

2000 - 2001  
SUMMARY OF SCHOLARLY ACTIVITIES  
DEPARTMENT OF MICROBIOLOGY AND IMMUNOLOGY

I. ARTICLES PUBLISHED IN BOOKS AND JOURNALS

A. Full length published articles.

J.P. Audia, C.C. Webb, and J.W. Foster. Breaking Through the Acid Barrier: An Orchestrated Response to Proton Stress by Enteric Bacteria. *Int. J. Med. Microbiol.* 291:1-10 (2001).

A. L. Barsoum, J. W. Rohrer, and J. H. Coggin, Jr. 37kDa Oncofetal Antigen Is an Autoimmunogenic Homologue of the 37kDa Laminin Receptor Precursor. *Cell. Mol. Biol. Lett.* 5:207-230 (2000).

C.S. Beckwith, D.J. McGee, H.L.T. Mobley, and L.K. Riley. Cloning, Expression and Catalytic Activity of *Helicobacter hepaticus* Urease. *Infect. Immun.* 69:5914-5920 (2001).

M-P. Castanie-Cornet and J.W. Foster. *Escherichia coli* Acid Resistance: cAMP Receptor Protein and a 20 bp cis-Acting Sequence Control pH and Stationary Phase Expression of the *gadA* and *gadBC* Glutamate Decarboxylase Genes. *Microbiology* 147:709-715 (2001).

J.H. Coggin. Bacterial Pathogens. IN: D.O. Fleming and D.H. Hunt (Eds.) Biological Safety: Principles and Practices 3<sup>rd</sup> Ed., ASM Press, Washington, DC, pp. 65-88 (2000).

J.H. Coggin and R. Schwartz. Occupational Health and Medical Surveillance. IN: D.O. Fleming and D.H. Hunt (Eds.) Biological Safety: Principles and Practices 3<sup>rd</sup> Ed., ASM Press, Washington, D.C., pp. 497-516 (2000).

C.L. Cubitt, R.N. Lausch, and J.E. Oakes. Synthesis of Type II Interleukin-1 Receptors by Human Corneal Epithelial Cells But Not by Keratocytes. *Invest. Ophthalmol. Vis. Sci.* 42(3):701-704 (2001).

D. A. Dean. Peptide Nucleic Acid-based Gene Therapy. *Adv. Drug Deliv. Rev.* 44:81-95 (2000).

D. A. Dean and R.A. Perkins. Gene Therapy: If at First You Don't Succeed... *Am. Fam. Physician* 63:707-713 (2000).

J.J. Martin, J.L. Young, J.N. Benoit, and D.A. Dean. Gene Transfer to Intact Mesenteric Arteries by Electroporation. *J. Vasc. Res.* 37:372-380 (2000).

A.G. Moat and J.W. Foster. Biosynthesis. IN: Sussman (Ed.) Molecular Medical Microbiology. Academic Press, UK, pp. 1-38 (2001).

N. Norwood, T.M. Moore, D.A. Dean, R. Bahattacharjee, M. Li, and T. Stevens. Store-operated Calcium Entry and Increased Endothelial Cell Permeability. *Am. J. Physiol. Lung Cell Mol. Physiol.* 279:L815-L824 (2000).

J.W. Rohrer, A.L. Barsoum, and J.H. Coggin. Development of a New Universal Tumor Rejection Antigen Expressed on Human and Rodent Cancers for Vaccination and Prevention of Cancer and Anti-tumor Therapy and Therapy Outcome Predictions. *Mod. Aspects Immunol.* 1(5):191-195 (2001).

A.E. Taylor and R.N. Lausch. The Lungs as an Anti-Inflammatory Organ of the Body. *Crit. Care. Med.* 29:1087-1088 (2001).

T.L. Testerman, D.J. McGee, and H.L.T. Mobley. Adherence and Colonization. IN: H.L.T. Mobley, G.L. Mendz, and S.L. Hazell (Eds.) Helicobacter pylori: Physiology and Genetics, ASM Press, Washington, D.C., Chap. 34, pp. 381-417 (2001).

