# Curriculum Vitae


**Name :** **Kwang Soo Kim**

**Born :** Feb. 6, 1950 (Korea)

**Address :** (office) Department of Chemistry, School of Natural Science, Ulsan National Institute of Science and Technology (UNIST), (Bldg. 103) 50 UNIST-gil, Ulsan 44919, Korea
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**Web page:** http://csm.unist.ac.kr (Center for Superfunctional Materials),
http://www.researcherid.com/rid/C-7538-2012 (ISI)
http://scholar.google.com/citations?hl=en&user=dWoR7zwAAAAJ


**Education :**

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| 9/78-6/82 | Univ. of California, Berkeley, Chemistry, Ph.D. |
| 9/73-6/75 | Korea Advanced Institute of Science & Tech., Physics, M.S. |
| 3/71-2/73 | Seoul National Univ., Applied Chemistry, M.Eng.. |
| 3/67-2/71 | Seoul National Univ., Engineering College, Applied Chemistry, B.S. |

**Professional Experiences :**

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| 3/14-present | Ulsan National Institute of Science and Technology (UNIST), Center for Superfunctional Materials, Director |
| 3/14-present | Ulsan National Institute of Science and Technology (UNIST), Dept. of Chemistry, School of Natural Science, Distinguished Professor. |
| 12/97-2/14 | Pohang Univ. of Science & Tech., Center for Superfunctional Materials, Director |
| 1/88- 2/14 | Pohang Univ. of Science & Tech., Dept. of Chemistry, Ass. - Full Professor. |
| 8/04- 6/05 | Columbia Univ. Dept. Elect. Engineering & NanoCenter, Visiting Scholar |
| 8/94- 7/95 | MIT, Dept. of Physics, Visiting Scientist |
| 8/85-12/87 | Rutgers Univ., Visiting Assistant Professor, Research Assistant Professor |
| 9/82- 7/85 | IBM/NFCR, Postdoctoral Research Fellow |
| 9/75- 9/78 | Chungnam National Univ. Dept. of Physics, Instructor, Assistant Professor |

**Professional Societies:** Amer. Chem. Soc. (ACS), Korean Chem. Soc. (KCS),
Korean Academy of Science and Tech. [Fellow] (1999),
International Academy of Quantum Molecular Science (IAQMS) membership (2009):
http://www.iaqms.org/members/kim.php

**Editors and Board Members of International Journals:**

Journal of Physical Chemistry A, B, C (Am. Chem. Soc.); (2015-2017); Senior Editor
Wiley Interdisciplinary Reviews: Computational Molecular Science (Wiley); (2011-present)
Chemistry Letters (Chem. Soc. Japan); (2010- present)
NPG Asia Materials (Nature Publishing Group); (2009-present)
Chemical Physics Letters (Elsevier); (2009- present)
Advances in Physical Chemistry (Hindawi); (2008- present)
Computational and Theoretical Chemistry (Elsevier); (2007- present)
Chemistry – An Asian Journal (Wiley-VCH); (2006- 2013)

Journal of Computational Chemistry (Wiley-VCH); (2005- present)

Bulletin of Korean Chemical Society; (2000- 2009) [Associate Editor, 3/00-12/03]

**Board Member of International Conferences:**

World Association of Theoretically Oriented Chemistry (WATOC) (2005- present)

Asian Pacific Conference on Theoretical and Computational Chemistry (APCTCC) (2005- present)

**Research Interests:** Theoretical/computational chemistry/physics (density functional theory, ab initio theory, molecular dynamics, statistical thermodynamics, molecular recognition, self-assembly, transport phenomena, nonequilibrium thermodynamics, entanglement perturbation theory)

Experimental Nanosciences (functional molecules/materials, molecular sensing, molecular engineering, nano electronic/spintronic/photonic devices, light harvesting, photosynthesis, green chemistry, $CO_2/H_2$/energy storage, DNA sequencing, molecular robots)

**Awards & Honors:** QMOA Senior Scientist medal for outstanding scientific achievements at the Quantum Systems in Chemistry, Physics, and Biology (QSCP XXII) conference, China (2017)

Mulliken Lecture, Univ. of Georgia, USA (2011)

Fukui medal from Asia-Pacific Association of Theoretical and Computational Chemistry (APATCC) (2011): [http://www.apatcc.org/awards.html]

Korea Premium Science and Technology Award (2010) 대한민국 최고과학기술인상

Korea National Honor Scientist (2010) 국가과학자

International Academy of Quantum Molecular Science (IAQMS): membership elected (2009): [http://www.iaqms.org/members/kim.php]

UNIST Distinguished Professor (2014-present)

Postech Fellow (2009-2014)

Hongdeuk Chaired Professor (2004-2007)

Korea Science Award from Korean President (2004) 한국과학상

Academic Achievement Award from the Korean Chemical Society (2001)

**Invited Talks**: ~130 invited talks in international conferences including **~35** plenary and keynote talks

**Citations/Impact.:** ~**500** publications in SCI journals; **SCI Citations ~ 38,000; H-index: 86**

**Brief Introduction of Publications:**

- About 500 papers have been published in prestigious journals such as Nature, Science, Nature Nanotech., Nature Commun., Chem. Rev., Chem. Rev. Soc., Proc. Natl. Acad. Sci., Acc. Chem. Res., Phys. Rev. Lett, J. Am. Chem. Soc., Angew. Chem. Int. Ed., Chem. Eur. J., Org. Lett., J. Org. Chem., Phys. Rev., J. Chem. Phys., J. Phys. Chem., etc. (refer to: http://csm.unist.ac.kr). One book and twelve book chapters have been published [Marcel Dekker, Elsevier, American Science, World Scientific., etc..

- These papers have been well cited. Organic nanotubes and nanowires (*JACS* 2001, *Science* 2001) and left handed helices (*JACS* 2001) were featured in *C&EN*. Extraction of thinnest carbon nanotubes (*PNAS* 2005) was featured in *Nature* (Materials website). Supermagnetism in graphene nanoribbon (*Nature Nanotech.* 2008) was featured in NPG Asia materials. Large scale graphene ultrathin films (*Nature* 2009a) which we collaborated with my former student (BH Hong) was featured in *New York Times* and cited in the official "Nobelprize.org" press release for the 2010 Nobel prize in physics. Near field focusing and magnification beyond the diffraction limit of the self assembled nanolenses was published (*Nature* 2009b), which was featured in *Laser Focus World*, *Nature Nanotech.*, *NPG Asia Materials (Nature Publ.*

*Group), Technology Review (MIT), Chem. & Eng. News (Am. Chem. Soc.), Nanotechweb.org (IOP),* and Korean television and newspapers. An ultrafast DNA sequencing method (*Nature Nanotech.* 2011) was featured in *NPG Asia Materials (Nature Publ. Group),* magzines, newspapers and TV. Synthesis of 3rd type of Calix compounds (*Nature Commun.* 2013a) and highly active Pt-DNA-graphene catalysts for fuel cell (*Nature Commun.*2013b) were featured in newspapers.

