

Chuang-Chung (Justin) Lee
Resume for R&D or Manufacturing Positions in 2008

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- Objective** To obtain an R&D or manufacturing position in biotech/pharmaceutical industry
- Education** **Massachusetts Institute of Technology**, Cambridge, MA
Candidate for PhD in Chemical Engineering, June 2008 (expected). GPA: 4.7/5.0
Thesis: Investigation of synaptic plasticity as memory formation mechanism and pathological amyloid fibrillation caused by β -amyloids aggregation: Modeling work combined with experiments.
Research Projects: **Novartis Pharmaceuticals Corporation:** Shift pharmaceutical manufacturing paradigm from batch to continuous processes. Develop control systems for unit operations accordingly, 2007. **US Department of Energy:** The future of coal in a greenhouse gas constrained world. Utilized Aspen Plus Simulator to evaluate efficiency of coal combustion, 2006.
Minor: Financial Management and Accounting.
Massachusetts Institute of Technology, Cambridge, MA
Master's Degree of Chemical Engineering Practice, June 2005. GPA: 4.8/5.0
Courses: Drug Development, Biochemical Kinetics, System Engineering.
National Taiwan University, Taipei, Taiwan
Bachelor's Degree in Chemical Engineering, June 2001. GPA: 4.0/4.0. Class rank: 1st of 110
Courses: Biochemistry, Biology, Microbiology, Modern Biotechnology, Thermodynamics
- Work Experience** **Kyowa Hakko Kogyo**, Machida-Shi, Tokyo, Japan
Intern. Screened natural product library in search of anti-cancer drugs, using fluorescence of phosphorylated target protein as the marker. Developed statistical programs to facilitate screening process and discovered several hit compounds, Summer 2007.
General Mills, Minneapolis, MN
Intern. Took measurements of key operational variables and utilized statistical methods to analyze production process. Then optimized operational conditions based on the analysis results to enhance the quality of food products, Spring 2005.
Novartis Pharmaceuticals Corporation, Suffern, NY
Intern. Evaluated spectroscopy as an online tool for measuring physical properties of cardiovascular drug. Afterwards, successful installation of such technology contributed to better quality control of drug tablets at lower labor cost, Spring 2005.
- Relevant Skills** **Lab skills** Cell culture, RNA transfection, immunofluorescence, Western blotting, protein purification using ion exchange and affinity chromatography, organic synthesis
Software **Math and Statistical Tools:** Matlab/Simulink, SAS; **System Biology Language:** JDesigner, System Biology Markup Language (SBML); **Programming:** Visual Basic, C++, Fortran, HTML; **Manufacturing/Engineering Simulation:** Aspen Plus
- Leadership** **Telecommunication Corporal at Taiwan Air Force Headquarter.** Directed repairing activities of telephone consoles and wireless walkie-talkies. Led the squad in regular military training and war rehearsal in 2002 and 2003.
President of Roller Hockey Club at National Taiwan University. Supervised regular training activities and led the team to win second place at the national competition in 1999.
Vice President of Nantou County Alumni Association at National Taiwan University. Organized the culture exhibition events to raise funds for earthquake restoration in 1998.
- Selected Publication** **Lee, C.-C.**, Poon, C.-S., and McRae, G. J. (2008) "The Unified Theory of Spike Timing Dependent Plasticity", *Nat. Neurosci.*, in preparation.
Lee, C.-C., Nayak, A., Belfort, G., and McRae, G. J. (2007) "A Three-Stage Kinetic Model of Amyloid Fibrillation", *Biophys. J.*, 92(10):3448-3458.
Chien, W.-C., **Lee, C.-C.**, and Tai, C. Y. (2007) "Heterogeneous Nucleation Rate of Calcium Carbonate Derived from Induction Period", *Ind. Eng. Chem. Res.*, 46(20):6435 -6441.
- Honors** Member of **Biophysical Society** (2006-2007); **MIT Class of 1936 Fellowship** (2003); Honorary member of the **Phi Tau Phi Scholastic Society** (2001); **Presidential Awards at NTU** (1998-2001); **Yuan Tze Lee Scholarship** for Chemistry (2000); **Yen Family Scholarship** (1998-1999)
- Language** Chinese (native), English (fluent), Japanese (fluent), and Spanish (intermediate)