M.T. Tran, R.N. Lausch, and J.E. Oakes. Substance P Differentially Stimulates IL-8 Synthesis in Human Corneal Epithelial Cells. *Invest. Ophthalmol. Vis. Sci.* 41(12):3871-3877 (2000).

D.O. Wood and A.F. Azad. Genetic Manipulation of Rickettsiae: A Preview. *Infect. Immun.* 68:6091-6093 (2000).

X.-T. Yan, M. Zhuang, J.E. Oakes, and R.N. Lausch. Autocrine Action of IL-10 Suppresses Proinflammatory Mediators and Inflammation in the HSV-1-Infected Cornea. *J. Leukoc. Biol.* 69:149-157 (2001).

C. Zelle-Rieser, A. Barsoum, F. Sallusto, R. Ramoner, J. Rohrer, L. Holtl, G. Bartsch, J. Coggin, and M. Thurnher. Expression and Immunogenicity of Oncofetal-Antigen-Immature Laminin Receptor Protein in Human Renal Cell Carcinoma. *J. Urol.* 165:1705-1709 (2001).

#### B. Articles in Press.

F.O. Bastian and J.W. Foster. Documentation by PCR and DNA Sequence Analysis of *Spiroplasma* sp. 16S rDNA in Creutzfeldt-Jakob Disease and Scrapie-Infected Sheep Brain Tissues. *J. Neuropath. Exp. Neurol.* (2001).

S.E. Bevans-Nelson, R.N. Lausch, and J.E. Oakes. Tumor Necrosis Factor- $\alpha$  Is the Dominant Inducer of Matrix Metalloproteinase-9 Synthesis in Human Corneal Cells. *Exp. Eye Res.* (2001).

D.J. McGee, T.L. Testerman, and H.L.T. Mobley. *Helicobacter pylori* Growth and Urease Detection in the Chemically-Defined Medium Ham's F-12. *J. Clin. Microbiol.* 39 (2001).

A. Moat, J.W. Foster, and M. Spector. Microbial Physiology, 4<sup>th</sup> ed. New York, Wiley-Liss (2002).

## II. PUBLISHED ABSTRACTS.

D.A. Dean, G. Urban, M.R. Swingle, N.M. Dean, and R.E. Honkanen. Serine-threonine Protein Phosphatase 5 (PP5) Regulates the Nucleocytoplasmic Trafficking of the Glucocorticoid Receptor Complex. *Mol. Biol. Cell* 11S:151a (2000).

R.R. Fenton, J.E. Oakes, and R.N. Lausch. Proinflammatory Role of IL-6 in Virus-Induced Corneal Opacity. *IOVS* 42:S43 (2001).

F.M. Munkonge, J.W.S. Smith, D.A. Dean, M.J. Dunn, and E.W.F.W. Alton. Characterization of Cytosolic DNA-Binding Shuttle Proteins Mediating Plasmid DNA Import into Mammalian Cell Nuclei. *Mol. Biol. Cell* 11S:298a (2000).

J.E. Oakes, M.H. Ritchie, and R.N. Lausch. The Role of NF- $\kappa$ B Binding Site Sequences in the Differential Induction of IL-8 and MCP-1. *IOVS* 42:S586 (2001).

## III. BOOKS PUBLISHED.

None.

## IV. PRESENTATIONS.

M. F. Alexeyev. Studying the Structure-Function Relationships in Membrane Proteins With Transposable Dual Reporters. Gordon Research Conference on Membrane Transport Proteins, London, CT (2000).

J.W. Foster. Protons at the Gate: Mechanisms and Control of Acid Resistance by *Salmonella* and *E. coli*. United States Department of Agriculture, Bethesda, MD (2001).

J.W. Foster. When Protons Attack: The Genetics of *Salmonella* and *E. coli* Acid Stress Responses. University of Rochester, NY (2001).

J.W. Foster. Acid Stress Responses of *Salmonella* and *E. coli*: Survival Mechanisms, Regulation and Implications for Pathogenesis. (1) Pusan National University, Pusan, Korea; (2) Hannam University, Taejon, Korea; and (3) International Meeting of Microbiological Society of Korea, Seoul (2001).

D.J. McGee. Roles of *Helicobacter pylori* Nitrogen Metabolism, Motility and Protein Secretion in Virulence. LSU Health Sciences Center, New Orleans, LA (2001).