**Brief Summary of SCI Publications**

**Journals (IF): No. of publications: [Total: 485]**

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| **Nature** | **(40.137): 2,** | **Science** | **(37.205): 1,** | **Nature Nanotech.** | **(38.986): 3,** |
| **Nature Commun.** | **(12.124): 3,** | **Chem. Rev.** | **(47.928): 3,** | **Chem. Soc. Rev.** | **(38.618): 2,** |
| **Prog. Mater. Sci.** | **(31.140): 1,** | **Acc. Chem. Res.** | **(20.268): 2,** | **Adv. Mater.** | **(19.791): 9,** |
| **ACS Nano** | **(13.942):19,** | **J.Am.Chem.Soc.** | **(13.858):29,** | **Phys. Rev. X** | **(12.789): 1,** |
| **Nano Lett.** | **(12.712): 4,** | **Nano Energy** | **(12.343): 1,** | **Adv.Funct. Mater.** | **(12.124):1,** |
| **Angew. Chem.** | **(11.994): 6,** | **ACS Catal.** | **(10.614) 1.** | **Proc.Nat.Acad.Sci.** | **(9.661): 5,** |
| **Chem. Mater.** | **(9.466): 1,** | **J. Phys. Chem. Lett.** | **(9.353): 5,** | **J. Mater. Chem. A** | **(8.867): 4,** |
| **Chem. Sci.** | **(8.668):1,** | **Phys. Rev. Lett.** | **(8.462): 9,** | **ACS Appl.Mater.Inter.** | **(7.504):7,** |
| **Nanoscale** | **(7.367): 7,** | **Org. Lett.** | **(6.579):13,** | **Carbon** | **(6.337): 3,** |
| **Chem. Commun.** | **(6.319): 7,** | **Anal Chem** | **(6.320): 1,** | **Env. Sci. Tech.** | **(6.198):1,** |
| **Chem. Eur. J.** | **(5.317):13,** | **J.Chem.Theor.Comput.** | **(5.245):18,** | | |

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| **Inorg. Chem.** | **(4.857): 1,** | **J. Org. Chem.** | **(4.849):11,** | **J. Phys.Chem. C** | **(4.536): 11,** |
| **Sci. Rep.** | **(4.259): 4,** | **Phys.Chem.Chem.Phys.** | **(4.123):13,** | **Chem. Asian J.** | **(4.083); 2,** |
| **CrystEngComm** | **(3.474): 2,** | **RSC Adv.** | **(3.108):3,** | **Nanotechnology** | **(3.440):9,** |
| **Phys. Rev. B** | **(3.836): 25,** | **J. Comput. Chem.** | **(3.229):9,** | **Org. Biomol. Chem.** | **(3.564);3** |
| **Opt. Exp.** | **(3.307): 2,** | **ChemPhysChem** | **(3.075);1,** | **Appl. Phys. Lett.** | **(3.411):4 ,** |
| **J. Phys. Chem. B** | **(3.177):14,** | **Opt. Lett** | **(3.416);1,** | **J. Struct. Biol** | **(2.767):1,** |
| **J. Chem. Phys.** | **(2.965):85,** | **Phys. Rev. A** | **(2.925): 3,** | **Pure Appl. Chem.** | **(2.626);1,** |
| **Tetrahedron** | **(2.651); 2,** | **J. Phys. Chem. A** | **(2.847): 30,** | **Tetrahedron Lett.** | **(2.193);1,** |
| **Theor. Chem. Acc.** | **(1.806); 2,** | **Bioorg.Med.Chem.Lett.** | **(2.454):1,** | **Phys. Rev. E** | **(2.366):2,** |
| **Curr. Appl. Phys.** | **(1.971): 1,** | **Chem. Phys. Lett.** | **(1.860):10,** | **Struct. Chem.** | **(2.178); 1,** |
| **J. Mol. Graph. Model.** | **(1.754): 2,** | **Mol. Phys.** | **(1.870): 5,** | **Int. J. Quant. Chem.** | **(2.920):1,** |
| **J. Mol. Struct.** | **(1.753); 1,** | **J. Phys. Org. Chem.** | **(1.336): 1,** | **J. Math. Phys.** | **(1.077):1,** |

**Selected Papers:**

[1] ***Nature*** 460, 498 (2009). [IF: 42.351; Corresponding Author; No. of citations: **~200**].
Near-field focusing and magnification through self-assembled nanoscale spherical lenses,
J. Y. Lee, B. H. Hong, W. Y. Kim, S. K. Min, Y. Kim, M. V. Jouravlev, R. Bose, K. S. Kim, I.-C. Hwang, L. J. Kaufman, C. W. Wong, P. Kim, and K. S. Kim
Featured in *Laser Focus World, NPG Asia Materials (Nature Publ. Group), Technology Review (MIT), Chem. & Eng. News (Am. Chem. Soc.), Nanotechweb.org(IOP),*and Korean television and newspapers

[2] ***Nature Nanotechnol***. 6, 162 (2011). [IF: 33.265; Corresponding Author; No. of citations: **~250**].
Fast DNA sequencing with a graphene-based nanochannel device,
S. K. Min, W. Y. Kim, Y. Cho, K. S. Kim
Featured in *NPG Asia Materials (Nature Publ .Group).* science news magazines, television and newspapers.

[3] ***Nature Nanotechnol***. 3, 408 (2008). [IF: 33.265; Corresponding Author; No. of citations: **~500**].
Prediction of very large values of magnetoresistance in a graphene nanoribbon device,
W. Y. Kim and K. S. Kim
Featured in *NPG Asia Materials (Nature Publ. Group)* and Korean newspapers

[4] ***Science*** 294, 348 (2001). [IF: 31.477; Corresponding Author; No. of Citations **~600**].
Ultrathin Single-crystalline Silver Nanowire Arrays Formed in an Ambient Solution Phase,
B.H. Hong , S.C. Bae, C.-W. Lee, S. Jeong, and K.S. Kim
Featured in *Science and Chem.& Eng. News (Am. Chem. Soc.).*

