

# 생분자 및 바이오융합 재료 연구실

Biomolecular and Biointegrated Materials Laboratory



권인찬 교수

Education

- 2007: Ph.D. in Chemical Engineering, Caltech
- 1996: M.S. in Chemical Engineering, Seoul National University
- 1994: B.S. in Chemical Engineering, Seoul National University

Experience

- 2014-present: Associate Professor, School of Materials Science and Engineering, GIST
- 2008-2014: Assistant Professor, Dept. of Chemical Engineering, Univ. of Virginia
- 2007-2008: Postdoctoral Fellow, Dept. of Bioengineering, UC Berkeley
- 1996-2001: Research Scientist, LG Life Science

Professional Activities & Honors

- 2011: James M. Lee Young Investigator Award, Korean Institute of Chemical Engineers
- 2011: Young Investigator Grant, Korean-American Scientists and Engineers Association
- 2006: Doh WonSuk Memorial Award for Outstanding Korean ChE PhD Students, Korean Institute of Chemical Engineers
- 2003: Constantin G. Economou Memorial Prize for top Ph.D. candidate in Chemical Engineering at Caltech

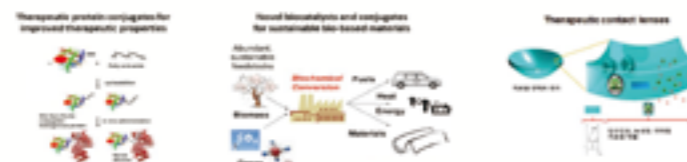
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## 연구실 소개



본 실험실은 고분자 및 무기 재료와의 융합을 통해 생체 고분자의 안정성, 화학 활성, 및 생물활성 등을 향상시키는 것과 질병과 관련된 생체 고분자의 결합을 조절하는 것을 주된 목표로 한다. 대표적인 응용분야로서는 위치 선택적으로 생분자가 결합된 단백질 의약을 개발하여 안정성을 높이고, 효과가 지속되도록 하는 연구를 활발히 수행중에 있다. 특별히, 통풍치료에 쓰이는 요산분해효소 단백질 의약의 약효를 오래 지속시키는 기술이 최근에 개발되었다. 아울러, 생촉매를 이용한 바이오화학 연구 및 안구질환 치료용 콘택트 렌즈 개발을 수행 중에 있다.

Biomolecular Engineering & Biointegrated Materials



## 연구 성과



수행중인 주요 연구과제 (주요과제경력)

- 2014-2017: 미래창조과학부 - 중견연구자지원과제, 도약 (전략, 상향식) - (주관연구원)
- 2014-2016: 교육부 - 지역혁신창의인력양성사업 - (참여연구원)
- 2013-2014: Korean Carbon Capture and Sequestration R&D Center - CCS2020 - (참여연구원)
- 2010-2013: 미국국립보건원 - R21 grant - (주관연구원)

주요논문 (대표실적)

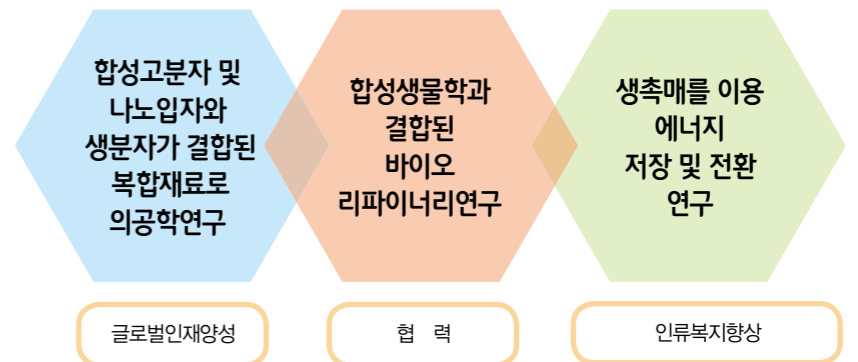
- "Site-Specific Albumination of a Therapeutic Protein with Multi-Subunit to Prolong Activity In Vivo" . Lim, Sung In; Hahn, Young S. ; Kwon, Inchan, J. Control. Release, 207, 934, 2015
- "Site-Specific Fatty Acid-Conjugation to Prolong Protein Half-Life In Vivo" . Lim, Sung In; Mizuta, Yukina; Takasu, Akinori; Hahn, Young S.; Kim, Yong Hwan; Kwon, Inchan, J. Control. Release, 170, 219, 2013
- "Site-Specific Incorporation of Tryptophan Analogs into Recombinant Proteins in Bacterial cells" . Kwon, Inchan; Tirrell, David A. J. Am. Chem. Soc., 129, 10431, 2007
- "Design of a Bacterial Host for Site-Specific Incorporation of para-Bromophenylalanine into Recombinant Proteins" . Kwon, I; Wang, Pin; Tirrell, David A. J. Am. Chem. Soc., 128, 11778, 2006.

주요특허

- Pin Wang, Inchan Kwon, Soojin Son, Yi Tang, and David Tirrell, "Site-specific incorporation of amino acids into molecules" U.S. Patent No. US 8,518,666 B2 (08/27/2013).
- Inchan Kwon, Sung In Lim, "Compositions and Methods for Increasing Protein Half-Life" . US Provisional Patent Application No. 61/808,856 (04/05/2013).
- David A. Tirrell and Inchan Kwon, "Methods of incorporating amino acids analogs into proteins." U.S. Patent Application No. 20050287639 (5/17/2005).

## 융합연구 및 비전

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