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E. Fisher
D. Roberts

K. Powers
W. VanDorp

1990 SEMINARS

Morning Transport

- July 9 "How do skate RBC's stay in shape? (They flux and they signal.)" Leon Goldstein, Ph.D., Brown University
- July 16 "Intracellular pH, Na/H exchange and cell volume: A role in regulation of salt absorption?" David C. Dawson, Ph.D., University of Michigan Medical School
- July 23 "How is chloride secretion regulated? Insights from cystic fibrosis, cancer, yeast and sharks" John D. Valentich, Ph.D. The University of Texas Health Science Center at Houston
- July 30 "Electrogenic Na⁺/H⁺ exchange: Are crab gills unique?" David W. Towle, Ph.D., Lake Forest College
- August 6 "Regulation of intracellular pH in hepatocytes" James L. Boyer, M.D., Yale University School of Medicine
- August 13 "How does calcium go through the calcium channel?" Dieter Lux, Ph.D., Max-Planck-Institute, Munich, Germany
- August 20 "A molecular approach to ion transport" Edward J. Benz, Jr., M.D. Yale University School of Medicine
- August 27 "Adenosine receptors, endogenous adenosine, and the regulation of chloride transport in the shark rectal gland" John N. Forrest, Jr., M.D., and Grant G. Kelley, M.D., Yale University School of Medicine

Morning Toxicology

- July 27 "Mechanisms of toxicity of Hg²⁺ on a model tight epithelium, the flounder urinary bladder" David C. Dawson, Ph.D., The University of Michigan Medical School
- August 3 "Altered plasma membrane ion permeability in mercury-induced cell injury" Ned Ballatori, Ph.D., University of Rochester School of Medicine
- August 10 "Cadmium toxicity in skate (Raja erinacea) electric organ" Oliver M. Brown, Ph.D., SUNY/Health Science Center at Syracuse
- August 17 "Organic mercurials and the volume of rectal gland cells" Arnost Kleinzeller, M.D., Ph.D., D.Sc., University of Pennsylvania

Noon

- July 13 "Inhibition of corneal endothelial Na^+/K^+ ATPase by 12(R)-HETE" Henry F. Edelhauser, Ph.D., Emory University Eye Center
- "In search of an alternate cytochrome oxidase" George Kidder III, Ph.D., Illinois State University
- July 20 "Calcium binding proteins and the control of sperm motility" Timothy Otter, Ph.D., University of Vermont
- "The 'unexpected and the unnatural': D-amino acids in marine invertebrates" Robert L. Preston, Ph.D., Illinois State University
- July 27 "Biochemical-genetic adaptation to temperature in the sea anemone Metridium senile" William E. Zamer, Ph.D., Lake Forest College
- "A calsequestrin-like protein in the ER of the sea urchin cells" John H. Henson, Ph.D., Dickinson College
- August 3 "Osmotic and ionic environment for elasmobranch embryos" Gregg A. Kormanik, Ph.D., University of North Carolina at Asheville
- "Studies on reproduction in elasmobranchs" Ian P. Callard, Ph.D., Boston University
- August 10 "Thyroid hormone and metabolic regulation in ectotherms" Kay Etheridge, Ph.D., Gettysburg College
- "Muscarine K^+ kanalen in atriale hart cellen: ATP geïnduceerde activatie (with subtitles)" Geert Callewaert, Ph.D., K.U. Leuven, Campus Gasthuisberg, Belgium
- August 17 " Ca^{++} current induced Ca^{++} release in heart cells" Lars Cleemann, Ph.D., University of Pennsylvania
- "Intracellular insulin receptors" David S. Miller, Ph.D., NIH/NIEHS
- August 24 " $\text{Na}^+ - \text{K}^+ - 2\text{Cl}^-$ cotransporter in shark rectal gland" Bliss Forbush III, Ph.D., Yale University School of Medicine

Evening

- July 11 "Mutations as both means and ends -- illustrations from the immune system" Charles L. Sidman, Ph.D., The Jackson Laboratory, Bar Harbor, Maine
- July 18 "How to clone your gene: PCR and the search for shark ANF" J. Paul Schofield, Ph.D. and D. Stephen C. Jones, Ph.D., Medical Research Council, Cambridge England; John N. Forrest, Jr., M.D., Yale University School of Medicine

- July 25 "Organization and expression of mammalian homeobox genes" Francis H. Ruddle, Ph.D., Yale University
- August 1 (Thomas H. Maren Lecture) "How the cardiac glycosides increase contractile force: Role of Na,K-ATPase" Theodore M. Brody, Ph.D., Michigan State University
- August 8 "Processing of precursors to neurotensin, neuromedin-N and xenopsin" Robert E. Carraway, Ph.D., University of Massachusetts Medical Center
- August 15 (William L. Doyle Lecture) "Symbiosis as 'macromutation' in evolution" Lynn Margulis, Ph.D., University of Massachusetts, Amherst
- August 22 THE NINTH WILLIAM B. KINTER MEMORIAL LECTURE. "Renal mechanisms for the excretion of environmental pollutants" David S. Miller, Ph.D., NIH/NIEHS

Special Seminars

- July 12 "The Hidden World of a New England Pond" Prof. William H. Amos, Marine Biologist, Nature Photographer and Science Writer, Lyndonville, Vermont. Public lecture to enhance MDIBL's educational program for high school and undergraduate students funded by The Pew Foundation, Burroughs Wellcome Fund and the Hearst Foundation.
- July 25 "Osmosis, pores and thermodynamics: Still crazy after all these years" David C. Dawson, Ph.D., University of Michigan Medical School
- August 2 "Future Science: Young Scientists at work today!" Local high school students from Hancock County participating in a new and exciting pilot project at MDIBL funded by The Hearst Foundation, Inc. are joined by national young scholars from the Jackson Laboratory and speak about their hands-on training experiences during the summer; MDI and Ellsworth science fair participants give demonstrations of their projects; International students lend their perspective to science education abroad.

1990 PUBLICATIONS

Betcher, S.L., J.N. Forrest, Jr., R.G. Knickelbein and J.W. Dobbins. Sodium-adenosine cotransport in brush-border membranes from rabbit ileum. *Am. J. Physiol.* 259(22):G504-G510, 1990.

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Ecay, T.W. and J.D. Valentich. Chloride secretagogues stimulate inositol phosphate formation in shark rectal gland tubules cultured in suspension. *J. Cell. Physiol.*, 1990, in press.

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Goldstein, L., S.R. Brill and E.V. Freund. Activation of taurine efflux in hypotonically stressed elasmobranch cells: inhibition by stilbene disulfonates. *J. of Exp. Zool.* 254:114-118, 1990.

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Kelley, G.G., E.M. Poeschla, H.V. Baron and J.N. Forrest, Jr. A₁ adenosine receptors inhibit chloride transport in the shark rectal gland: Dissociation of inhibition and cyclic AMP. *J. Clin. Invest.* 85:1629-1636, 1990.

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Sellinger, M., N. Ballatori and J.L. Boyer. Mechanism of mercurial inhibition of sodium-coupled alanine uptake in liver plasma membrane vesicles from Raja erinacea. Toxicol. Appl. Pharmacol., 1990, in press.

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