

**BIOGRAPHICAL SKETCH**

Provide the following information for the key personnel in the order listed for Form Page 2.  
Follow the sample format for each person. **DO NOT EXCEED FOUR PAGES.**

NAME		POSITION TITLE	
Tien-Min Gabriel Chu		Assistant Professor	
EDUCATION/TRAINING <i>(Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)</i>			
INSTITUTION AND LOCATION	DEGREE <i>(if applicable)</i>	YEAR(s)	FIELD OF STUDY
Kaohsiung Medical University, Taiwan	DDS	1989	Dentistry
University of Michigan, Ann Arbor, Michigan	PhD	1999	Materials Sci. & Eng.
University of Michigan, Ann Arbor, Michigan	Post-Doc	2001	Biomed. Engineering

**A. Positions and Honors**

## Position

- 1999 - 2001 Post-Doc research fellow, Department of Material Sciences and Engineering, College of Engineering, University of Michigan
- 1999 - 2000 Adjunct Lecturer, Department of Biological and Materials Sciences, Division of Prosthodontics, School of Dentistry, University of Michigan
- 2000 - 2002 Adjunct Assistant Professor, Department of Biological and Materials Sciences, Division of Prosthodontics, School of Dentistry, University of Michigan
- 2001 - 2002 Assistant Research Scientist, Department of Biomedical Engineering, College of Engineering, University of Michigan
- 2003 - Assistant Professor, Biomedical Engineering Program, Indiana University Purdue University Indianapolis

## Honor

- 1997 University of Michigan Research Partnership Award

**B. Selected Peer-Reviewed Publication (11 papers and 1 US Patent)**

1. T-M. G. Chu, D.G. Orton, J.W. Halloran, S.J. Hollister, S.E. Feinberg, "Mechanical and in vivo performance of hydroxyapatite implants containing controlled internal architecture" *Biomaterials* **23** (2002) p.1283-1293
2. T-M. G. Chu, J.W. Halloran, S.J. Hollister, S.E. Feinberg, "Hydroxyapatite implants with controlled internal architecture" *Journal of Materials Science: Materials in Medicine* **12** (2001) p.471-478
3. S.E. Feinberg, S.J. Hollister, J.W. Halloran, T.M.G. Chu, and P.H. Krebsbach, "Image-Based Biomimetic approach to reconstruction of the temporomandibular joint" *Cells Tissues Organs* **163** (2001) p.309-321
4. Hollister, S.J., Zysset, P.K., Guldborg, R.E., Chu, T.M. and Halloran, J.W. "Engineering microstructures to evaluate and replace trabecular bone." *Adv Exp Med Biol* **496** (2001) p.199-211.
5. T-M. G. Chu, and J.W. Halloran, "High-Temperature Flow Behavior of Ceramic Suspensions" *Journal of the American Ceramic Society* **83** (2000) p.2189-2195

6. T-M. G. Chu and J.W. Halloran, "Curing of highly-loaded ceramic suspensions in acrylates" *Journal of the American Ceramic Society* **83** (2000) p.2375-2380
7. S.J. Hollister, T.M. Chu, R.A. Levy, J.W. Halloran, and S.E. Feinberg, "An Image-Based Approach for Designing and Manufacturing Craniofacial Scaffolds" *International Journal of Oral and Maxillofacial Surgery* **29** (2000) p.67-71
8. S.E. Feinberg, S.J. Hollister, J.W. Halloran, T.M. Chu, and P.H. Krebsbach, "A tissue engineering approach to site-specific reconstruction of skeletal structures of the maxillofacial region: Part I" *Shanghai Journal of Stomatology* **9** (2000) p.36-40
9. S.E. Feinberg, S.J. Hollister, J.W. Halloran, T.M. Chu, and P.H. Krebsbach, "A tissue engineering approach to site-specific reconstruction of skeletal structures of the maxillofacial region: Part II" *Shanghai Journal of Stomatology* **9** (2000) p.88-93
10. M.L. Griffith, J.W. Halloran, and T.M. Chu, US Patent 6,117,612 "StereoLithography Resin for Rapid Prototyping of Ceramics and Metals"
11. R. Levy, T.M. Chu, J.W. Halloran, S.E. Feinberg, and S. Hollister, "CT-Generated Porous Hydroxyapatite Orbital Floor Prosthesis as a Prototype Bioimplant" *American Journal of Neuroradiology AJNR* **18** (1997) p. 1522-1525
12. W. Wagner and T.M. Chu, "Biaxial flexural strength and indentation fracture toughness of three new dental core ceramics" *Journal of Prosthetic Dentistry* **76** (1996) p.140-144

## C. Research Support

### Completed Research Project

1 R01 EB003162-01 (NIBIB/NIH). Xie (PI) 09/18/03-8/31/06

Novel Amino Acid-Based Glass-Ionomer Biomaterials

The goal of this research is to develop novel amino acid-based glass-ionomers with improved biological and mechanical properties for both dental and orthopedic applications.

Role: Investigator

RO1 DE13608 Scott Hollister (PI) 9/15/2001-9/14/2003

NIDCR

Engineering Joint Scaffolds for Concurrent Function and Regeneration

This interdisciplinary bioengineering partnership plans to develop an image based approach for designing and manufacturing patient site-specific biomaterial scaffolds with specific internal architecture. We will use an image based engineering design method combined with a solid free form fabrication manufacturing approach to focus on the development of a functional prosthesis to reconstruct the temporomandibular joint (TMJ), since at present, there is no FDA approved device for this anatomic region.

Role: Investigator (1/2003- 9/14/2003 subcontract)