

1. **Name:** Patricia Ann Relue
2. **Education – degrees, discipline, institution, year:**  
Ph.D. in Chemical Engineering, University of Michigan, May 1990 - Feb. 1994  
M.S. in Engineering, University of Michigan, Aug. 1988 - May 1990  
B.S. in Chemical Engineering, Magna Cum Laude, with Honors, Univ. of Toledo, 1984 - 1988.
3. **Academic Experience - 18 years**  
Associate Professor, Department of Bioengineering, 1999 – present.  
Graduate Program Director, Bioengineering, 2002-2010.  
Visiting Assoc. Professor, NJIT, Dept. of Elec. & Computer Engineering, 2001 (sabbatical leave).  
Undergraduate Program Director, Bioengineering, May - Nov. 1999; Aug. 2000 – May 2001.  
Assistant Professor, Dept of Bioengineering, 1996 – 1999.  
Assistant Professor, Dept of Chemical Engineering, University of Toledo, 1993 – 1999.  
Adjunct Assistant Professor, Dept. of Pathology, Medical College of Ohio, Mar 1995 – 2003
4. **Non-academic experience:**  
Isaac Corporation, Consultant, Defiance, Ohio, June 1995 - Jan. 1996.  
Ford Motor Company, Instructor, Creative Problem Solving, Avon Lake, Ohio, Aug. 1994.
5. **Certifications or professional registrations:** N/A
6. **Current membership in professional organizations:**  
Society for Industrial Microbiology (SIM); American Institute of Chemical Engineers (AIChE)
7. **Honors and Awards:**  
*Outstanding Professor in BIOE*, BMES Student Chapter, UT, 1996-97; 2005-06; 2009-10  
*Outstanding Teacher Award*, College of Engineering, UT, 2007  
*Dean's Merit Award*, College of Engineering, UT, 1998  
*Sigma Xi*, UT, 1997 - present  
*UT Outstanding Teacher Award*, UT, 1997
8. **Service Activities (most important within and outside of the institution)**  
***Chaired Conference Sessions:***  
1999 AIChE National Meeting, Co-Chair: Tissue Engineering, Dallas, TX.  
1998 AIChE National Meeting, Co-Chair: Cell Adhesion and Migration, Miami Beach, FL.  
1997 AIChE National Meeting, Co-Chair: Emerging Issues in BIOE Education, LA, CA.  
1996 AIChE National Meeting, Co-Chair: Receptor-Mediated Cell Phenomena, Chicago, IL.  
***University, College, and Department:***  
UT Graduate Council, May 2005 – present; chair, May 2008-09; curriculum committee chair  
May 2006-08, August 2010 – present; executive committee, May 2009 – present.  
UT Outstanding Teacher Award selection committee, 2009, 2010.  
UT Faculty Senate, 2007-2008; Academic Affairs Committee member 2007-08; Committee on  
Committees 2009.  
UT Radiation Safety Committee, 1998 – 2003; chair, 1998 – 2001  
Biomedical Engineering PhD Program Administrative Committee, 2007 – present; qualifying  
examination committee chair, 2008.  
College of Engineering Dean's Advisory Council, 2000 – present  
BIOE Department Personnel Committee, 1999 – present; chair 2006-2007  
Phi Sigma Rho Faculty Advisor, 1999 – present
9. **Most important Publications/Presentations: *Refereed Journal Articles/Patents – last 5 years:***  
D. Yuan, K. Rao, **P. Relue**, and S. Varanasi, "Fermentation of biomass sugars to ethanol using  
native industrial yeast strains," *Bioresource Technology*, 102 (2011) 3246–3253.

