Jang Ah KIM PhD in Engineering (Nano Engineering)

Lecturer (UK *equivalent of Assistant Professor*)

The Hamlyn Centre, Department of Mechanical Engineering, Imperial College London, UK

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Web https://www.imperial.ac.uk/people/j.a.kim **Google Scholar** https://bit.ly/2GTTJ8E

LinkedIn https://bit.ly/2H4B4XS **ResearchGate** https://bit.ly/36AZMrh

Summary

Research scientist with over 10 years of experience. Specialised in nano-/micro-fabrication of optical sensing/micro-manipulating devices for biomedical applications. Authored 31 peer-reviewed articles (9 as a lead author) in sensing, nanotechnology, materials, and optics-related journals. Earned 7 awards (including one worth £5k) and 4 sponsorships/bursaries, held 8 intellectual properties, and executed 9 research projects (worth £675k). Highly experienced in supervision and teaching.

Career

Sep 2023 – present **Lecturer**
The Hamlyn Centre, Department of Mechanical Engineering, Imperial College London, UK
- Research theme: "Micro-Nano Engineering for Sensing & Robotics"

Sep 2021 – Aug 2023 **Research Associate in Biosensing**
The Stevens Group, Department of Materials, Imperial College London, UK
- Research topic: "Development of integrated high-dimensionality sensing platform for point-of-care diagnosis"

Apr 2017 – Aug 2021 **Post-Doctoral Research Associate**
The Hamlyn Centre, Department of Computing, Imperial College London, UK
- Research topic: "Development of miniature fibre-optic sensors and devices for minimally invasive, in vivo, cellular-level diagnosis and manipulation"

Qualifications

Mar 2011 – Feb 2017 **PhD in Engineering (Nano Engineering)** (Coursework grade: 94.9%)
Sungkyunkwan Advanced Institute of Nano Technology (SAINT), Sungkyunkwan University, South Korea
- PhD thesis title: "Application of Optical Technologies for the Development of Biomedical and Biochemical Sensors"
- Best PhD graduate prize
- Sungkyun Nano Science Scholarship (100% tuition fees, 4 years)

Mar 2007 – Feb 2011 **BSc in Mechanical Engineering** (Grade: 94.4%)
School of Mechanical Engineering, Sungkyunkwan University, South Korea
- Undergraduate dissertation: "A Study of Nanoparticle Manufacturing by Spark Discharge in Liquid and Gas Condition (2011)"
- National Science & Technology Scholarship (100% tuition fees, 4 years)

Awards/Grants

7. 23 Feb 2017, **Best PhD Graduate Prize**, Head of Sungkyunkwan University Advanced Institute of Nano Technology (SAINT)
6. 9 Jul 2015, **Best Paper Presentation Award**, Korean Association for Particle and Aerosol Research (KAPAR), "Development of high sensitive/miniature contact force sensor by using optical elastomer".
5. 11 Dec 2013, **Best Essay Award**, the Centre for Women in Science, Engineering and Technology (WISET), "Characterizations on the various size-distributed TiO_2 sunblock by using centrifuging and sol-gel synthesis"
4. 22 Aug 2013, **Best Poster Presentation Award**, Korean Vacuum Society (KVS), "Graphene surface treatment by cluster impaction using CO_2 cluster cleaning process".
3. 5 Jul 2013, **Best Paper Presentation Award**, Korean Association for Particle and Aerosol Research (KAPAR), "Graphene surface treatment by using CO_2 cluster jet".
2. 6 Feb 2013, **Bronze prize in Bio Engineering & Life Science division**, The 19th Human Tech Paper Award, Samsung Electronics, "Graphene based Fiber Optic Surface Plasmon Resonance for Bio-chemical Sensor Applications" ***worth £5k, the award rate = 119/1977**.
1. 1 Jul 2011, **Best Paper Presentation Award**, Korean Association for Particle and Aerosol Research (KAPAR), "Evaluation of Multi-layered Graphene Surface Plasmon Resonance-based Fiber Optic Sensor".

