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Department of Chemical and Biological Engineering, Korea University

Professor Jwa-Min Nam, Ph.D.
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Department of Nuclear Medicine, Seoul National University

대한나노의학회
Korean Society for Nanomedicine

July 22, 2016

Mingyuan Gao
Professor
Institute of Chemistry, Chinese Academy of Sciences
Bei Yi Jie 2, Zhong Guan Cun, Beijing 100190 China
Email: gaomy@iccas.ac.cn

Dear Prof. Mingyuan Gao,

We would like to cordially invite you to give a Keynote Lecture at the 1st International Society for Nanomedicine (ISNM) Congress, which will be held at Korea University, Seoul, South Korea from September 28 to 30, 2016. The congress will bring the nanomedicine-related global experts in science, engineering and medicine together to inspire researchers, facilitate interdisciplinary discussions and collaborations and help network researchers with completely different backgrounds. Your local stay at The Plaza Hotel Seoul and honorarium will be covered by us. Registration fee is also waived for invited speakers. Please find detailed information attached.

We will be highly grateful if you can accept this invitation - having you as a speaker is critical for success of the congress. Please notify your acceptance with a title by July 31, 2016 and the abstract (1 page) and a brief CV (~2 pages) by August 15, 2016. We look forward to welcoming you to the 1st ISNM congress in Seoul as a distinguished guest and speaker.

Thank you.



Dong June Ahn, Ph.D.
Chair, 1st ISNM Congress
Professor
Korea University



Jwa-Min Nam, Ph.D.
Co-Chair, 1st ISNM Congress
Professor
Seoul National University



Keon Wook Kang, M.D.
Co-Chair, 1st ISNM Congress
Professor
Seoul National University

INFORMATION

Program

Program will be sent before long.

Detailed information will be uploaded at the homepage soon. (<http://www.nanomedicine.or.kr/english.php>)

Honorarium

1,100,000 KRW (USD 1,000)

The honorarium is based on the fixed exchange rate of 1,100 Korean won to 1 U.S. dollar.

Accommodation

The Plaza Hotel Seoul (www.hoteltheplaza.com/eng)

Newly built 5-star hotel in the central area of Seoul.

Up to 3 nights' of accommodation will be covered (about USD 700).

Registration

Registration fee (USD 500) will be waived.

Speaker's Material

Please send brief CV (~2 pages) and abstract (1 page) by August 15, 2016.

Templates of CV and abstract are attached.

Contact Information

Official Congress Management Partner

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(CV Template)

Jwa-Min Nam



• Education

- Northwestern University, Chemistry, 2004 (Ph. D.) (w/ Chad Mirkin & Mark Ratner)
- Hanyang University, Chemistry, 1996 (B. S.); 2000 (M. S.)

• Professional Career

- Vice-Chair, International Cooperation, Korean Chemical Society: 2016-Current
- Executive Director, Korean Society for Nanomedicine: 2015-Current
- Editorial Board Member, *ChemNanoMat* (Wiley-VCH): 2014-Current
- Visiting Professor, College of Chemistry and Molecular Engineering, Peking University: 2016
- Visiting Professor, Institute of Physics, Chinese Academy of Sciences: 2014
- Visiting Professor, Dept. of Chemistry, National University of Singapore: 2013
- Assistant Professor (2006-2010), Associate Professor (2010-2015) and Full Professor (2015-Current), Department of Chemistry, Seoul National University
- Consultant, Nanosphere, Inc.: 2004
- Postdoc, Dept. of Chemistry, UC Berkeley & Lawrence Berkeley National Lab: 2004-2005

• Honors

- Chinese Academy of Sciences Fellowship for International Scientists: 2014
- Distinguished Lectureship Award, Chemical Society of Japan: 2013
- Presidential Young Scientist Award, President of Korea and KAST: 2012
- Frontier Scientist, Korean Academy of Science and Technology: 2012-Current
- Young Inorganic Chemist Award, Korean Chemical Society: 2012
- Outstanding Research Achievement Award, MEST, Republic of Korea: 2010
- Victor K. LaMer Award, American Chemical Society: 2006
- Collegiate Inventors Award, National Inventors Hall of Fame, USA & USPTO: 2004

