

## KIM Yongho

Assistant Professor  
Department of Chemistry

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<b>Key Words</b>	Supramolecular Self-Assembly, Protein Design, Protein-based materials, Synthetic Biology, Cell Behavior Control via Peptide-based Library
<b>Research Area</b>	<b>Part. 1 Protein-based materials:</b> Non-biodegradable, conductive and bio-compatible protein-based gel / Extracellular matrix-mimetic protein-based environment / Controlling gel properties for biosensor and drug delivery, <b>Part. 2 Supramolecular self-assembly:</b> Coiled-coil based self-assemble supramolecule modularization / Protein-directed self-assembly of a fullerene crystal, <b>Part. 3 Cell behavior control using protein:</b> Multi-functional Mussel Adhesive Protein (MAP) library / Regulating cell activity and morphology using functional proteins
<b>Education</b>	<ul style="list-style-type: none"> <li>• University of Pennsylvania PhD In Chemistry (2005-2011) Research Advisor: Professor William F. DeGrado</li> <li>• Korea Advanced Institute of Science and Technology MSc In Organic Chemistry and Material Chemistry, February 2003 Research Advisors: Professor Sukbok Chang</li> <li>• Sungkyunkwan University BSc In Chemistry, February 2001 Research Advisor: Professor Young-Uk Kwon</li> </ul>
<b>Experience</b>	<ul style="list-style-type: none"> <li>• Massachusetts Institute of Technology, Cambridge, MA U.S.A. Research Laboratory of Electronics and Department of Biology Iberian Nanotechnology Laboratory(INL) (September 2011-February 2013) Post-Doctoral Associate</li> <li>• LG Chem, Ltd, Daejeon Electronic Chemicals, Petrochemicals Research and Development</li> </ul>
<b>Position</b>	<ul style="list-style-type: none"> <li>• Assistant Professor (triple appointment) SKKU Advanced Institute of Nanotechnology, Department of Chemistry and Global Biomedical Engineering</li> </ul>
<b>Selected Publication</b>	<ul style="list-style-type: none"> <li>• Gevorg Grigoryan*, Yong Ho Kim*, Rudresh Acharya, Kevin Axelrod, Rishabh M. Jain, Lauren Willis, Marija Drndic, James M. Kikkawa, and William F. DeGrado, "Computational Design of Virus-like Protein Assemblies on Carbon Nanotube Surfaces" <i>Science</i> (2011) 332, 1071-1076. *- Authors contributed equally</li> <li>• Yong Ho Kim, Jason E. Donald, Gevorg Grigoryan, George P. Leser, Alexander Y. Fadeev, Robert A. Lamb, and William F. DeGrado, "Capture and Imaging of the Pre-hairpin Intermediate in Viral Membrane Fusion of the Paramyxovirus PIV5", <i>Proceedings of the National Academy of Sciences</i> (2011) 108, 20992-20997</li> <li>• Yong-Tae Kim, Kook-Han Kim, Eun Sung Kang, Geoncheol Jo, Se Young Ahn, Seon Hwa Park, Sung Il Kim, Saem Mun, Kyuwon Baek, Byeongyoon Kim, Kwangyeol Lee, Wan Soo Yun, and Yong Ho Kim, "Synergistic Effect of Detection and Separation for Pathogen Using Magnetic Clusters" <i>Bioconjugate Chem.</i>, (2015), ASAP</li> <li>• Jae-Byum Chang*, Yong Ho Kim*, Evan Thomson, Young Hyun No, Nam Hyeong Kim, Jose Arrieta, Vitor Manifrinato, Amy E. Keating, Karl K. Berggren, "Single-molecule study on the orientation of coiled-coil proteins attached to gold nanostructures", <i>Small</i> (2015), In press. *- Authors contributed equally</li> <li>• Eun Ji Park, Sang Wook Han, Bora Jeong, Seon Hwa Park, Yang-Gyun Kim, Yong Ho Kim, Young Dok Kim, "Effect of polydimethylsiloxane (PDMS) coating on TiQ-based MALDI matrix for dimethylmethylphosphonate (DMMP) analysis", <i>Applied Surface Science</i>, (2015) 353, 342-349</li> </ul>
<b>Others</b>	<ul style="list-style-type: none"> <li>• CERTIFICATE OF PATENT : BIOCOMPATIBLE PROTEIN, BIOCOMPATIBLE PROTEIN GEL AND BIOCOMPATIBLE CONDUCTIVE PROTEIN GEL COMPRISING THE PROTEIN AND PREPARING METHOD THEREOF (Patent Number: 10-1551143)</li> <li>• CERTIFICATE OF PATENT : Design of peptides to develop new type of ant-body probe</li> </ul>