Sponsorships/Bursaries

4. **Selected** to participate in *the Global Young Scientists Summit (GYSS) 2021*, 12-15 January 2021, Singapore (online)
3. **Cancer Research UK (CRUK) postdoc bursary** for attending *Early Detection of Cancer Conference*, 24-26 September 2019, Stanford University, Palo Alto, CA, USA.
2. **Student travel grant** for attending *ESOF2014—Euroscience Open Forum 2014: SCIENCE BUILDING/BRIDGES (organised by the Euroscience, Ministry of Higher Education and Science)*, 21-26 June 2014, Copenhagen, Denmark.
1. **Selected trainee** of *2012 KORANET Summer School on European-Korean Cooperation in Environmental and Social Sciences: International Project Management – from Theory to Practice (organised by the Centre for Social Innovation, ZSI)*, 2-6 July 2012, Vienna, Austria.

Teaching & Supervision

- Supervised 6 PhD in Materials students, 1 MRes in Biomedical Research student, 3 MRes in Hamlyn Individual Research (Microrobotics) student, 2 MSc in Mechanical Engineering students, and 4 teams of high-school/undergraduate students for group research projects over 10 years.
- TA in Fluid Mechanics (2 terms), Energy and Environment (1 term), Introduction to Nanoparticle Engineering (1 term)

Esteem Indicators

Conference/Workshop organisation

– Organising committee member of "Advanced Biophotonics – from Bench to Bedside Workshop" in The 2019 Hamlyn Symposium on Medical Robotics, Wednesday 26th June, 2019, The Royal Geographical Society, London, UK.

– Organising committee member of "Advanced Biophotonics: from Bench to Bedside Workshop" in The 2018 Hamlyn Symposium on Medical Robotics, Sunday 24th June, 2018, The Royal Geographical Society, London, UK.

Outreach activities

– Volunteered at the Great Exhibition Road Festival (2018, 2019, 2022, 2023), Friends of Imperial visit (2018)

Peer-review experiences

– Articles in *Science Robotics*, *Biomedical Optics Express*, *Sensors and Actuators A*, *Analytical Chemistry*, *Micromachines*, *Photonics*, etc.

Patents

8. Antoine Barbot, Guang-Zhong Yang, **Jang Ah Kim**, Dominic Wales, Salzitsa Yordanova Anastasova-Ivanova, Burak Temelkuran, Mohamed E. M. K. Abdelaziz, International Publication No. WO 2020/234579 A1, **"A sensor"**, 26 November 2020.
7. Antoine Barbot, Guang-Zhong Yang, **Jang Ah Kim**, Dominic Wales, Salzitsa Yordanova Anastasova-Ivanova, Burak Temelkuran, Mohamed E. M. K. Abdelaziz, UK Patent Publication No. GB 2584143 A, **"A sensor"**, 25 November 2020.
6. Taesung Kim, **Jang Ah Kim**, Atul Kulkarni, Changmin Kim, Kihong Park, Korean Patent Registration No. 10-1797353, **"FORCE SENSOR USING OPTICAL FIBERS IN SERIES, MANUFACTURE METHOD OF THE SAME, MEDICAL DEVICE INCLUDING THE SAME"**, 7 November 2017.
5. Taesung Kim, **Jang Ah Kim**, Atul Kulkarni, Kihong Park, Changmin Kim, Korean Patent Registration No. 10-1797352, **"FORCE SENSOR USING OPTICAL FIBER AND CAPILLARY, MANUFACTURE METHOD OF THE SAME, MEDICAL DEVICE INCLUDING THE SAME"**, 7 November 2017.
4. Taesung Kim, **Jang Ah Kim**, Taehyun Hwang, Korean Patent Registration No. 10-1726024, **"FORCE SENSOR USING OPTICAL FIBER AND CATHETHER USING THE SAME"**, 5 April 2017.
3. Taesung Kim, **Jang Ah Kim**, Taehyun Hwang, Korean Patent Registration No. 10-1536074, **"OPTICAL FIBER POSITION SENSOR HAVING OPTICAL SPHERE AND POSITION SENSING SYSTEM USING THE SENSOR"**, 6 July 2015.
2. Taesung Kim, **Jang Ah Kim**, Taehyun Hwang, Korean Patent Registration No. 10-1509397, **"FORCE SENSOR USING OPTICAL FIBER AND CATHETHER USING THE SAME"**, 31 March 2015.
1. Kyeong Kyu Kim, Taesung Kim, San Boi Hoa, Sang Hyun Moh, **Jang Ah Kim**, Atul Kulkarni, Korean Patent Registration No. 10-1481919, **"BIOMOLECULAR-CAPACITOR USING PROTEIN AND GRAPHENE AND USES THEREOF"**, 6 January 2015.

