

**BIOGRAPHICAL SKETCH**

Provide the following information for the key personnel in the order listed on Form Page 2.  
Photocopy this page or follow this format for each person.

NAME		POSITION TITLE	
Dong Xie		Associate Professor of Biomedical Engineering	
EDUCATION/TRAINING ( <i>Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.</i> )			
INSTITUTION AND LOCATION	DEGREE (if applicable)	YEAR(s)	FIELD OF STUDY
East China University of Sci. & Technol.	B.S.	1982	Biochemical Eng.
Hubei Research Institute of Chemistry	M.S.	1987	Polymer Chemistry
The Ohio State University	M.S.	1993	Dental Materials
The Ohio State University	Ph.D.	1998	Polymeric Biomaterials
University of Alabama at Birmingham	Post-doc	1999	Polymers in Biomed.

**A. Positions and Honors****Positions and Employment**

1982-1984	Research Associate, Organic Chemistry Lab., Hubei Research Institute of Chemistry, Wuhan, Hubei, China
1984-1987	Graduate Research Assistant, Polymer Lab., Hubei Research Institute of Chemistry, Wuhan, Hubei, China
1987-1991	Instructor, Chemistry Department, Wuhan College of Cereal Industry, Wuhan, Hubei, China
1991-1993	Graduate Research Assistant, Polymer Lab., College of Dentistry, The Ohio State University, Columbus, OH
1993-1994	Graduate Research Assistant, Department of Pharmaceutics, College of Pharmacy, The Ohio State University, Columbus, OH
1994-1998	Graduate Research Assistant, Polymer Lab., College of Dentistry, The Ohio State University, Columbus, OH
1998-1999	Postdoctoral Research Fellow, Department of Chemistry, The University of Alabama at Birmingham, Birmingham, AL
1999-2004	Research Assistant Professor, Department of Biomedical Engineering, The University of Alabama at Birmingham, Birmingham, AL
2004-present	Associate Professor, Department of Biomedical Engineering, Purdue School of Engineering and Technology, Indiana University Purdue University Indianapolis

**Other Experience and Professional Memberships**

- Mentored and graduated 3 graduate students (2 M.S. and 1 Ph.D.); Mentored 4 postdoctoral research fellows
- Member of Society for Biomaterials
- Member of International and American Dental Association
- Member of American Chemical Society
- Co-chair of Dental Materials Session of 27th Annual Meeting of Society for Biomaterials (2001)
- Reviewer for International Journal of Polymer Analysis and Characterization
- Reviewer for European Polymer Journal
- Reviewer for Journal of Biomaterials Science, Polymer Edition
- Reviewer for Polymer
- Reviewer for Biomaterials
- Reviewer for Abstracts for 2001 and 2002 World Biomaterials Conferences (SOB)
- Reviewer for Georgian-U.S. Bilateral Grants Program (U.S. Civilian Research & Development Foundation) (07/26/2002)