[5] ***Nature*** 457, 706 (2009). [IF: 42.351, coauthor; No. of Citations: **~5,700**]
Large-scale pattern growth of graphene films for stretchable transparent electrodes,
K. S. Kim, Y. Zhao, H. Jang, S. Y. Lee, J. M. Kim, K. S. Kim, J.-H. Ahn, P. Kim, J.-Y. Choi, and B. H. Hong
Featured in *New York Times, Chem. & Eng. News (Am. Chem. Soc.), Nanotechweb.org(IOP), etc.*; cited in the

official “Nobelprize.org” press release for the 2010 Nobel prize in physics.
[6] ***Nature Nanotechnol***. 5, 574 (2010). [IF: 33.265; coauthor; No. of Citations: **~4,000**].
Roll-to-roll production of 30-inch graphene films for transparent electrodes,
S. Bae, H. Kim, Y. Lee, X. Xu, J.-S. Park, Y. Zheng, J. Balakrishnan, T. Lei, H. R. Kim, Y. I. Song, Y.-J. Kim, K. S. Kim, B. Ozyilmaz, J.-H. Ahn, B. H. Hong and S. Iijima
Featured in leading science magazines, Korean television and newspapers
[7] ***Nature Commun.*** 4, 1797 (2013) [IF: 10.742; Corresponding Author; No. of Citations: **~30**].
Calix[n]imidazolium as a new class of positively charged homocalix compounds,
Y. Chun, N. J. Singh, I.-C. Hwang, J. W. Lee, S. U. Yu, and K. S. Kim
[8] ***Nature Commun.*** 4, 2221 (2013) [IF: 10.742; Corresponding Author; No. of Citations: **~70**].
Stable Pt nanoclusters on genomic DNA-graphene oxide with a high oxygen reduction reaction activity.
J. N. Tiwari, K. Nath, S. Kumar, R. N. Tiwari, K.C. Kemp, N. H. Le, D. H. Youn, J. S. Lee, K. S. Kim
[9] ***Chem. Rev***. 100, 4145 (2000). [IF: 45.661; Corresponding Author; No. of Citations: **~850**].
Molecular Clusters of π-Systems: Theoretical Studies of Structures, Spectra and Origin of Interaction Energies,
K. S. Kim, P. Tarakeshwar, J. Y. Lee
[10] ***Chem. Rev***. 112, 6156 (2012). [IF: 45.661; Corresponding Author; No. of Citations: ~**1400]**.
Functionalization of Graphene: Covalent and noncovalent approaches, derivatives and applications,
V. Georgakilas, M. Otyepka, A. B. Bourlinos, V. Chandra, N. Kim, K. C. Kemp, P. Hobza, R. Zboril, and K. S. Kim
[11] ***Chem. Soc. Rev.*** 35, 355 (2006). [IF: 30.425; Corresponding Author; No. of Citations: **~650**].
Imidazolium Receptors for the Recognition of Anions, J. Yoon, S. K. Kim, N. J. Singh and K. S. Kim
[12] ***ACS Nano*** 4, 3979 (2010). [IF: 12.033; Corresponding Author; No. of Citations: **~900**].
Water Dispersible Magnetite-Reduced Graphene Oxide Composites for Arsenic Removal,
V. Chandra, J. Park, Y. Chun, J. W. Lee, I.-C. Hwang, K. S. Kim
Featured in many science news magazines, television and newspapers.
[13] ***ACS Nano*** 8, 1827 (2014). [IF: 12.033; Corresponding Author; No. of Citations: **~20**].
Two Dimensional Molecular Electronics Spectroscopy for Molecular Fingerprinting, DNA Sequencing and Cancerous DNA Recognition,
A. C. Rajan, M. R. Rezapour, J. Yun, Y. Cho, W. J. Cho, S. K. Min, G. Lee, and K. S. Kim
[14] ***Phys. Rev. Lett.*** 112, 157802 (2014) [IF: 7.728; Corresponding Author; No. of Citations: **~10**].
Limit of metastability for liquid and vapor phases of water,
W. J. Cho, J. Kim, J. Lee, T. Keyes, J. E. Straub, K. S. Kim.
[15] ***J. Am. Chem. Soc.*** 123, 10748 (2001) [IF: 11.444; Corresponding Author; No. of Citations: **~240**].
Self-Assembled Arrays of Organic Nanotubes with Infinitely Long One-Dimensional H-Bond chains,
B. H. Hong, J. Y. Lee, C.-W. Lee, J. C. Kim, S. C. Bae, and K. S. Kim
[16] ***Proc. Nat. Acad. Sci.*** 112, 14156 (2015). [Corresponding Author].
High Temperature in-situ Crystallographic Observation of Reversible Gas Sorption in Impermeable Organic Cages.
S. B. Baek, D. Moon, R. Graf, W. J. Cho, S. W. Park, T.-U. Yoon, S. J. Cho, I.-C. Hwang, Y.-S. Bae, H. W. Spiess, H. C. Lee, K. S. Kim.
[17] ***Chem. Rev.*** 116, 5464 (2016). [Co-Corresponding Author; No. of Citations: **~120**].
Non-Covalent Functionalization of Graphene and Graphene Oxide for Energy Materials, Biosensing, Catalytic, and Biomedical Applications, V. Georgakilas, J. Tiwari, K. C., Kemp, J. Perman, A. Bourlinos, K. S. Kim, R. Zboril.
[18] ***Nature Commun.*** 7, 13115 (2016). [Co-Corresponding Author].
Structure-mechanism-based engineering of chemical regulators targeting distinct pathological factors in Alzheimer’s disease, M. Beck , J. Derrick , R. Kerr , S. B. Oh , W. J. Cho , S. J. Lee , Y. Ji , J. Han, Z. Tehrani, N. Suh, S. Kim, S. Larsen, K. S. Kim, J.-Y. Lee, B. Ruotolo, M. H. Lim.
[19] ***J. Phys. Chem. Lett.*** 7, 2478 (2016). [Corresponding Author].
Electron Transport in Graphene Nanoribbon Field-Effect Transistor under Bias and Gate Voltages: Iso-Chemical Potential Approach, J. Yun, G. Lee, K. S. Kim.
[20] ***ACS Nano*** 11, 742 (2017). [Corresponding Author].
Accelerated Bone-Regeneration by Two Photon Photoactivated Carbon Nitride Nanosheets, Tiwari, J. N.; Seo, Y.-K. ; Yoon, T.; Lee, W. G.; Cho, W. J.; Yousuf, M.; Harzandi, A. M. ; Kang, D.-S.; Kim, K.-Y.; Suh, P.-G.; Kim, K. S.
[21] ***J. Phys. Chem. A*** 111, 3446 (2007). [Corresponding Author; No. of Citations: **~450**].
Understanding of Assembly Phenomena by Aromatic-aromatic interactions: benzene dimer and the substituted systems, E. C. Lee, D. Kim, P. Jurečka, P. Tarakeshwar, P. Hobza, and K. S. Kim. [IF: 12.033; Corresponding Author; No. of Citations: **~730**].
[22] ***J. Am. Chem. Soc.*** 131, 15528 (2009). [Corresponding Author; No. of Citations: **~350**].
Unique Sandwich Stacking of Pyrene-Adenine-Pyrene for Selective and Ratiometric Fluorescent Sensing of ATP at Physiological pH, Z. Xu, N. J. Singh, J. Lim, J. Pan, H. N. Kim, S. Park, K. S. Kim, and J. Yoon.