Research Projects

Research title Grant scheme/Funding body	Role	Period (MM/YY)	Total value
"ASAI project: Development of AI-based cost-effective diagnostic platform" The Bio Studio Program/Bio Innovation Institute (BII), Denmark	Researcher	03/23~08/23	€ 3M
"Multidimensional Target-Agnostic Sensing (MTAS): the next generation of biosensors" The Chairs in Emerging Technologies/Royal Academy of Engineering (RAEng), UK	Researcher	09/21~08/23	£ 2.7M
"Micro-robotics for surgery (EP/P012779/1)" Programme Grant/Engineering and Physical Sciences Research Council (EPSRC), UK	Researcher	04/17~03/22	£ 6.2M
"Smart sensing for surgery (EP/L014149/1)" Standard Research/EPSRC	Researcher	04/17~09/18	£ 3M
"Development of fiber optic sensors, navigation and imaging guide for real-time and highly sensitive active catheter process monitoring" Korea Health Technology R&D Project/Korea Health Industry Development Institute, Ministry of Health and Welfare	Leading researcher	04/14~03/17	£ 400k

"Development of real-time/highly sensitive optical fiber sensors for atmospheric CO_2 monitoring" Undergraduate Creative & Convergence Research Program/Korea Foundation for the Advancement of Science & Creativity	Assistant supervisor	06/14~11/14	£ 10k
"Development of real-time automotive IAQ monitoring fiber optic sensors coated with ionic liquid-polymer composite films" "Development of sensor for exhaust gas from vehicle using graphene based optical fiber" Gyeonggi-do Regional Research Center (GRRC)/GRRC	Leading researcher	07/13~06/16	£ 90k
"Study on the optimization and standardization of the graphene CVD synthesis and post-process by fluid dynamic analysis" Basic Research Program/National Research Foundation of Korea, Ministry of Education	Leading researcher	11/13~10/16	£ 150k
"Characterizations on the various size-distributed TiO_2 sunblock by using centrifuging and sol-gel synthesis" 2013 Team Research Project Support for Female Undergraduate and Graduate Engineering Students/Centre for Women in Science, Engineering and Technology (WISET)	PI	05/13~11/13	£ 6k
"A study on the real-time detection of bio-material by using graphene hybrid optical fiber/thin film sensor" 2012 Samsung Academic Research Foundation/Sungkyunkwan University	Leading researcher	07/12~06/13	£ 15k
"Development of a virtual impactor for separation of micro-/nano-particles" 2011 Team Research Project Support for Female Undergraduate and Graduate Engineering Students/WISET	PI	05/11~10/11	£ 5k

Peer-Reviewed Article Publications *(*Co-1st authorship, †Co-corresponding authorship)*

2023

31. **Jang Ah Kim*,†**, Yingwei How, Meysam Kesharvarz, Eric M. Yeatman, Alex J. Thompson†, "Characterization of bacteria swarming effect under plasmonic optical fiber illumination", *J. Biomed. Opt.* **28,** 075003 (2023)

