TAE SEOK MOON

DOB: May 11, 1975 Page 1 of 2

PhD Candidate, Chemical Engineering, MIT (Sep. 2005 to Present)

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Research Experience

Prather Research Group, Dept. of Chemical Engineering, Massachusetts Institute of Technology (MIT), Cambridge, MA, USA Nov. 2005 to Present

Research Assistant

- Designed and constructed synthetic pathways to produce organic acids in metabolically engineered *E. coli* strains.
- Engineered enzymes to create novel enzymes with altered substrate specificities.
- Optimized metabolic network to improve productivities of organic acids and developed new assay methods.
- Proposed, initiated, and coordinated new projects: engineering biological parts, devices, and chassis.

LG Life Sciences, Ltd.[1], Daejeon, Korea Aug. 2002 to May. 2005

Manager & Research Scientist

- Coordinated the pre-clinical studies of hyaluronan (HA) derivatives.
- Developed SR-hGH[2] (Phase II Clinical Trial for FDA[3] approval) and other SR-proteins.
- Participated in the preparation of a Drug Master File and submitted it to FDA.
- Participated in the process of obtaining a Certificate of Suitability from EDQM[4].
- Provided technical support to launch two HA products for osteoarthritis treatment and ophthalmic surgery.

LG Chem Investment, Ltd.[5], Daejeon, Korea Apr. 2001 to Jul. 2002

Assistant Manager & Research Scientist

- Performed research on smart polymers and micro-encapsulation of HA-based beads.
- Developed biopolymer derivatives for dermal implantation, osteoarthritis treatment, and tissue engineering.
- Performed rheology studies of HA derivatives including research on large amplitude oscillatory shear behavior.
- Set up the purification process of HA and performed scale-up studies.
- Participated in the construction of cGMP[6] facilities and process validation for HA manufacturing.

LG Chemical Ltd., Daejeon, Korea Jan. 2000 to Mar. 2001

Researcher

- Performed research to develop HA-based eye drops and cosmetics.
- Optimized the fermentation condition and performed scale-up studies to construct manufacturing facilities of HA.

Bioengineering Lab in Seoul National University (SNU), Seoul, Korea Sep. 1997 to Dec. 1999

Research Assistant

- Performed bacterial fermentation of immunosuppressant FK-506.
- Performed research on biosynthesis of rifamycin derivatives by gene swapping.

1) LG Life Sciences, Ltd. was spun off from LG Chem Investment, Ltd.
2) Sustained Release Human Growth Hormone
3) Food and Drug Administration
4) European Directorate for the Quality of Medicines
5) LG Chem Investment, Ltd. was demerged from its parent company, LG Chemical Ltd.
6) current Good Manufacturing Practice

PhD Candidate, Chemical Engineering, MIT (Sep. 2005 to Present)

Teaching Experience

MIT iGEM (the international Genetically Engineered Machine competition) Team 2009

Project Supervisor

Grad Student Teaching Certificate Program, MIT, Cambridge, MA, USA Fall semester, 2009

Trainee

Dept. of Chemical Engineering, MIT, Cambridge, MA, USA Sep. 2007 to Aug. 2009

Supervisor of Six Undergraduate Research Projects

- Undergraduate Research Opportunities Program and MIT Summer Research Program

Project Consultant

- Chemical-Biological Engineering Laboratory Course (Fall semester, 2008)

Project Designer & Teaching Assistant

- Biological Engineering Projects Laboratory Course (Spring semester, 2009)

Dept. of Chemical Technology, SNU, Seoul, Korea Mar. 1998 to Dec. 1999

Teaching Assistant

- Four semesters with courses in Biotechnology & Bioengineering, Chemical Reaction Engineering, Biochemical Engineering, Unit Operation, Molecular Biochemical Engineering, and Molecular Engineering Experiment.

Other Experience

The Office of Student Citizenship, MIT, Cambridge, MA, USA Jun. 2009

- Trained for mediation (Mediation Skills Training Certificate)

Education

Dept. of Chemical Engineering, MIT, Cambridge, MA, USA Sep. 2005 to Present

- PhD Candidate in Chemical Engineering (Minor: Biological Chemistry). GPA 4.7 / 5.0.

Dept. of Chemical Technology, SNU, Seoul, Korea Feb. 2000

- Master of Science Degree in Engineering. GPA 4.24 / 4.30.

Dept. of Chemical Technology, SNU, Seoul, Korea Feb. 1998

- Bachelor of Science Degree in Engineering. GPA 4.21 / 4.30 (summa cum laude).
- Ranked No. 1 from the top among 977 students in College of Engineering.

Scholarships, Awards & Memberships

- AIChE and ACS Member Since 2007
- John C. Sluder (1941) Fellowship for two semesters. Sep. 2005 to May. 2006
- ILJU Foundation Award Jul. 2005
- LG Chemical Fellowship for four semesters. Mar. 1998 to Dec. 1999
- The President Prize (No. 1 from the top among 977 students). Feb. 1998
- SNU Honor Scholarship Sep. 1994 to Feb. 1998

The list of publications, patents, and presentations is not included due to space limitations. My CV in full form will be available upon request. I can also provide with any additional information, such as references who may comment on my work and potential.