• Selected Recent Publications

1. Controlled Co-Assembly of Nanoparticles and Polymer into Ultralong and Continuous One-Dimensional Nanochains, *J. Am. Chem. Soc.* **2015**, *137*, 8030.
2. Transparent, Nanoporous and Transferable Membrane-Based Cell-Cell Paracrine Signaling Assay, *Advanced Materials* **2015**, *27*, 1893.
3. Oxidative Nanopeeling Chemistry-Based Synthesis and Photodynamic and Photothermal Therapeutic Applications of Plasmonic Core-Petal Nanostructures, *J. Am. Chem. Soc.* **2014**, *136*, 16317.
4. Plasmonic Nanosnowmen with a Conductive Junction as Highly Tunable Nanoantenna Structures and Sensitive, Quantitative and Multiplexable Surface-Enhanced Raman Scattering Probes, *Nano Letters* **2014**, *14*, 6217.
5. Massively Parallel and Quantitative Single-Particle Analysis on Interactions between Plasmonic Nanoparticles on Supported Lipid Bilayer, *J. Am. Chem. Soc.* **2014**, *136*, 4081.
6. Bio-Barcode Gel Assay for MicroRNA, *Nature Communications* **2014**, *5*, 3367.
7. Single-Molecule and Single-Particle-Based Correlation Studies between Localized Surface Plasmons of Dimeric Nanostructures with ~1-nm Gap and Surface-Enhanced Raman Scattering, *Nano Letters* **2013**, *13*, 6113.
8. Directional Synthesis and Assembly of Bimetallic Nanosnowmen with DNA, *J. Am. Chem. Soc.* **2012**, *134*, 5456.
9. Highly Uniform and Reproducible Surface-Enhanced Raman Scattering from DNA-Tailorable Nanoparticles with 1-nm Interior Gap, *Nature Nanotechnology* **2011**, *6*, 452.
10. Nanogap-Engineerable, Raman-Active Nanodumbbells for Single-Molecule Detection, *Nature Materials* **2010**, *9*, 50.

• Others

Title of Your Presentation

Nano Lee¹, Nano Choi², and Nano Kim^{1, 2, 3*}

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Considerable research attention has focused on the potential of HfO₂ as a next-generation gate dielectric material due to many advantages in comparison with SiO₂, such as a high dielectric constant (15–25), wide band gap (5.6 eV) and large band offsets (1.5 eV) [1].

In MOSFET devices, reactive ion etching (RIE) has been successfully applied to transfer the mask pattern to the substrate. However novel etching processes capable of satisfying the new requirements resulting from the nanoscale components need to be developed due to the thin thickness and the high surface-to-volume ratio of the materials to be etched. Therefore, in the gate dielectric etch processing of nanoscale MOSFET devices, precise control of the etch rate has become a greater prerequisite than achieving a high etch rate due to the extreme thinness of the gate dielectric material. In addition, the etched surface and the gate dielectric material must remain undamaged for the gate dielectric processing of nanoscale devices. However, conventional RIE tends to cause electrical and physical damage to the surface of the devices due to use of energetic reactive ions and the difficulty in the precise etch rate (depth) control at an atomic scale. For the etching of ultra-thin HfO₂ gate dielectrics in nanoscale MOSFET devices, atomic layer etching (ALET) may be the most suitable method because it is capable of etching materials with atomic-scale etch controllability while avoiding etch damage.

In this study, HfO₂ (3.5 nm) was etched on the SiO₂/Si (p-type substrate) by ALET using an Ar neutral beam and BCl₃ gas and the resulting etch characteristics and the electrical properties of the devices formed were investigated.

References

1. H. R. Jones and M. K. Wiles, *J. Phys. Chem.* 78, 8356 (1999).

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