2021

30. **Jang Ah Kim†**, Eric M. Yeatman, Alex J. Thompson†, "Plasmonic optical fiber for bacteria manipulation—characterization and visualization of accumulation behavior under plasmo-thermal trapping", *Biomed. Opt. Exp.* **12,** 3917-3933 (2021)

2020

29. **Jang Ah Kim*,†**, Dominic J. Wales*, Guang-Zhong Yang†, "Optical spectroscopy for in vivo medical diagnosis—a review of the state of the art and future perspectives", *Prog. Biomed. Eng.* **2,** 042001 (2020).
28. Panagiotis Kassanos, Melissa Berthelot, **Jang Ah Kim**, Bruno M.G. Rosa, Florent Seichepine, Salzitsa Anastasova, Mikael H. Sodergren, Daniel Richard Leff, Benny Lo, Ara Darzi, Guang-Zhong Yang, "Smart Sensing for Surgery: From Tethered Devices to Wearables and Implantables", *IEEE Syst. Man. Cy. Mag.* **6,** 39-48 (2020).
27. **Jang Ah Kim**, Dominic J Wales, Alex J Thompson, Guang-Zhong Yang, "Fiber-Optic SERS Probes Fabricated Using Two-Photon Polymerization For Rapid Detection of Bacteria", *Adv. Opt. Mater.* **8,** 1901934 (2020). – *featured as the Front Cover article*

2018

26. Sreekantha Reddy Dugasani, Bjorn Paulson, Taewoo Ha, Tae Soo Jung, Bramaramba Gnapareddy, **Jang Ah Kim**, Taesung Kim, Hyun Jae Kim, Jae Hoon Kim, Kyunhwan Oh, Sung Ha Park, "Fabrication and

optoelectronic characterisation of lanthanide- and metal-ion-doped DNA thin films", *J. Phys. D: Appl. Phys.* **51,** 285301 (2018).

2017

25. Sreekantha Reddy Dugasani, Bramaramba Gnapareddy, **Jang Ah Kim**, Sanghyun Yoo, Taehyun Hwang, Taesung Kim, Sungha Park, "Structural stability and electrical characteristic of DNA lattices doped with lanthanide ions", *Curr. Appl. Phys.* **17,** 1409-1414 (2017).
24. Manish Shinde, Nilam Qureshi, Sunit Rane, **Jang Ah Kim**, Taesung Kim, Dinesh Amalnerkar, "Instantaneous Synthesis of Faceted Iron Oxide Nanostrctures Using Microwave Solvothermal Assisted Combustion Technique", *J. Nanosci. Nanotechnol.* **17,** 5024-5030 (2017).

2016

23. **Jang Ah Kim**, Kihong Park, Changmin Kim, Atul Kulkarni, Taesung Kim, "Optical contact force monitoring sensor for cardiac ablation catheters", *Optik* **127,** 11823-11827 (2016).
22. Hongyi Qin, Taehyun Hwang, Chisung Ahn, **Jang Ah Kim**, Yinhua Jin, Yujin Cho, Cheolmin Shin, Taesung Kim, "Chemical amination via cycloaddition of graphene for use in a glucose sensor", *J. Nanosci. Nanotechnol.* **16,** 5034-5037 (2016).
21. Yinhua Jin, Hongyi Qin, **Jang Ah Kim**, Sun-Young Kim, Hyeong-U Kim, Yong Taik Lim, Taesung Kim, Atul Kulkarni, Dongbin Kim, "High-Purity Amino-Functionalized Graphene Quantum Dots Derived from Graphene Hydrogel", *Nano* **11,** 1650138(2016).
20. Sreekantha Reddy Dugasani, Taehyun Hwang, **Jang Ah Kim**, Bramaramba Gnapareddy, Taesung Kim, Sung Ha Park, "Metal electrode dependent field effect transistors made of lanthanide ion-doped DNA crystals", *J. Phys. D: Appl. Phys.* **49,** 105501(6) (2016).