[23] ***Chem. Phys. Lett.*** 131, 451 (1986). [First Author; No. of Citations: **~300**].
Revisiting small clusters of water molecules", K.S. Kim, M. Dupuis, G.C. Lie, and E. Clementi.
[24] ***J. Chem. Phys.*** 109, 5886 (1998). [Corresponding Author; No. of Citations: **~300**].
Structures, binding energies, and spectra of isoenergetic water hexamer clusters: Extensive ab initio studies, J. Kim, K. S. Kim.
[25] ***J. Chem. Phys.*** 112, 9759 (2000). Error: 114, 3343 (2001). [Corresponding Author; No. of Citations: **~260**].
Structures, energies, vibrational spectra, and electronic properties of water monomer to decamer, H. M. Lee, S. B. Suh, J. Y. Lee, P. Tarakeshwar, and K. S. Kim.
[26] ***J. Chem. Phys.*** 97, 6649 (1992). [Corresponding Author; No. of Citations: **~260**].
Ab Initio Studies of the Water Dimer Using Large Basis Sets: The Structure and Thermodynamic Energies, K.S. Kim, B.J. Mhin, U-S. Choi, and K. Lee.
[27] ***J. Am. Chem. Soc.*** 116, 7399 (1994). [Corresponding Author; No. of Citations: **~260**].
On Binding Forces between Aromatic Ring and Quaternary Ammonium Compound, K.S. Kim, J.Y. Lee, S.J. Lee, T.-K. Ha, and D.H. Kim.
[28] ***Org. Lett.*** 4, 2897 (2002). [Corresponding Author; No. of Citations: **~240**].
Tripodal Nitro-Imidazolium Receptor for Anion Binding Driven by (C-H)+---X- Hydrogen Bonds, H. Ihm, S. Yun, H. G. Kim, J. K. Kim, and K. S. Kim.
[29] ***J. Am. Chem. Soc.*** 126, 8892 (2004). [Co-Corresponding Author; No. of Citations: **~230**].
Fluorescent GTP-sensing in Aqueous Solution of Physiological pH, J. Y. Kwon, N. J. Singh, N. H. Kim, S. K. Kim, K. S. Kim, and J. Yoon.
[30] ***J. Phys. Chem. B*** 107, 9994 (2003). [Corresponding Author; No. of Citations: **~210**].
Geometrical and electronic structures of gold, silver, and gold-silver binary clusters: Origins of ductility of gold and gold-silver alloy formation, H. M. Lee, M. Ge, B. R. Sahu, P. Tarakeshwar, and K. S. Kim.
[31] ***J. Chem. Phys.*** 113, 5259 (2000). [Corresponding Author; No. of Citations: **~210**].
Comparative ab initio study of the structures, energetics and spectra of X-(H2O)n=1-4[X=F, Cl, Br, I] clusters, J. Kim, H.M. Lee, S.B. Suh, D. Majumdar, and K.S. Kim.
[32] ***Chem. Commun.*** 47, 3942 (2011). [Corresponding Author; No. of Citations: **~230**].
Highly Selective Adsorption of Hg2+ by Polypyrrole-Reduced Graphene Oxide Composite, V. Chandra and K. S. Kim.
[33] ***Angew. Chem. Int. Ed.*** 44, 2899 (2005); Angew. Chem. 117, 2959 (2005).
[Corresponding Author; No. of Citations: **~200**].
A Calix[4]imidazolium[2]pyridine as an Anion Receptor,
K. Chellappan, N. J. Singh, I.-C. Hwang, J. W. Lee, and K. S. Kim.
[34] ***J. Phys. Chem. A*** 108, 1250 (2004). [Corresponding Author; No. of Citations: **~200**].
Theoretical investigations of anion-π interactions: The role of anions and the nature of π systems, D. Kim, P. Tarakeshwar, and K. S. Kim.
[35] ***J. Phys. Chem. A*** 107, 1228 (2003). [Corresponding Author; No. of Citations: **~200**].
Cation-π Interactions: A Theoretical Investigation of the Interaction of Metallic and Organic Cations with Alkenes, Arenes, and Heteroarenes, D. Kim, S. Hu, P. Tarakeshwar, K. S. Kim, and J. M. Lisy.
[36] ***J. Am. Chem. Soc.*** 123, 3323 (2001). [Corresponding Author; No. of Citations: **~170**].
Olefinic vs. aromatic pi-H interaction: A theoretical investigation of the nature of interaction of first-row hydrides with ethene and benzene, P. Tarakeshwar, H. S. Choi, and K. S. Kim.
[37] ***J. Chem. Phys.*** 102, 839 (1995). [Corresponding Author; No. of Citations: **~170**].
Structures, Energetics, and Spectra of aqua-sodium(I): Thermodynamic Effects and Nonaddtive Interactions, J. Kim, S. Lee, S.J. Cho, B.J. Mhin, and K.S. Kim.
[38] ***J. Chem. Theor. Comput.*** 5, 515 (2009). [Corresponding Author; No. of Citations: **~180**].
Comprehensive Energy Analysis for Various Types of pi-Interaction,
N. J. Singh, S. K. Min, D. Y. Kim, and K. S. Kim.
[39] ***Chem. Phys. Lett.*** 131, 451 (1986). [First Author; No. of Citations: **~300**].
Revisiting small clusters of water molecules", K.S. Kim, M. Dupuis, G.C. Lie, and E. Clementi,
[40] ***ACS Nano***, 11, 742-751 (2017). Accelerated Bone-Regeneration by Two Photon Photoactivated Carbon Nitride Nanosheets, Tiwari, J. N.; Seo, Y.-K. ; Yoon, T.; Lee, W. G.; Cho, W. J.; Yousuf, M.; Harzandi, A. M. ;

Kang, D.-S.; Kim, K.-Y.; Suh, P.-G.; Kim, K. S.
[41] ***ACS Nano***, 11, 3207-3212 (2017). Two-Dimensional Excitonic Photoluminescence in Graphene on a Cu Surface. Y. Park, Y. Kim, C. W. Myung, R. A. Taylor, C. C. S. Chan, B. P. L. Reid, T. J. Puchtler, R. J. Nicholas, L. T. Singh, G. Lee, C.-C. Hwang, C.-Y. Park, and K. S. Kim.
[42] ***ACS Nano***, 10, 46-80 (2016). [Corresponding Author; No. of Citations: **~60**]
Engineered Carbon-Nanomaterial Based Electrochemical Sensors for Biomolecules, J. N. Tiwari, V. Vij, K. C. Kemp, K. S. Kim.