- B. Li, S. Varanasi and **P. Relue**. “New strategies based on aldose-ketose transformation for separation and/or chemical conversion of C6 and C5 sugars from lignocellulosic biomass hydrolyzate”. *US Utility Patent filed*, April 2010.
- S. Varanasi, K. Rao, and **P. Relue**, “A Novel technique that enables efficient fermentation of xylose and hexose sugars from biomass hydrolysates using native non-GMO yeasts,” *US Utility Patent filed*, January 2, 2009.
- K. Rao; S. Chelikani; **P. Relue**; and S. Varanasi, “A Novel technique for Optimizing the Simultaneous-Isomerization-and-Fermentation (SIF) Approach of Converting Xylose to Ethanol,” *Applied Biochemistry and Biotechnology*, 146(1-3):101-117, 2008.
- Y. Yuan and **P. Relue**, “Enzymatic degradation of human skin dermis revealed by fluorescence and reflectance spectroscopy,” *Optics Express*, 16(13):9857-9868, June 20, 2008.
- “Using Endogenous Polarization-Sensitive Fluorescence to Monitor Metabolic Changes in Living Cells,” Y. Yuan, **P.A. Relue**, and B.D. Cameron, *US utility patent filed* 2007.
- Y. Yuan, Y. Li, B.D. Cameron, and **P.A. Relue**, “Fluorescence anisotropy of cellular NADH as a tool to study different metabolic properties of human melanocytes and melanoma cells,” *IEEE Journal of Selected Topics in Quantum Electronics*, 13(6, pt 1):1671-1679, 2007.
- Conference presentations and posters – last 4 years: (FIRST AUTHOR IS PRESENTER)**
- H. Shao, B. Li, **P. Relue**, S. Viamajala, and S. Varanasi, “Efficient fermentation of biomass sugars to succinic acid,” 33<sup>rd</sup> Symposium on Biotechnology for Fuels & Chemicals, 2011.
- P. Relue**, B. Li, D. Yuan, H. Shao, and S. Varanasi. “Evaluation of oxianions for Shifting the Xylose:Xylulose Equilibrium with Immobilized Xylose Isomerase,” AIChE 2010.
- P. Relue**, B. Li, D. Yuan, H. Shao, and S. Varanasi. “Evaluation of Immobilized Boronic Acid for Shifting the Xylose:Xylulose Equilibrium with Immobilized Xylose Isomerase,” AIChE 2010.
- D. Yuan, B. Li, H. Shao, S. Varanasi and **P. Relue**. “Adaptation of Native *S. cerevisiae* for Improved Xylulose Utilization,” 32nd Symposium on Biotechnology for Fuels and Chemicals, 2010.
- B. Li, D. Yuan, H. Shao, **P. Relue** and S. Varanasi. “Immobilization of urease for a microenvironmental pH control system: effect of media additives on enzyme activity,” 32nd Symposium on Biotechnology for Fuels and Chemicals, 2010.
- H. Shao, D. Yuan, B. Li, **P. Relue** and S. Varanasi. “Efficient fermentation of biomass sugars to lactic acid,” 32nd Symposium on Biotechnology for Fuels and Chemicals, 2010.
- D. Yuan, B. Li, S. Varanasi and **P. Relue**. “A Native *S. cerevisiae* Fermentation Methodology for Converting Glucose and Xylose From Biomass Hydrolysate to Ethanol,” AIChE 2009.
- B. Li, D. Yuan, **P. Relue** and S. Varanasi. “Evaluation of Enzyme Immobilization Methods for Xylose-to-Xylulose Isomerization,” AIChE 2009.
- D. Yuan, **P. Relue**, and S. Varanasi, “A Viable Method for Fermenting Both Glucose and Xylose to Ethanol Using Native Yeast,” 31<sup>st</sup> Symposium on Biotechnology for Fuels & Chemicals, 2009.
- K. Rao, S. Varanasi, **P. Relue**, “A Novel Approach for Conversion of Xylose to Ethanol Using Native Strains of Yeast,” 30th Symposium on Biotechnology for Fuels & Chemicals, 2008.

#### **10. Professional development activities in the last five years:**

*Attended and/or presented at professional conferences:*

31<sup>st</sup>, 32<sup>nd</sup>, and 33<sup>rd</sup> Symposia on Biotechnology for Fuels & Chemicals, 2009-11.  
AIChE National Meetings, 2009 & 2010.