2015

19. Myungjoon Kim, Taegee Min, O-Ki Kwon, Hojoong Kim, Takafumi Seto, Yeongseok Kim, **Jang Ah Kim**, Taesung Kim, "Numerical study on proximal ischemia", *J. Mech. Sci. Technol.* **29,** 5523-5529 (2015).
18. Bramaramba Gnapareddy, Sang Jung Ahn, Sreekantha Reddy Dugasani, **Jang Ah Kim**, Rashid Amin, Sekhar Babu Mitta, Srivithya Vellampatti, Byeonghoon Kim, Atul Kulkarni, Taesung Kim, Kyusik Yun, Thomas H. Labean, Sung Ha Park, "Coverage percentage and Raman measurement of cross-tile and scaffold cross-tile based DNA nanostructures", *Colloid Surf. B-Biointerfaces* **135,** 677-681 (2015).
17. Hyeong-U Kim, Sreekantha Reddy Dugasani, Atul Kulkarni, Bramaramba Gnapareddy, **Jang Ah Kim**, Sung Ha Park, Taesung Kim, "A methanol VOC sensor using divalent metal ion-modified 2D DNA lattices", *RSC Adv.* **5,** 67712-67717 (2015).
16. Sreekantha Reddy Dugasani, Myoungsoon Kim, In-yeal Lee, **Jang Ah Kim**, Bramaramba Gnapareddy, Keun Woo Lee, Taesung Kim, Man Huh, Gil-Ho Kim, Sang Chul Park, Sung Ha Park, "Construction and characterization of Cu^{2+}, Ni^{2+}, Zn^{2+}, and Co^{2+} modified-DNA crystals", *Nanotechnology* **26,** 275604(8) (2015).
15. Bramaramba Gnapareddy, Taewoo Ha, Sreekantha Reddy Dugasani, **Jang Ah Kim**, Byeonghoon Kim, Taesung Kim, Jae Hoon Kim, Sung Ha Park, "DNA reusability and optoelectronic characteristics of streptavidin-conjugated DNA crystals on a quartz substrate", *RSC Adv.* **5,** 39409-39415 (2015).
14. Srivithya Vellampatti, Sekhar Babu Mitta, **Jang Ah Kim**, Taehyun Hwang, Sreekantha Reddy Dugasani, Taesung Kim, Sung Ha Park, "Streptavidin bound DNA open tube and Zn^{2+}-doped DNA open lattice", *Curr. Appl. Phys.* **15,** 851-856 (2015).

2014

13. Boi Hoa San*, **Jang Ah Kim***, Atul, Kulkarni, Sang Hyun Moh, Sreekantha Reddy Dugasani, Vinod Kumar Subramani, Nanasaheb D. Thorat, Hyun Ho Lee, Sung Ha Park, Taesung Kim, Kyeong Kyu Kim, "Combining Protein-Shelled Platinum Nanoparticles with Graphene to Build a Bionanohybrid Capacitor", *ACS Nano* **8,** 12120-12129 (2014).
12. Hoomi Choi*, **Jang Ah Kim***, Yujin Cho, Taehyun Hwang, Jongwoo Lee, Taesung Kim, "Conditioning of graphene surface by CO_2 cluster jet", *RSC Adv.* **4,** 41922-41926 (2014).
11. Bramaramba Gnapareddy, **Jang Ah Kim**, Sreekantha Reddy Dugasani, Anshula Tandon, Byeonghoon Kim, Saima Bashar, Ji Ah Choi, Goon Ho Joe, Taesung Kim, Tai Hwan Ha, Sung Ha Park, "Fabrication and characterization of PNA-DNA Hybrid Nanostructures", *RSC Adv.* **4,** 35554-35558 (2014).
10. Sarang Gahng, Chang Ho Ra, Yu Jin Cho, **Jang Ah Kim**, Taesung Kim, Won Jong Yoo, "Reduction of metal contact resistance of graphene devices via CO_2 cluster cleaning", *Appl. Phys. Lett.* **104,** 223110(4) (2014).
9. Hongyi Qin, Yang Xu, **Jang Ah Kim**, Taehyun Hwang, Taesung Kim, "The effect of structure on the photoactivity of a graphene/TiO_2 composite", *Mater. Sci. Eng. B-Adv.* **184,** 72-79 (2014).