**List of (SCI) Publications**

http://csm.unist.ac.kr (Center), http://www.researcherid.com/rid/C-7538-2012 (ISI)

1. S. U. Yu, H. Lee, W. J. Cho, C. Kim, M. C. Kang, H. Shin, N. Kim, S. K. Hahn, K. S. Kim, Spectromicroscopic Observation of a Live Single Cell in a Biocompatible Liquid-Enclosing Graphene System, Nanoscale, (2017) DOI: 10.1039/C7NR05223E
2. Y.-K. Jeong, Y. M. Lee, J. Yun, T. Mazur, M. Kim, Y. J. Kim, M. Dygas, S. H. Choi, K. S. Kim, O.-H. Kwon, S. M. Yoon, B. A. Grzybowski, Tunable photoluminescence across the visible spectrum and photocatalytic activity of mixed-valence rhenium oxide nano-particles, J. Am. Chem. Soc. (2017) DOI: 10.1021/jacs.7b07494.
3. V. Vij, S. Sultan, A. M. Harzandi, A. Meena, J. N. Tiwari, W. G. Lee, T. Yoon, K. S. Kim, Nickel–Based Electrocatalysts for Energy Related Applications: Oxygen Reduction, Oxygen Evolution, and Hydrogen Evolution Reactions, ACS Catal. 7, 7196-7225 (2017).
4. P. Dua, G. Lee, K. S. Kim, Ferromagnetism in Monatomic Chains: Spin-Dependent Bandwidth Narrowing/Broadening, J. Phys. Chem. C 121, 20994-21000 (2017).
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**Patents** :

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2. "Ionophores and Receptors Using Cation-π Interactions: Collarenes",
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4. "Conformational vibrational effects of electrons and halide anions on water clusters",
Div. of Phys. Chem. 218th ACS Natl. Meeting, New Orleans, USA, Aug. 22-26, 1999.
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14. "Catalytic role of enzymes: partial proton shuttles and charge redistributions",
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15. [**plenary** talk] "De nove design of functional molecules, nanometerials, and nanodevices",
11th Current Trends for Computational Chemistry, Jackson State Univ. USA (Nov. 1-2, 2002).
16. [**keynote** speaker] "De nove design of functional nano-materials and molecular devices",
6th World Congress of Theoretically Oriented Chemists, Lugano, Switzerland (Aug. 4-9, 2002).
17. "Theoretical investigations of self-assembly in organic nanotube",
223rd Am. Chem. Soc. (ACS) National Meeting, Orlando, FL, USA (April 7-11, 2002).
18. "Theoretical Insights into the kaleidoscopic world of gas phase clusters and nanomaterials",
10th Korea-Japan Joint Symposium on Theoretical/Computational Chemistry, Postech (Jan 12-15, 2003).
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7th World Congress of Theoretically oriented Chemists, Cape Town, South Africa (Jan. 15-21, 2005).
28. [**plenary** talk] “Functional molecules/materials and nanosensors: De Novo Design Approach based on Nanorecognition”, 45th Sanibel Symposium, St. Simon’s Island, GA, USA (Mar 5-11, 2005).
29. "Assembling Phenomenaof water-containing clusters and the design of ion-selective receptors", 229th ACS Nat. Meeting, San Diego, CA, USA (Mar 13-17, 2005).
30. "Design of ion selectivity receptors ", 3rd International Symposium on Calix-Supramolecular Chemistry, Dankook Univ., Seoul (Aug. 26, 2005).
31. “Ab initio study of structures and dynamics of molecular clusters toward the design of nanosensors”, Symposium of Computational Quantum Chemistry; Methodology and Application, PacifiChem 2005, Honolulu, Hawaii, USA (Dec. 15-20, 2005).

32. “De novo design of functional nanomaterials based on nanorecognition”, Symposium of Design of Nanomaterials and Nanodevices, PacifiChem 2005, Honolulu, Hawaii, USA (Dec. 15-20, 2005).
33. “Theoretical design of functional nanomaterials and nanodevices”, 12th International Conference of Quantum Chemsitry (ICQC-2006), Kyoto, Japan (May 21-26, 2006).
34. “Structures, dynamics, and spectra of hydrated molecular clusters”, Sendai International Conference, Sendai, Japan (May 29-30, 2006).
35. [**plenary** talk] “De Novo Design Approach Based on Nanorecognition: Functional Molecules/Materials and Nanosensors/Nanodevices”, 18th International Conference on Physical Organic Chemistry (ICPOC-18), Warsaw, Poland (Aug. 20-25, 2006).
36. “Quantum Conductance of Silver Nanowires and Linearlization of Atomic Gold Chains” 234th ACS Nat. Meeting, Boston, USA (Aug. 19-23, 2007).
37. “Quantum Conductance of Magic Structures of Metal Nanowires and Design of Stable Linear Single Atomic Chains”, 3rd APCTCC Meeting, Beijing, China (Sept. 22-26, 2007).
38. “Magic Structures and Quantum Conductance of Nanowires and Negative Differential Resistance of Molecular Electronic Devices”, Korean Chem. Soc. Meeting, Taegu, Korea (Oct. 18-19, 2007).
39. [**plenary** talk] “Magic Structures and Quantum Conductance of Linear Ultrathin Nanowires and Negative Differential Resistance of Molecular Wires”, 16th Current Trends for Computational Chemistry, Jackson State Univ. USA (Nov. 2-3, 2007).
40. “Quantum Conductance in Ultrathin Nanowires, Negative Differential Resistance in Molecular Wires, and Giant Magnetoresistance in Graphene Nanoribbon Devices”, 1st International Conference of the Grand Challenge to Next Generation Integrated Naonoscience, Tokyo, Japan ( June 3-7, 2008).
41. W. Y. Kim and K. S. Kim,* “Quantum Conductance of Ultrathin Nanowires, Negative Differential Resistance in Molecular Wires, and Carbon-based Spin-valve Devices”, Innovative Dynamic Studies of Materials at the Nanoscale, ECI, Gyeongju (June 30-July 3, 2008).
42. K. S. Kim, “Quantum Conductance of Ultrathin Nanowires, Negative Differential Resistance in Molecular Wires, and Carbon-based Spin-valve Devices”, 14th International Symposium on the Physics of Semiconductors and Applications, (Special workshop of IPSA-2008, (Research Topics of GRL & GPP), Jeju (August 26-29, 2008).
43. K. S. Kim* and W. Y. Kim, “Super-Magnetoresitance in Graphene Nanoribbon Devices”, 14th International Symposium on the Physics of Semiconductors and Applications, Jeju (Aug. 26-29, 2008).
44. “Super-Magnetoresistance in Graphene Nanoribbon Spin Valve Devices“, WATOC 2008, Sydney, Australia (Sept. 14-19, 2008).
45. [**plenary** talk] W. Y. Kim and K. S. Kim,* “Quantum Conductance of Ultrathin Nanowires, Negative Differential Resistance in Molecular Wires, and Super-magnetoresitance of Graphene Nanoribbon Devices” Theory and Applications of Computational Chemistry (TACC2008), Shanghai, China (Sept. 23-27, 2008).
46. W. Y. Kim and K. S. Kim,* “Super-magnetoresitance in Graphene Nanoribbon Spin Valve Devices”, Asian Magnetics Conference 2008, Busan (Dec. 10-13, 2008).
47. K. S. Kim, “Electron Transport in Nano-Devices”, The International Conference on Simulations and Dynamics for Nanoscale and Biological Systems, Univ. of Tokyo, Japan (Mar, 4-6, 2009).
48. K. S. Kim, “De Novo Design of Molecular Electronics/Spintronics Devices”, The 2nd Supercomputer Applications Workshop, Korea Univ., Seoul (May 26, 2009).
49. [**plenary** speaker] “Nanorecognition Based Design Approach: Functional Molecules/Materials and nanosensors/Nanodevices”, The 19th Joint Seminar of the Busan Branch of the Korean Chemical Society and the Kyushu Branch of the Chemical Society of Japan, Busan (May 29, 2009).
50. K. S. Kim, “Molecular Electronics and Spintronics”, The 2nd KIAS International Symposium on Recent Progress in Computer Simulations in Molecular Sciences, KIAS, Seoul (June 14-16, 2009).
51. K. S. Kim, “Electrode characteristics and super-magneto-resistance in graphene nanoribbon devices”, KIAS Graphene Workshop, KIAS, Seoul (June 29- July 2, 2009).
52. K. S. Kim, “Synthesis of nanolens“, Web lecture, Korea NanoTechnology Research Society (KoNTRS) (Sept 28, 2009).
53. K. S. Kim, “Nano-electronics, nano-spintronics, and nano-optics”, Korea Supercomputing Conference 2009, KOEX, Seoul (Oct. 12-13, 2009).

