

EDUCATION

Ph.D. candidate, Curriculum in Applied Science and Engineering, Univ. of North Carolina, Chapel Hill, NC present

M.S., Material Science, University of North Carolina, Chapel Hill, NC Aug. 2009

Courses Emphasis: Materials Fabrication, Materials Techniques, Statistical Thermodynamics, Polymer Physics, Polymer Synthesis, Chem/Phys Surfaces, Structure&Properties of Solids.

B.S., Physics (Yuanpei Pilot Class), Peking University, Beijing, China Jul. 2005

Courses Emphasis: Solid State Physics, Quantum Mechanics, Equilibrium Statistical Physics, Quantum Statistical Physics, Semiconductor Physics, Atomic Physics, Methods of Math Physics, General Chemistry, General Biology.

RESEARCH EXPERIENCES

Research Assistant, Dental Research Center, UNC-CH, Chapel Hill, NC 2007 - present

- Synthesis, characterization and development of biomaterials for bone regeneration.
 - TEM, AFM, FTIR, NMR, TGA, XRD, and CD analysis on the Hydroxyapatite/Gelatin composite
 - Micro-CT scanning, ImageJ 3D reconstruction, and mechanical testing on solid/porous samples
 - Calculation of Euler-Poincare Characteristics to quantify the connectivity of porous samples
 - Evaluation of alkoxy silane crosslinkers and possible alternatives to solidify the Hydroxyapatite/Gelatin composite
- Collagen Self-Assembly on inorganic surface
 - AFM characterization and in vitro mineralization.
- Re-evaluation of force distribution and clinical implications of an orthodontic device based on Elastic Mechanics analysis and symbolic computation via Maple 11 programming.

Research Assistant, Chemistry Department, UNC-CH, Chapel Hill, NC 2006

- New medium and process development for fluoropolymer synthesis (sponsored by DuPont Company).

Research Assistant, Chemistry Department, Peking University, Beijing, China 2005

- Catalytic Synthesis of Single-Walled Carbon Nanotubes (SWCNTs).
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PUBLICATIONS

1. RE-EVALUATION OF FORCES ASSOCIATED WITH ASYMMETRIC HEADGEAR, **Lu Chi**, Mulin Cheng, Garland Hershey, Tung Nguyen, Ching-Chang Ko* (in preparation).
2. Computed Force Distribution of Asymmetric Headgears, **Lu Chi**, Mulin Cheng, Garland Hershey, Ching-Chang Ko*, 108th American Association of Orthodontics, Denver, CO, U.S.A., May 2008.

Lu Chi

Email: chi@email.unc.edu, Tel: 626-818-6270, Website: <http://www.unc.edu/~chi/index.html>

3. HYDROXYAPATITE/GEMOSIL NANOCOMPOSITE, Ching-Chang Ko*, Tzy-Jun Mark Luo, **Lu Chi**, Alice Ma, 32nd American Ceramic Society International Conference on Advanced Ceramics and Composites, Jan 2008.
4. Supercritical Carbon Dioxide Expanded Acetic Acid as the Reaction Medium in Precipitation and Emulsion Polymerization Processes for Fluoropolymer Synthesis (submitted), Libin Du, **Lu Chi**, Joseph DeSimone* and George W. Roberts.
5. Synthesis of polytetrafluoroethylene in carbon dioxide-expanded solvents: Practical approaches to avoid the use of PFOA, Libin Du, Lu Chi, Joseph M. DeSimone*, and George W. Roberts, The 11th Annual Green Chemistry and Engineering Conference (June 26-29, 2007)
6. SWCNTs Production in a Fluidized Bed with Microwave Heating (Undergraduate thesis at Peking University), **Lu Chi**, with advisor Prof. Youchang Xie.
7. *ROBOT DOCTOR*, **Lu Chi**, China Scientific Expedition, Mar. 2004, p.108.

TEACHING EXPERIENCES

- ORTH807 (Orthodontic Biomaterials/Biomechanics): lab tutoring, lecture slides and study materials designing.
- PHYS116 (Mechanics) and PHYS128 (Modern Physics): homework and exam papers grading.
- PHYS104 (General Physics): lab tutoring.

HONORS AND AWARDS

Graduate School Merit Scholarship, UNC-Chapel Hill	2005-2006
World Vision Scholarship, Peking University	2003-2004
Four Gold and Silver medals in relay races in the University Sports Meeting, Peking University	2001-2002

ACTIVITIES

- Member of Triangle Area Peking Opera Association (TAPOA), North Carolina, U.S.A 2005-present
- Part-time writer for the monthly magazine China Scientific Expedition, Beijing, China 2004-2005
- Member of Peking Opera Association at Peking University, China 2004-2005
- Members of Young Volunteers Association and English Club at Peking University, China 2001-2005