

BIOGRAPHY

Julie Ann Marshall, Ph.D.
Department of Mathematics and Physical Science
Professor of Chemistry

EDUCATIONAL BACKGROUND

- Ph.D. Texas Tech University Major: Chemistry
- M.S. Texas Tech University Major: Chemistry
- B.S.ed. Lubbock Christian University Major: Science Education

PUBLICATIONS

- “Molecular Probing of the *Saccharomyces cerevisiae* Sterol 24-C Methyltransferase Reveals Multiple Amino Acid Residues Involved with C₂-Transfer Activity”, K. Ganapathy, C.W. Jones, C.M. Stephens, R. Vatasyan, **J.A. Marshall**, and W.D. Nes, *BBA*, **1781** (2008) 344-351.
- “Active Site Mapping and Substrate Channeling in the Sterol Methyl Transferase Pathway”, W.D. Nes, **J.A. Marshall**, Z. Jia, T.T. Jaradat, Z. Song, and P. Jayasimha, *J Biol. Chem.* **277** (2002) 42549-42556.
- “Soybean Sterol Composition and Utilization by *Phytophthora sojae*”, **J.A. Marshall**, A.L. Dennis, T. Kumazawa, A.M. Haynes, and W.D. Nes, *Phytochemistry* **58** (2001) 423-428.
- “Isolation and Characterization of an Active Site Peptide from a Sterol Methyl Transferase with a Mechanism-Based Inhibitor”, **J.A. Marshall** and W.D. Nes, *Bioorg. Med. Chem. Letters* **9** (1999) 1533-1536.
- “Site-Directed Mutagenesis of the Sterol Methyl Transferase Active Site from *Saccharomyces cerevisiae* Results in Formation of Novel 24-Ethyl Sterols”, W.D. Nes, B.S. McCourt, **J.A. Marshall**, J. Ma, A.L. Dennis, M. Lopez, H. Li, and L. He, *J Org. Chem.* **64** (1999) 1535-1542.
- “Mechanism-Based Active Site Modification of Sterol Methyl Transferase by Tritium-Labeled 26-Homocholesta-8,14,24-trien-26-yn-3 β -ol”, W.D. Nes, **J.A. Marshall**, W. Zhou, L. He, and A.L. Dennis, *Tet. Letters* **39** (1999) 8578-8578.
- “Overexpression, Purification, and Stereochemical Studies of the Recombinant (S)-Adenosyl-L-methionine: $\Delta^{24(25)}$ -to $\Delta^{24(28)}$ -Sterol Methyl Transferase Enzyme from *Saccharomyces cerevisiae*”, W.D. Nes, B.S. McCourt, W. Zhou, J. Ma, **J.A. Marshall**, L.A. Peek, and M. Brennan, *Arch. Biochem. Biophys.* 353 (1998) 297-311.

CURRENT COURSE ACTIVITY

- 1307, General Chemistry I
 - 1305, Inorganic Chemistry
 - 4311, Biochemistry I
 - 1308, General Chemistry II
 - 4312, Biochemistry II
- I have over 12 years of experience teaching the subjects listed above.

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RESEARCH ACTIVITY

- Current student projects include DNA mapping of E.coli in West Texas Playa Lake Systems and Epigenetic Treatment of Fungus for Biomass Utilization
- Employ 5 undergraduates and 1 post-baccalaureate full-time technician
- Have written grants for undergraduate research support, \$450,000 over the next three years; Welch Foundation, J.M. Smucker Co. and Birdsong Peanut Co.
- Have sponsored over 30 undergraduate students in various research projects over the last eight years
- The first two student researchers sponsored in the undergraduate research program have completed Ph.D.'s in chemistry; Matt Joyner joined the faculty of Pepperdine University in 2011 and Amanda Boston joined the faculty at LCU in the fall of 2012.
- Consultant for Birdsong Peanut Co. and JM Smucker's R&D 2011- present
- Student presentations sponsored in 2010-2011
Richard Roper and Lauren Long (joint project)
"Identification and Quantification of Carbohydrates and Enzymes Produced by *Phanerochaete chrysosporium* in the Breakdown of Peanut Agricultural Waste"
March 31-April 2 2011 25th National Conference on Undergraduate Research, Ithaca College, Ithaca, NY
April 13-15 2011 Lubbock Christian University Colloquium, 2nd place

HONORS AND AWARDS

- Faculty Member of the Month, Lubbock Christian University, April, 2002, February, 2003, and September, 2004.
- ARCS Scholar (Achievement Rewards for Collegiate Scientists), Texas Tech University, 2000-2001.
- Outstanding Seminar, Biochemistry Division, Texas Tech University, 1999.
- Dean's Award for Highest GPA of Graduating Students, Lubbock Christian University, 1989.
- Alpha Chi Honor Society, Lubbock Christian University, 1987-1989.

PROFESSIONAL ORGANIZATIONS

- American Peanut Research and Education Society, 2003-Present.
- The Texas Association of Advisors for the Health Professions, 2002-Present.
- American Chemical Society, 2001-Present.
Secretary ACS South Plains Region, 2005-2006