54. K. S. Kim. “Nano-electronics/spintronics and nano-optics”, Korean Chem. Soc. 2009 Fall Meeting (Oct. 29, 2009).
55. K. S. Kim, “Functional Molecules/Materials, Nano-electronics/spintronics, and Nano-optics”, 4th SungAhm Symposium. Inha Univ., Incheon (Nov. 24, 2009).
56. K. S. Kim, “Molecular Assembly Based Nano-Electronics/Spintronics and Nano-Optics”, Asian Pacific Conference of Theoretical and Computational Chemistry (APCTCC-4) Port Dickson, Malaysia (Dec. 21-23, 2009).
57. K. S. Kim, “Nanolens and Nano-Optics”, Korean Optical Society Meeting, KAIST, Daejon (Jan 20-22, 2010).
58. K. S. Kim, Ulsan Chemistry Day, Ulsan (March 19, 2010).
59. K. S. Kim, "Nano-optics of nanolens." "Micro-Optics" conference, SPIE's International Symposium, Photonics Europe (EPE10), Brussels, Belgium (April 12-16, 2010)
60. K. S. Kim, “Theoretical design of functional molecules and nano-electronic/spintronic/optical materials”, Molecular Quantum Mechanics 2010, Univ. of California, Berkeley, USA (May 24-29, 2010).
61. K. S. Kim, “Transport Phenomena in Molecular and Graphene Electronics/Spintronics”, International Conference on Core Research and Engineering Science of Advanced Materials, Osaka Univ. Japan (May 30 – June 4, 2010).
62. [**keynote** speaker] K. S. Kim, “Present and Prospects of Nano-Chemistry Research”, 2010 KRF Fundamental Science & Technology Research Workshop, Taejon (June 25, 2010).
63. K. S. Kim, Theoretical Understanding of Nano-electronics/spintronics and Nano-optics, International Conference in Honor of Prof. Jean-Marie, Namur, Belgium (July 5-8, 2010).
64. [**keynote** speaker] K. S. Kim, “Nano-sensing, Nano-electronics/spintronics, and Nano-optics”, WCU 2nd International Symposium on IT Convergence Engineering, Postech, Pohang (Aug 19-20, 2010).
65. [**plenary** speaker] K. S. Kim, “Functional Molecules/Materials, Nano-electronics/spintronics, and Nano-optics”, The Twentieth International Conference on Physical Organic Chemistry : ICPOC-20, Bexco, Busan (Aug 22-24, 2010).
66. [**keynote** speaker] K. S. Kim, International Union of Materials Research Societies - International Conference on Electronic Materials 2010 (IUMRS-ICEM2010), Computational Design for Next Generation Electronic Materials, Kintex, Seoul (Aug 24-27, 2010).
67. [**keynote** speaker] K. S. Kim, "Seeking Solutions to Mathematical and Physical Problems in Frontier Chemical Science", Inaugural symposium of Institute of Edge Science, Postech, Pohang (Sept 10, 2010).
68. K. S. Kim, “Carbon-based materials towards futuristic electronic devices and greener environments”, Korean Carbon Society, Postech, Pohang (Nov. 5-6, 2010).
69. K. S. Kim, “Functional Nanomaterials, Nano-electronics/spintronics, and Nano-optics”, Tokyo Tech – Tsinghua University Joint Symposium, Fuji-Yoshida, Japan (Nov. 11-13, 2010).
70. K. S. Kim, “Nanoscale optical lenses and plasmonic components toward integrated optical nano-devices″, Nanotechnology Forum 2010, SAIT, Yongin (Nov. 12, 2010).
71. [**plenary** speaker] K. S. Kim, “Functional Molecules/Materials, Nano-electronics, and Nano-optics”, NanoThailand: Nanotechnology for a Sustainable World, Bangkok, Thailand (Nov. 18-20, 2010).
72. K. S. Kim, “Study of electron transport phenomena in molecular electronics/spintronics based on density functional theory coupled to non-equilibrium Green function theory”, Symposium #10: Computational Quantum Chemistry: Theory and Interactions with Experiment, PacifiChem 2010, Hawaii, USA (Dec. 15-20, 2010).
73. H. M. Lee, N. J. Singh, K. S. Kim, “Ab initio study of structures and dynamics of molecular clusters toward the design of functional molecules and nanomaterials”, Symposium #81: Challenges and Solutions to Accurate Calculations on Large Molecular Systems, PacifiChem 2010, Hawaii, USA (Dec. 15-20, 2010).
74. [**plenary** speaker] “Functional Nanomaterials, Nano-electronics/spintronics, and Nano-optics”, 2nd Nanoscience & Nanotechnology Global Research Lab Symposium (GRL-NT Symposium), Seoul (Feb 22., 2011)
75. [**plenary** speaker] K. S. Kim, “Functional Materials, Nanoptics, Molecular Electronics, and Ultrafast DNA Sequencing”, Campus Asia Symposium, Shanghai Jia Tong Univ., Shanghai, China (March 10-12, 2011)
76. K. S. Kim, “Special Lecture on Nanoscience”, Kyungbuk Science Education Center, Pohang (March 26, 2011).
77. K. S. Kim, “Molecular Electronics and Ultrafast DNA sequencing”, Illumina Inc. San Diego, USA (April 5, 2011).
78. K. S. Kim, Mulliken Lecture, Univ of Georgia, Athens, USA (April 9, 2011).