8. Sreekantha Reddy Dugasani, **Jang Ah Kim**, Byeonghoon Kim, Pranav Joshirao, Bramaramba Gnapareddy, Chirag Vyas, Taesung Kim, Sung Ha Park, Vijay Manchanda, "A 2D DNA Lattice as an Ultrasensitive Detector for Beta Radiations" *ACS Appl. Mater. Interfaces* **6,** 2974-2979 (2014).

2013

7. Monical Samal, Priyaranjan Mohapatra, Ramesh Subbiah, Chang-Lyoul Lee, Benayad Amass, **Jang Ah Kim**, Taesung Kim, Dong Kee Yi, "InP/ZnS-graphene oxide and reduced graphene oxide nanocomposites as fascinating materials for potential optoelectronic applications", *Nanoscale* **5,** 9793-9805 (2013).
6. Atul Kulkarni, Byeonghoon Kim, Sreekantha Reddy Dugasani, Pranav Joshirao, **Jang Ah Kim**, Chirag Vyas, Vijay Manchanda, Taesung Kim, Sung Ha Park, "A novel nanometric DNA thin film as a sensor for alpha radiation", *Sci. Rep.* **3,** 2062(5) (2013).
5. Taehyun Hwang, **Jang Ah Kim**, Atul Kulkarni, Taesung Kim, "Graphene photo detector with integrated waveguide biochemical sensors", *Sensor. Atuat. B-Chem.* **187,** 319-322 (2013).
4. **Jang Ah Kim**, Taehyun Hwang, Sreekantha Reddy Dugasani, Rashid Amin, Atul Kulkarni, Sung Ha Park, Taesung Kim, "Graphene based fiber optic surface plasmon resonance for bio-chemical sensor applications", *Sensor. Atuat. B-Chem.* **187,** 426-433 (2013).

2012

3. Surajit Some, **Jang Ah Kim**, Keunsik Lee, Atul Kulkarni, Yeoheung Yoon, SaeMi Lee, Taesung Kim, Hyoyoung Lee, "Highly Air-Stable Phosphorus-Doped n-Type Graphene Field-Effect Transistors", *Adv. Mater.* **24,** 5481-5486 (2012).
2. **Jangah Kim**, Manasi Kasture, Taihyun Hwang, Atul Kulkarni, Rashid Amin, Sungha Park, Taesung Kim, Suresh Gosavi, "Graphene-based waveguides: novel method for detecting biological activity", *Appl. Biochem. Biotech.* **167,** 1069-1075 (2012).
1. **Jang Ah Kim**, Atul Kulkarni, Junmo Kang, Rashid Amin, Jae-Boong Choi, Sung Ha Park, Taesung Kim, "Evaluation of multi-layered graphene surface plasmon resonance-based transmission type fiber optic sensor", *J. Nanosci. Nanotechnol.* **12,** 5381-5385 (2012).