**B. Selected Peer-Reviewed Publications (in chronological order)****Publications (over 38):**

1. Xie, H.Q., Liu, J., and **Xie, D.**, Some properties of three types of copolymers with uniform polyoxyethylene grafts, *Eur. Polym. J.*, 1989; 25(11): 1119.
2. Xie, H.Q., **Xie, D.**, and Liu, J., Solid polymer electrolytes-complexes of polyoxyethylene containing star-shaped block copolymers and copolymers with uniform grafts, *Polym. Plast. Technol. Eng.*, 1989; 28(4): 355.
3. Kao, E.C., Culbertson, B.M., and **Xie, D.**, Preparation of glass-ionomer cement using N-acryloyl-substituted amino acid monomers: evaluation of physical properties, *Dent. Mater.*, 1996 (Jan.); 12: 44-51.
4. Culbertson, B.M., Thakur, A., **Xie, D.**, and Kao, E.C., Amino acid modified polyelectrolytes for formulation of improved glass-ionomer (GI) dental restoratives, *Polym. Prepr.*, 1997 (Sept.); 38(2): 127.
5. Xie, H.Q., **Xie, D.**, and Liu, Y., Synthesis and properties of unsaturated polyoxyethylene and its graft-copolymers with styrene, *J. Appl. Polym. Sci.*, 1998; 70(12): 2417-2425.
6. **Xie, D.**, Culbertson, B.M., and Johnston, W.M., Formulations of light-curable glass-ionomer cements containing N-vinylpyrrolidone, *J. M. S., Pure Appl. Chem.*, 1998; A35(10): 1631-1650.
7. **Xie, D.**, Culbertson, B.M., and Johnston, W.M., Improved flexural strength of N-vinylpyrrolidone modified acrylic acid copolymers for glass-ionomers, *J. M. S., Pure Appl. Chem.*, 1998; A35(10): 615-1629.
8. **Xie, D.**, Culbertson, B.M., and Wang, G., Microhardness of N-vinylpyrrolidone modified glass-ionomers cements, *J. M. S., Pure Appl. Chem.*, 1998; A35(4): 547-561.
9. Xie, H.Q. and **Xie, D.**, Molecular design, synthesis and properties of block and graft copolymers containing polyoxyethylene segments, *Prog. Polym. Sci.*, 1999; 24:275-313.
10. Culbertson, B.M., **Xie, D.**, and Thakur, A., New matrix resins for glass polyalkenates or glass-ionomers with pendant amino acid residues, *J. M. S., Pure Appl. Chem.*, 1999; A36(5-6): 681-696.
11. Wang, G., Culbertson, B.M., **Xie, D.**, and Seghi, R.R., Physical property evaluations of perfluorotriethylene glycol dimethacrylate as a potential reactive diluent in dental composite resins, *J. M. S., Pure Appl. Chem.*, 1999; A36(2): 225-236.
12. Wang, G., Culbertson, B.M., **Xie, D.**, and Seghi, R.R., Effect of fluorinated triethylene glycol dimethacrylate on the properties of unfilled, light-cured dental resins, *J. M. S., Pure Appl. Chem.*, 1999; A36(2): 237-252.
13. **Xie, D.**, Brantley, W.A., Culbertson, B.M., and Wang, G., Mechanical properties and microstructures of glass-ionomer cements, *Dent. Mater.*, 2000; 16(2): 129-138.
14. Culbertson, B.M., **Xie, D.**, and Johnston, W.M., Water soluble poly(acrylic acid-co-itaconic acid-co-N-vinylpyrrolidone) materials: optimization of monomer ratios for copolymer application in glass-ionomer type dental restoratives (Chap. 17), in Specialty Monomers and Polymers: Synthesis, Properties, and Applications, Havelka, K.O. and McCormick, C.L., eds., *ACS Symposium Series 755*, ACS, 2000; 222-232.
15. **Xie, D.**, Feng, F., Chung, I.D., and Eberhardt, A.W., Preparation and evaluation of hybrid zinc-calcium-silicate polyalkenoate cements for biomedical applications, *Biomaterials*, 2003; 24(16):2749-2757.
16. Chung, I.D., **Xie, D.**, Puckett, A., and Mays, J., Syntheses and evaluation of novel biodegradable amino acid based anhydride polymer resins and composites, *Eur. Polym. J.*, 2003; 39:497-503.
17. Wu, W., **Xie, D.**, Puckett, A., and Mays, J., Synthesis and formulation of vinyl-containing polyacids for improved light-cured glass-ionomer cements, *Eur. Polym. J.*, 2003; 39:663-670.
18. Wu, W., **Xie, D.**, Puckett, A., and Mays, J., Synthesis and characterization of self-cured amino acid modified glass-ionomers, *Eur. Polym. J.*, 2003; 39:959-968.
19. **Xie, D.**, Wu, W., Puckett, A., Farmer, B., and Mays, J., Novel Resin Modified Glass Ionomer Cements with Improved Flexural Strength and Ease of Handling, *Eur. Polym. J.*, 2004; 40(2):343-351.
20. **Xie, D.**, Chung, I.D., Wu, W., Lemons, J., Puckett, A., and Mays, J. An amino acid modified and non-HEMA containing glass-ionomer cement, *Biomaterials*, 2004; 25(10):1825-1830.
21. **Xie, D.**, Chung, I.D., Wang, G., Feng, D., Mays, J., Synthesis, formulation and evaluation of novel zinc-calcium phosphate-based adhesive resin composite cement, *Eur. Polym. J.*, 2004; 40(8):1723-1731.
22. **Xie, D.**, Chung, I.D., Wu, W., and Mays, J., Synthesis and evaluation of HEMA-free glass-ionomer cements for dental applications, *Dent. Mater.*, 2004; 20:470-478.

**Presentations (over 30):**

**C. Research Support**

**Ongoing Research Support**

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: PI

**Completed Research Support**

Industrial Grant from Stryker/Howmedica/Osteonics Corp. Xie (PI)

10/01/99-12/31/00

Optimization of Hybrid Glass-Ionomer Cements.

The goal of the research was to optimize the glass-ionomer cements that can be used as alternatives for hip replacement surgery.

Role: PI

Industrial Grant from Stryker/Howmedica/Osteonics Corp. Mays (PI)

01/01/01-01/01/02

Development and Evaluation of Improved Orthopedic Bone Cement Formulations

The goal of the research was to develop deliverable bone cements with optimal mechanical properties..

Role: Co-investigator

NSF Grant No EPS-0083128 Puckett (PI)

10/01/00-06/01/03

Synthesis and Characterization of Novel Network Forming Biodegradable Oligomers, a joint grant, subcontracted from University of Mississippi Medical Center.

The goal of this project is to synthesize and characterize novel biodegradable oligomers that can be easily polymerized in situ and processed in environmental friendly conditions. These materials can be used for biomedical applications such as tissue scaffold formations and orthopedic restorations.

Role: Co-PI at University of Alabama at Birmingham