79. [**plenary** speaker] K. S. Kim, "Ultrafast DNA sequencing", International Conference on Molecular Electronics and Devices (22nd IC ME&D) Pohang (May 19-20, 2011).
80. K. S. Kim, "Nanoelectronics/spintronics and Ultrafast DNA sequencing, International Conference of Materials for Advanced Technologies ICMAT 2011, Singapore (June 26-July 1)
81. K. S. Kim, "Ultrafast DNA Sequencing and Nano-Optics/Photonics", WATOC 2011, Satiago de Compostela, Spain (July 17-22, 2011).
82. K. S. Kim, "Molecular Electronics and ultrafast DNA sequencing", Fukui International Symposium for Theoretical Chemistry (FISTC), Kyoto, Japan (August 31-Sept 1, 2011).
83. K. S. Kim, "Molecular electronics and ultrafast DNA Sequencing", 7th Congress of the International Society for Theoretical Chemical Physics (ISTCP-VII), Waseda Univ. Tokyo, Japan (Sept. 2-8, 2011).
84. K. S. Kim, Carbon-based Spintronics: *spin injection and manipulation in organic molecules, carbon nanotubes and graphene* (cspin11), Max Planck Institute for the Physics of Complex Systems, Dresden, Germany (Oct. 24-27, 2011).
85. [**plenary** speaker] K. S. Kim, Functional Molecules, Nano-Electronics/Spintronics/Photonics, and Ultrafast DNA Sequencing, 20th Conferences on Current Trends in Computational Chemistry (CCTCC), Jackson, Miss. USA (Oct. 27-29, 2011).
86. [**keynote** speaker] K. S. Kim, Molecular electronics and ultrafast DNA sequencing, SWOCS III. Pohang (Nov. 19, 2011).
87. [**keynote** speaker] K. S. Kim, Molecular Sensing, Nano-Electronics/Photonics, and Ultrafast DNA Sequencing, 5th Asian Pacific Conerence of Theoretical & Computational Chemistry (APCTCC), Rotorua, New Zealand (Dec. 9–13, 2011).
88. K. S. Kim, Nano- electronics/spintronics and ultrafast DNA sequencing, CECAM-Workshop, Univ. of Hong Kong (Dec. 12-16, 2011).
89. K. S. Kim, Graphene Based Ultrafast DNA Sequencing – 2-Dimensional Conductance, 243th ACS National Meeting , (San Diego, Mar 25-29, 2012).
90. K. S. Kim, Molecular Electronics Based Ultrafast DNA Sequencing, CECAM DNA workshop 2012, (Pisa, Italy June 11-13, 2012).
91. K. S. Kim, Efficient electron dynamics based on planewave-based real-time time-dependent density functional theory: vibronic electronic spectra, and coupled electron-nucleus dynamics, UCLA ICQC Satellite Symposium, QM and MD of Organic and Biological Reactivity, UCLA, LA, USA (June 21-23, 2012).
92. K. S. Kim, Nano- electronics/spintronics and ultrafast DNA sequencing, International Conference on Theoretical and High Performance Computational Chemistry 2012 (CT-HPCC12), Nanjing (July 8-11, 2012).
93. [**plenary** speaker] K. S. Kim, Molecular Electronics/Spintronics/Nano-Photonics, and Ultrafast DNA Sequencing, Nano Korea 2012 Symposium, 10th International Nanotech Symp & Nanoconvergence Expo, Coex, Seoul (Aug. 16-18, 2012).
94. K. S. Kim, Molecular Electronics, Nano-Photonics, and Ultrafast DNA Sequencing, Theory and Applications in Computational Chemistry, TACC-2012, Italy (Sept. 2-7, 2012).
95. K. S. Kim, Nature of various π interactions and harnessing to nano/bio systems, van der Waals Interactions in Complex Materials, CECAM HQ, Lausanne, Switzerland (Oct. 15-19, 2012).
96. K. S. Kim, Molecular Electronics Based Ultrafast DNA Sequencing, Pioneer Workshop on Nanopore 2013, Seoul Nat. Univ., Seoul (Feb. 21-23, 2013).
97. K. S. Kim, Various pi interactions for nano and bio systems, Accurate Characterization of Noncovalent Interactions: From Small Molecules to Supramolecular Chemistry, 245th ACS Nantional Meeting, New Orleans, USA (Apr. 7-11, 2013).
98. K. S. Kim, Molecular Electronics Spectroscopy and Fast DNA Sequencing, Novel Approaches to DNA Sequencing, Stockholm, Sweden (June 10-14, 2013).
99. [**keynote** speaker] K. S. Kim, Fano Resonance Driven Molecular Electronics Spectroscopy and Fast DNA Sequencing, APCTCC-6, Gyeongju, Korea (July 10-13, 2013).
100. K. S. Kim, Graphene for Electronics/Spintronics, Single Molecule Spectroscopy and Fast DNA Sequencing; Functionalized Graphene for Water Remediation, Fuel Cells, and Energy Materials/Devices 2D-Day Symposium: Graphene and beyond, Postech (Aug. 23, 2013).

101. [**keynote** speaker] K. S. Kim, Graphene for Electronics/Spintronics, Single Molecule Spectroscopy and Fast DNA Sequencing; International conference NANOCON´13, Brno, Czech. (October 16-18, 2013).
102. K. S. Kim, Remarkable oxygen reduction catalytic capacity of Pt nanoclusters and nanodendrites in genomic-DNA/reduced-graphene-oxide hybrid materials, International Conference on Small Science (ICSS 2013) Las Vegas, USA (Dec. 15-18, 2013).
103. K. S. Kim, Two dimensional Molecular Electronics Spectroscopy for Molecular Fingerprinting and DNA Sequencing, Pioneer Workshop 2014 on nanopore and nanofluidics –Physics and application as Biodevices, Osaka Univ. Japan (Feb. 7-8, 2014).
104. K. S. Kim, Eco-friendly Futuristic Energy Materials and Devices, UNIST BK21+ Symposium, Ulsan, Korea (Feb. 712-13, 2014).
105. K. S. Kim, Two Dimensional Molecular Electronics Spectroscopy for Molecular Fingerprinting, DNA Sequencing, and Cancerous DNA Recognition, International Workshop on Computational Quantum Chemistry in honor of Professor Jean-Marie Andre for his 70th anniversary, Tsinghua Univ., Beijing, China (March 31- April 1, 2014).
106. [**keynote** speaker] K. S. Kim, Two Dimensional Molecular Electronics Spectroscopy for Molecular Fingerprinting, DNA Sequencing, and Cancerous DNA Recognition, Korean Chemical Society (April 17, 2014).
107. K. S. Kim, Evaporation and condensation of metastable states of water, International Symposium on Frontiers of Theoretical and Computational Chemistry, Shenzhen, China (May 5- 6, 2014).
108. K. S. Kim, Remarkable oxygen reduction catalytic capacity of Pt nanoclusters and nanodendrites in Pt/DNA/reduced-graphene-oxide hybrid materials, Collaborative Conference on Materials Research (CCMR) 2014, Incheon (June 23-26, 2014).
109. [**plenary** speaker] K. S. Kim, Organic and Graphene Based Nanomaterials and Nanodevices, ICSM2014, Turku, Finland (June 30-July 5, 2014).
110. J. N. Tiwari, K. S. Kim, Energy delivery and enhanced catalytic activity by graphene and bio-organic hybrid materials, Graphene and Organic Hybrid Division, 15th International Conference on Organized Molecular Films (ICOMF 2014 (LB15)), Jeju (July 9-11, 2014).
111. K. S. Kim, Two Dimensional Molecular Electronics Spectroscopy for Molecular Fingerprinting and DNA Sequencing, WATOC 2014, Santiago, Chile, (Oct. 5-10, 2014).
112. K. S. Kim, Nano-Bio-Info fused science and technology, Educational program for new executives and maters, Samsung Electronics, Suwon, Korea (Jan. 28, 2015).
113. [**keynote** speaker] K. S. Kim, Electronic/spintronic devices, spectroscopy, and dynamics, 5th Symposium/Workshop of Computational Sciences (SWOCS5), Postech, Pohang, Korea (Feb. 3, 2015).
114. K. S. Kim, Nano-Bio-Info fused science and technology, 2014 Art-Design STEM Program, UNIST, Ulsan, Korea (Feb. 10, 2015).
115. [**plenary** speaker] K. S. Kim, Electronic/spintronic transport, spectroscopy, and dynamics, 15th International Congress of Quantum Chemistry (ICQC), Beijing, China (June 8-13, 2015).
116. [**keynote** speaker] K. S. Kim, Electronic Transport, Spectroscopy, and Dynamics, Current Status of Computational Chemistry , IUPAC-2015, 45th World Chemistry Congress, BEXCO, Busan (Aug 9-12, 2015).
117. K. S. Kim, Organic/Graphene Based Nanomaterials and Nanodevices 2015 ChemComm Symposia, UNIST, (Aug. 12-13, 2015).
118. K. S. Kim, Past, Present, and Future of Computational Quantum Chemistry: Korea vs World, Korean Chemical Society Meeting, Oct. 13-15, 2015.
119. K. S. Kim, Anisotropic noncovalent interactions in molecular assembly and collective properties in condensed phase, PacifiChem, Honolulu, Dec. 15-20, 2015.
120. K. S. Kim, Collective Properties and Liquid-Vapor Phases of Water, APCTCC7, Taiwan, Jan 25-28, 2016.
121. K. S. Kim, Electronic/Spintronic Transport, Spectroscopy, and Dynamics, 251st ACS National Meeting, San Diego, Mar. 13-17, 2016.
122. [**plenary** speaker] K. S. Kim, Organic/Graphene Based Nanomaterials and Nanodevices, 2nd International Conference on Smart Materials & Surfaces, SMS Korea, Incheon, 2016. Mar. 23-25, 2016.
123. K. S. Kim, Carbon/Graphene Based Nanomaterials/Nanodevices & Beyond: Electronic/Spintronic Transport & Spectroscopy, Low Dimensional Conference, Tabriz. May 22-23.2016.