Conference Proceedings

7. **Jang Ah Kim**, Dominic J. Wales, Alexander J. Thompson, Guang-Zhong Yang, "Towards development of fibre-optic surface enhanced Raman spectroscopy probes using 2-photon polymerisation for rapid detection of bacteria", *Proc. SPIE 10894, Plasmonics in Biology and Medicine XVI*, San Francisco, 108940F, (2019); doi: 10.1117/12.2507961
6. **Jang Ah Kim**, Atul Kulkarni, Changmin Kim, Kihong Park, Taesung Kim, "Fiber Optic Lateral Coupling Force Sensor for Biomedical Applications", *Procedia Eng.* 168, 1227-1230 (2016); doi: 10.1016/j.proeng.2016.11.426
5. **Jang Ah Kim**, Changmin Kim, Kihong Park, Atul Kulkarni, Taesung Kim, "Development of an integrated optical contact force monitoring sensor for cardiac ablation catheters", *2015 37th Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC)*, Milan, 4363-4366 (2015); doi: 10.1109/EMBC.2015.7319361
4. Atul Kulkarni, Sreekantha Reddy Dugasani, **Jang Ah Kim**, Hyeong-U Kim, Sung Ha Park, Taesung Kim, "Photoelectric properties in metal ion modified DNA nanostructure", *2015 37th Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC)*, Milan, 4359-4362 (2015); doi: 10.1109/EMBC.2015.7319360
3. **Jang Ah Kim**, Taehyun Hwang, Sreekantha Reddy Dugasani, Atul Kulkarni, Sung Ha Park, Taesung Kim, "Functional graphene composite films for surface plasmon resonance sensor technology", *SENSORS, 2014 IEEE*, Valencia, 2014, pp. 1328-1331. doi: 10.1109/ICSENS.2014.6985256
2. Taehyun Hwang, **Jang Ah Kim**, "Glucose waveguide sensor based on graphene," *SENSORS, 2014 IEEE*, Valencia, 1324-1327 (2014); doi: 10.1109/ICSENS.2014.6985255
1. **Jang Ah Kim**, Taehyun Hwang, Rashid Amin, Sung Ha Park, Atul Kulkarni, Taesung Kim, "Graphene based fiber optic surface plasmon resonance for bio-chemical sensor applications", *Proc. IMCS 2012*, Nuremberg, 175-177 (2012); doi: 10.5162/IMCS2012/2.2.4

