Committee on Faculty Research Lectureship Named Lecturers for 2006-2007

To the Academic Senate, Los Angeles Division:

The annual UCLA Faculty Research Lectures honor our university’s most distinguished scholars in science, the arts, humanities and social disciplines while presenting to our academic community and to the public two superb lecturers. The Committee has named Professor Ernest M. Wright from the Department of Physiology and Professor Stephen Yeazell from the School of Law as the next Faculty Research Lecturers. Our faculty, students and staff, as well as the public, will be given a chance to hear two outstanding scholars share their research and personal perspectives. The Committee is pleased to present Professor Wright and Yeazell as Faculty Research Lecturers in 2006-2007.

Professor Ernest M. Wright as the 101st Faculty research Lecturer in 2006-2007

Professor Ernest M. Wright, D.Sc, FRS received his graduate and postgraduate training at Sheffield University in England and as a Fellow at Harvard, respectively, before joining the faculty at UCLA in 1967 where he began his seminal studies on epithelial sugar and water transport across the gut. By using a unique combination of sophisticated techniques, Wright pioneered the identification of molecules responsible for ion and solute transport, unraveled their transport mechanisms, cloned, mapped transporter genes and identified mutations in these genes that cause defects in nutrient transport. He is widely acclaimed for his invention of ‘expression cloning’ in 1987 to clone and sequence the gene encoding the intestinal sodium glucose ‘co-transporter’ (Sodium Glucose Transporter 1; SGLT1). Expression cloning has provided a major breakthrough in the cloning of membrane transporters, and over 50 mammalian transporters alone in 15 different gene families have been identified through the use of the technique. These transporters include those for sugars, amino acids, neurotransmitters, urea, organic ions and osmolytes. Wright’s studies have revolutionized the study of membrane transporters.

In order to understand the importance of Wright’s seminal work, it is essential to realize that cell membranes behave very much like a battery, creating stored energy across the membrane by pumping out sodium or hydrogen ion, which then wants to flow back into the cell. Transporters like SGLT1 utilize energy released from this movement of sodium or hydrogen to drive the accumulation of many compounds—in this case, the sugars glucose or galactose—against a concentration gradient. Importantly, since transport of sugar by SGLT1 involves the simultaneous transport (eg. co-transport) of sodium or hydrogen, the process is reflected by a flow of current into the cell. However, in order to define how such machines actually work, it is necessary to purify the protein from the membrane. This is highly problematic because membrane proteins are very greasy and unhappy in water, thereby requiring the use of detergents (i.e., soaps) to separate them from the membrane. Furthermore, proteins like SGLT1 are not present in cells in large quantity. Together, these properties make identification and purification a daunting problem.

Frogs to the rescue! Unfertilized eggs or oocytes from the frog Xenopus laevis are very large cells (millimeters in diameter) that are metabolically inert prior to fertilization. However, they have all of the machinery to synthesize membrane proteins and insert them into the membrane in a functional state. Therefore, if the eggs are provided with the information to synthesize SGLT1 in the form of injected genetic material (RNA), the egg will synthesize the protein and insert it into the membrane. Furthermore, since the oocytes are so large and co-transport by SGLT1 involves current flow, activity can be measured by very sensitive methods (i.e., radioactive tracers and electrophysiology). By using this experimental approach, Wright identified, isolated (i.e. cloned) and sequenced the gene encoding SGLT1. In addition to elegant electrophysiological studies on SGLT1, Wright has identified and explored the molecular basis of mutations in the protein that lead to glucose/galactose malabsorption in infants. This
research is not only important clinically (infants who otherwise would have died are now successfully treated) and genetically (the mutants involve swarms of independent familial mutations), but also of fundamental scientific importance because the mutants are providing important clues to trafficking of membrane proteins in the cell. His current interests include the importance of SGLTs in the regulation of glucose metabolism in health and disease.

Dr. Wright has received numerous awards including a Javits Neuroscience Investigator Award from NIH, the Walter B. Cannon Lectureship of the American Physiological Society, the Horace W. Davenport Distinguished Lecturer at the Experimental Biology Meeting, the Smith, Kline & French Prize from the American Physiological Society and the Award for Sustained Achievement in Digestive Sciences from the American Gastroenterological Association. He is a Fellow of the Biophysical Society and is currently the Sherman Mellinkoff Distinguished Chair in Medicine. In 2005, Dr. Wright received one of the highest honors bestowed by Great Britain when he was selected to become a Fellow of the Royal Society.

Professor Stephen Yeazell as the 102nd Faculty Lecturer in 2006-2007

Stephen Yeazell has achieved national recognition in three areas of path-breaking research: the historical and contemporary underpinnings of the class action form of litigation, civil procedure about which he has written a classic text, and the development of civil litigation in the twentieth century. He holds the David G. Price and Dallas P. Price Chair in the School of Law.


Over his 30-year career at UCLA, Professor Yeazell has proved himself to be a star in every undertaking. He has won a Distinguished Teaching Award, been associate dean of the law school, and served as an influential member on innumerable committees.

Of Professor Yeazell’s first book, From Medieval Group Litigation to the Modern Class Action, one major scholar said that historical analysis of the genesis of class action was “the most insightful examination of that problem that I have read.” His work on civil procedure has earned him recognition “as the leading proceduralist of his generation.” Professor Yeazell’s participation in symposia and conferences has led to several brilliant and counterintuitive arguments about the public value of class action suits, many of which have been published as articles. In his forthcoming work he will examine the central forces shaping contemporary civil litigation, drawing upon forty years of scholarship.

Professor Yeazell embodies the quality of dedicated excellence that UCLA seeks to recognize in its Faculty Research Lectures.

Respectfully Submitted,
Michael Allen, English
Joyce Appleby, History
Andrea Ghez, Physics & Astronomy
M. Frederick Hawthorne, Chemistry & Biochemistry
Ronald Kaback, Physiology
Ralph Turner, Sociology
Larry Zipursky, Biological Chemistry
SUSAN MCCLARY, Musicology, Chair

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