124. K. S. Kim, Nano-Bio Fused Science: Nano-optics, Photonics and Energy Materials. Low Dimensional Conference, Tabriz. May 22-23.2016.
125. [**plenary** speaker] K. S. Kim, Carbon Based Nanomaterials/devices, Nanotech France, Paris, June 1-3, 2016.
126. K. S. Kim, Electron/spin transport in molecular electronics/spintronics devices, TACC 2016, Seattle, Aug. 25-Sep 3. 2016.
127. K. S. Kim, Graphene spintronics, Las Vegas, EMN Conference (Spintronics), Oct 11-13, 2016.
128. K. S. Kim, Graphene and Graphene Analogs Towards Opto-Electronic/Spintronic, Energy-Material, Sensing, and Medical Applications, 1st European Conference on Chemistry of Two-Dimensional Materials (Chem2DMat), Strasbourg, France, Aug. 22-26, 2017.
129. K. S. Kim, Graphene nanoribbon based electronics and spintronics, WATOC 2017, Munich, Germany, Aug. 27 - Sep. 1, 2017.
130. [**plenary** speaker] K. S. Kim, Interplay between theory & experiment towards novel optics/electronics/spintronics and efficient energy conversion, 22nd International Workshop on Quantum Systems in Chemistry, Physics, and Biology (QSCP-XXII), Changsha, China (Oct. 16-21, 2017).
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*** To be presented:
131. [**plenary** speaker] K. S. Kim, 25th International Conference on Current Trends in Computational Chemistry (CCTCC), Jackson, USA (Nov. 10-11, 2017).
132. K. S. Kim, APCTCC-8, Bombay, India (Dec. 15-17, 2017).

*** Invited talks at many foreign universities and national laboratories ***:
(1) "July-Aug. 2002": Max Plank Inst. (Mainz) Univ. Frankfurt Univ. Bonn; Acad. of Sci. Czech Republic.
(2) "Oct. 2002": Univ. Illinois (Urbana-Champaign); Northwestern Univ.
Univ. of Colorado, (Boulder); Pacific Northwest National Lab.
(3) "March 2003": Univ. Texas (Austin); Georgia Inst. Tech. (Phys); Univ. Pittsburgh; Yale Univ.
*** Invited talks at many Korean universities, national laboratories, industrial research centers ***:
(4) * Colloquium:
SNU, etc, etc…(a few times)
Gwangju Institute of Science and Technology (GIST): Dec. 18, 2008. ,
Quantum Conductance of Subnanowires, Negative Differential Resistance of Molecular Wires, and Super-magnetoresistance of Graphene Nanoribbon Devices,
Daegu Gyeogbuk Institute of Science and Technology (DGIST): Dec. 2012. Nov. 2016.
Hamburg Phonon Science Colloquium. Dec. 16, 2016. (to be presented).

***** Organizing Chairperson of International Conferences**
1. [Organizing Chairman] The 9th Korea-Japan Joint Symposium, Okazaki, Japan (Jan. 10-12, 2001).
2. [Organizing Chairman] The 10th Korea-Japan Joint Symposium on Theoretical/Computational Chemistry, Postech (Jan 12-15, 2003).
3. {Organizing Chairman} "Theory and Application of Computational Chemistry", TACC 2004, Gyeongju, Korea (Feb. 15-20, 2004).
4. [Organizing board member) "Modeling and Simulating Materials Nanoworld", Sicily, Italy (May 30-June 4, 2004).
5. [Corresponding Organizer] Computational Quantum Chemistry Methodology and Application",
PacifiChem 2005, Honolulu, Hawaii, USA (Dec. 15-20, 2005).
6. [Co-Organizer] "Design of Nanomaterials and Nanodevices",
PacifiChem 2005, Honolulu, Hawaii, USA (Dec. 15-20, 2005).
7. {Organizing Chairpersons} "1st WCU Symposium/Workshop of Computational Sciences, Pohang, Korea (Nov. 21-22, 2009).
8. {Organizing Chairpersons} "2nd WCU Symposium/Workshop of Computational Sciences, Pohang, Korea (Oct. 31, 2010).
9. {Organizing Chairpersons} "3rd WCU Symposium/Workshop of Computational Sciences, Pohang, Korea (Nov. 19, 2011).

10. {Organizing Vice Chairperson} "Theory and Application of Computational Chemistry", TACC 2012, Pavia, Italy (Sep. 2-7, 2012).
11. {Organizing Chairpersons} "4th WCU Symposium/Workshop of Computational Sciences, Pohang, Korea (Nov. 17, 2012).
12. {Organizing Chairpersons} "6th Asia-Pacific Conference of Theoretical and Computational Chemistry, Gyeongju, Korea (July 10-13, 2013).