International Conferences Presentations

17. **Jang Ah Kim**, Dominic J. Wales, Alex J. Thompson, Guang-Zhong Yang, 2019, SPIE Photonics West BiOS, *"Toward development of fiber-optic surface enhanced Raman spectroscopy probes using 2-photon polymerization for rapid detection of bacteria"*, Oral presentation 4 February, San Francisco, California, United States.
16. **Jang Ah Kim**, Atul Kulkarni, Changmin Kim, Kihong Park, and Taesung Kim, 2016, 30th Eurosensors Conference, Eurosensors 2016, "*Fiber optic lateral coupling force sensor for biomedical applications*", Oral presentation, September 7, Budapest, Hungary.
15. **Jang Ah Kim**, Changmin Kim, Kihong, Park, Atul Kulkarni, and Taesung Kim, 2015, 37th Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBS), "*Development of an Integrated Optical Contact Force Monitoring Sensor for Cardiac Ablation Catheters*", Poster presentation, August 27, Milano, Italy.
14. **Jang Ah Kim**, Taehyun Hwang, Sreekantha Reddy Dugasani, Kulkarni Atul, Sung Ha Park, and Taesung Kim, 2014, IEEE SENSORS 2014, "*Functional Graphene Composite Films for Surface Plasmon Resonance Sensor Technology*", Poster presentation, November 4, Valencia, Spain.
13. Hoomi Choi, **Jang Ah Kim**, Yujin Cho, Taehyun Hwang, Jongwoo Lee, and Taesung Kim, 2014, 12th International Symposium on Ultra Clean Processing of Semiconductor Surfaces, "*Surface cleaning of graphene by CO_2 cluster*", Poster presentation, September 21-24, Brussels, Belgium.
12. **Jang Ah Kim**, Atul Kulkarni, Hang Zhang, Soohyun Ha, Hongyi Qin, Yang Xu, Taehyun Hwang, Hyung U Kim, and Taesung Kim, 2014, 2014 ACRA-The 7th Asian Conference on Refrigeration and Air Conditioning, "*Novel environmental monitoring sensor technologies with fiber optics and various sensing layers*", Oral presentation, May 21, Jeju Grand Hotel, Jeju, Republic of Korea.
11. **Jang Ah Kim**, Taehyun Hwang, Sreekantha Reddy Dugasani, Atul Kulkarni, Sung Ha Park, and Taesung Kim, 2013, BIEN 2013-Korean Woman's Leadership in Science & Engineering and Future, "*Graphene based Fiber Optic Surface Plasmon Resonance for Bio-chemical Sensor Applications*", Poster presentation, August 23, Sheraton Grand Walkerhill Hotel, Seoul, Republic of Korea.
10. Hoomi Choi, **Jang Ah Kim**, Yujin Cho, Taehyun Hwang, Jongwoo Lee, and Taesung Kim, 2013, NANO KOREA 2013, "*Graphene surface treatment by using CO_2 cluster jet*", Oral presentation, July 12, COEX, Seoul, Republic of Korea.
9. **Jang Ah Kim**, Taehyun Hwang, Sreekantha Reddy Dugasani, Sung Ha Park, and Taesung Kim, 2013, 3rd International Conference on Bio-sensing Technology (ICBT), *"Detection of Ligand-Receptor Binding with Graphene Coated Wavelength-Modulated SPR Sensor"*, Poster presentation, May 12-15, Sitges, Spain.
8. **Jang Ah Kim**, Hooni Choi, Taehyun Hwang, and Taesung Kim, 2012, NANO KOREA 2012-Symposium on Graphene Nanotechnology, "*A numerical study on the effects of fluid flow and heat transfer during graphene synthesis*", Poster presentation, August 17, COEX, Seoul, Republic of Korea.
7. **Jang Ah Kim**, Taehyun Hwang, Sungha Park, Atul Kulkarni, and Taesung Kim, 2012, ICMAP 2012-The 4th International Conference on Microelectronics and Plasma Technology, "*Graphene coated fiber optic SPR sensor for bioaffinity: graphene sheets lamination study*", Poster presentation, July 6, Ramada Plaza Jeju Hotel, Jeju, Republic of Korea.
6. **Jang Ah Kim**, Taehyun Hwang, Rashid Amin, Sungha Park, Atul Kulkarni, and Taesung Kim, 2012, IMCS 2012-The 14th International Meeting on Chemical Sensors, *"Graphene based Fiber Optic Surface Plasmon Resonance for Bio-chemical sensor Applications"*, Oral presentation, May 21, NürnbergMesse: Nürnberg, Germany.
5. **Jang Ah Kim**, Manasi Kasture, Atul Kulkarni, Rashid Amin, Sungha Park, Taesung Kim, and Suresh Gosavi, 2011, NHBT 2011-New Horizons in Biotechnology 2011, *"Graphene based waveguides: Novel method for detecting biological activity"*, Poster presentation, November 21-24, Trivandrum, India.
4. **Jang Ah Kim**, Manasi Kasture, Atul Kulkarni, Taesung Kim, and Suresh Gosavi, 2011, NHBT 2011-New Horizons in Biotechnology 2011, *"Use of Graphene for Bio-Sensors based on Surface Plasmon Resonance"*, Poster presentation, November 21-24, Trivandrum, India.
3. **Jang Ah Kim**, Atul Kulkarni, Junmo Kang, Rashid Amin, Jaeboong Choi, Sungha Park, and Taesung Kim, 2011, 220th ECS-The 220th Electrochemical Society Meeting, *"A Novel Graphene Based SPR Biosensor using Optical Fiber"*, Oral presentation, October 12, BCEC: Boston, MA, USA.
2. **Jang Ah Kim**, Atul Kulkarni, Rashid Amin, Sungha Park, and Taesung Kim, 2011, RPGR 2011-Recent Progress in Graphene Research 2011, *"Graphene based waveguides for bio sensors"*, Poster presentation, October 3, Sungkyunkwan University: Suwon, Republic of Korea.

1. **Jang Ah Kim**, Atul Kulkarni, Junmo Kang, Rashid Amin, Jaeboong Choi, Sungha Park, and Taesung Kim, 2011, NANO KOREA 2011, *"Evaluation of Multi-layered Graphene Surface Plasmon Resonance-based Fiber Optic Sensor"*, Oral presentation, August 24, KINTEX: Goyang, Republic of Korea.