleView.html?idxno=164804