

# CHUNG-HUEI KATHERINE WANG

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## EDUCATION

- University of Washington, Seattle** | September 06 – present **GPA 3.82**  
Bioengineering PhD Candidate  
Technology Entrepreneurship Certificate completion  
Relevant courses: Technology Commercialization Practicum, Center for Commercialization Internship,  
Venture Capital Investment Practicum Entrepreneurial Finance, Entrepreneurial Strategy
- University of California, Berkeley** | December 2005 **GPA 3.56**  
B.S. Bioengineering
- Beijing Normal University** | June 04 – December 04 **GPA 3.95**  
National Chinese Examination for non-native speakers, intermediate level (HSK) Grade: A

## EXPERIENCE

- SUZIE PUN MOLECULAR BIOENGINEERING LAB** | September 06 – Present Seattle, WA  
*Graduate Research Assistant*
- Synthesized and prepared functionalized self-assembled monolayers for specific immobilization of nanoparticles
  - Formulated and characterized different polymer and lipid formulations of non-viral gene delivery carriers
  - Transfected polyplexes and lipoplexes into NIH-3T3/HeLa cells to look for transgene expression
  - Developed protocol for purifying layer-by-layer polyplexes for increased transfection efficiency
- SANDY CHIAN TISSUE ENGINEERING LAB** | June 08 – August 08 Nanyang Technological University, Singapore  
*NSF EAPSI Fellow*
- Synthesized poly-lactide membranes and electrospun scaffolds for seeding of NIH-3T3 fibroblasts
  - Aminolyzed scaffold for conjugation of small molecules to scaffold surface
  - Characterized free amine concentration of scaffold surface using ninhydrin assay before and after conjugation
  - Prepared scaffolds with polyplexes physisorbed and conjugated to scaffold surface for cell seeding
- KEVIN HEALY BIOMATERIALS LAB** | August 05 – December 05 Berkeley, CA  
*Undergraduate Lab Assistant* | Ying Jun Li, Bioengineering PhD candidate, UC Berkeley
- Maintained a tissue culture of MG-63 human osteosarcoma fibroblastic cells using sterile technique
  - Characterized physical properties of hydrogels with varying concentrations of N-isopropylacrylamide, Acrylic Acid, Bis-acrylamide
  - Cultured different hydrogels with MG-63 cells and performed cell sheet lifting techniques to harvest cells
- BERLEX BIOSCIENCES** | June 05 – August 05 Richmond, CA  
*Summer Intern* | In Vitro Pharmacology
- Performed ELISA assays using biotin-streptavidin chemistry to detect fluorescence of synthesized biomarker to uPA
  - Assessed efficacy of synthesized biomarker to uPA by analyzing fluorescence data generated
  - Conducted immunocapture assays with various anti-bodies to detect the presence of uPA in serum and urine
  - Calculated enzyme kinetics of uPA clipping fluorescent tagged biomarker as a measure of uPA
- HARVEY BLANCH LAB** | September 03 – May 04 Berkeley, CA  
*Undergraduate Lab Assistant* | Bradley Holmes, Chemical Engineering PhD candidate, UC Berkeley
- Achieved method of sustaining sponge cultures to yield cells of optimum condition for potential therapeutic uses
  - Established phylogenetic relationships between sponge cells and symbiotic archae, bacteria, and eukarya to investigate effects on porifera cell culture
  - Gathered information on how sponges acquire new genes into their genome by designing and performing experiment using electroporation to inject gene into sponge

## ACTIVITIES

- SCIENCE AND ENGINEERING BUSINESS ASSOCIATION (SEBA)** | Feb 07- Present Seattle, WA  
*VP of Operations* | Feb 09 – Present
- Main point of contact for UW Science & Engineering Career Fair involving over 80 companies
  - Coordinated and executed company calling to recruit companies to attend the career fair
  - Organized logistics for career fair, including booth set-ups, catering, website updates
- VP of Finance* | Feb 08 – Jun 09
- Managed budget of \$90,000 for spending on SEBA events and industry conferences
  - Involved in preparing forms and filing SEBA as 501 c 6 business league to IRS
  - Volunteered for Invest Northwest and Washington Biotechnology & Biomedical Association annual meeting
- SEATTLE CHINESE ATHLETIC ASSOCIATION** | October 07-Present Seattle, WA

*Assistant Basketball Coach*

- Helped teach dribbling, shooting, and basketball fundamentals to eighth grade girls team
- Coached eighth grade girls team to community center league championship game

**YOUTH TUTORING PROGRAM** | September 06 – June 07

Seattle, WA

*Volunteer Tutor*

- Tutor low-income at-risk youth in math, language arts, and homework for 2 hours/ week
- One-on-one interaction with two individuals for an hour each to help with skill building and academics

## **AWARDS**

NSF East Asian Pacific Summer Institute (EAPSI) Fellow | June 08 – Aug 08

Strauss, Bruno Endowed Award | 2010

## **ABSTRACTS AND PRESENTATIONS**

Wang, C.K., \*Saul, J.M., Ng, C.P., Pun, S.H. “Novel layer-by-layer polyplexes using poly(ethylenimine) and poly(acrylic acid) for gene Delivery,” Oral presentation at the American Society for Gene Therapy 2007 conference.

Wang, C.K., Jiang, S.Y., Pun, S.H. “Indole-modified self-assembled monolayers enable host inclusion complex formation with  $\alpha$ -CD modified polyethylenimine polyplexes for substrate-mediated gene delivery,” Poster presentation at the American Society for Gene Therapy 2009 conference.

Wang, C.K., Jiang, S.Y., Pun, S.H. “Immobilization of His-tagged polyplexes to Ni-NTA self-assembled monolayers for non-viral gene delivery from surfaces,” Poster presentation at the Controlled Release Society 2010 conference.

## **PUBLICATIONS**

\*Saul, J. M., \*Wang C.K., Ng C.P., Pun S.H. “Multilayer nanocomplexes polymer and DNA exhibit enhanced gene delivery.” *Advanced Materials*, (2008), **20**: 19-25. \*equally contributing authors

Wang, C.K., Jiang, S.Y., Pun, S.H. “Localized cell uptake of His-tagged polyplex immobilized on NTA self-assembled monolayers.” *Langmuir*, submitted.