H.H. Winkler. Regulation in Rickettsiae. American Society for Rickettsiology-*Bartonella* as an Emerging Pathogen Group. Joint Conf., Big Sky, MT (2001).

H.H. Winkler. Rickettsia. Montana State University, Bozeman, MT (2001).

D.O. Wood. Rickettsial Genetics: The Good, the Bad, and the Ugly. American Society for Rickettsiology-*Bartonella* as an Emerging Pathogen Group. Joint Conf., Big Sky, MT (2001).

D.O. Wood. Rickettsial Genetics: Challenges and Opportunities. Invited Symposium Speaker: Obligate Intracellular Pathogens. Am. Soc. Microbiol. Gen. Mtg., Orlando, FL (2001).

D.O. Wood. *Rickettsia prowazekii*: Cytoplasmic Survivor. (1) University of Maryland School of Medicine, Baltimore, MD (2000); and (2) Wyeth/Ayerst Research, Pearl River, NY (2001).

D.O. Wood. Genetic Analysis of *Rickettsia prowazekii*: Obstacles and Opportunities. Oklahoma State University, Stillwater, OK (2000).

D.O. Wood. Genetic Manipulation of *Rickettsia prowazekii*: Obstacles and Opportunities. Center for Microbial Pathogenesis, The University of Connecticut Health Center, Farmington, CT (2000).

## V. NATIONAL PROFESSIONAL RECOGNITION.

Dr. Adel L. Barsoum served as Reviewer for Cellular and Molecular Biology Letters.

Dr. Joseph H. Coggin was named to the Editorial Board of Modern Aspects of Immunobiology.

Dr. John W. Foster was the featured speaker at the International Meeting of Microbiological Society of Korea this past year. He served on the NIH Study Section, BM1 (ad hoc), and he continues to serve as Reviewer for *Journal of Bacteriology*, *Molecular Microbiology*, United States Department of Agriculture and *Infection and Immunity*.

Dr. Robert N. Lausch continued to serve as Special Reviewer, Visual Science A Study Section, National Eye Institute. He also serves on the Member Panel of Primary Reviewers for the *Journal of Immunology*.

Dr. David J. McGee was an ad hoc reviewer on the NIH Study Section, BM1.

Dr. John E. Oakes continued on the Member Panel of Primary Reviewers for the *Journal of Immunology*.

Dr. Herbert H. Winkler continued to serve on the Editorial Board of *Infection and Immunity*, and the Council Policy Committee of the American Society for Microbiology. Dr. Winkler was recognized for his service to the American Society for Microbiology at the General Membership Meeting in May of this year.

Dr. David O. Wood again served as Reviewer for the *American Journal of Tropical Medicine and Hygiene*.

Dr. Winkler and Dr. Wood were invited speakers at the American Society for Rickettsiology-Bartonella as an Emerging Pathogen Group at a Joint Conference in Big Sky, Montana. Dr. Winkler and Dr. Wood also were Conveners for Session V: Genetics/Genomics at the meeting.

## VI. BRIEF SUMMARY OF DEPARTMENT ACTIVITIES AND PROGRESS.

The Department of Microbiology and Immunology is pleased to welcome Dr. David McGee to our faculty. The department began recruiting efforts to find a new Assistant Professor shortly before last year's Christmas holidays and continued until late Spring. We had many quality candidates to choose from and are very pleased with the success of our efforts. We also gained Dr. McGee's wife, Dr. Traci Testerman, who is supervising our Medical Microbiology laboratory. Welcome, Dr. Testerman. The department is also pleased to welcome Sharon Stanford and Karla McInnis to our graduate program. Graduate student, Cathy Condo Webb, successfully defended her dissertation entitled "Effect of DksA on Cell Physiology and Expression of the Alternate Sigma Factor,  $\sigma^S$ , in *Salmonella enterica* Serovar Typhimurium" in August. Dr. David O. Wood, Professor, was honored as Distinguished University Professor at a reception this past April. Among our usual visitors this past year, Dr. Foster was host to Dr. Linè Tompsen, a visiting Postdoc. Dr. Tompsen is from Denmark.