

1990 SSR RESEARCH AWARD

The SSR Research Award is given to recognize an active member of the Society for the Study of Reproduction for meritorious research conducted during the past six years. For the 1990 award, the Society has elected to present a dual award to Drs. Fuller W. Bazer and R. Michael Roberts for their outstanding research on the interactions between the conceptus and the uterus during maternal recognition of pregnancy and the regulation of fetal growth. In presenting a dual award, the Society acknowledges the contributions made by each to the field of reproductive biology as meriting the SSR Research Award on an individual basis.

FULLER W. BAZER

Dr. Bazer received the B.S. degree in biology from Centenary College of Louisiana in 1960, the M.S. degree in animal science from Louisiana State University in 1963 and the Ph.D. degree in animal sciences from North Carolina State University in 1969. In 1968, he joined the faculty of the Animal Science Department of the University of Florida as an assistant professor and currently holds a dual appointment in the Departments of Animal Sciences and Pediatrics of the University of Florida as a Graduate Research Professor.



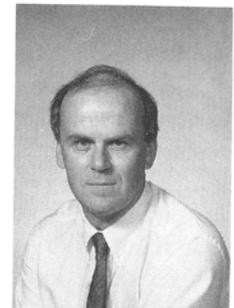
Dr. Bazer's research interests are centered around the interactions between the uterus and the conceptus that contribute to the maternal recognition of pregnancy as well as the growth and development of the fetus. By meticulously characterizing the secretions of the porcine and ovine uterus as well as the conceptus, Dr. Bazer has provided the scientific community with a wealth of information regarding the functions of these secretory proteins as well as the control of their secretion. Of primary importance, Dr. Bazer's research has demonstrated that these uterine secretory proteins serve not only as enzymes and carrier proteins for transfer of solutes between the maternal and fetal circulation, but also may function as regulators of fetal growth and development. For example, in addition to characterizing the role of the uterine protein uteroferrin in the delivery of iron to the fetus, Dr. Bazer's studies have provided evidence that this protein may be involved as a fetal hemopoietic growth factor. The study of proteins secreted by the ovine conceptus has led to the identification and characterization of ovine trophoblast protein-1 (oTP-1), and

its role in the- maternal recognition of pregnancy in this species. Dr. Bazer's creative insights have further expanded the importance of oTP-1, which is similar to interferons of the alpha class, by demonstrating that this protein has anti-viral properties but does not exert cytotoxic effects on the host cell. These two examples clearly demonstrate Dr. Bazer's ability to extend the implications of his research from the field of reproductive biology into other areas of biology that may have major implications on human and animal health and development.

Dr. Bazer's research has been recognized on a national and international level including the American Society of Animal Science Physiology and Endocrinology Award and the Goding Lecture of the Australian Society for Reproductive Biology. Dr. Bazer was elected a Fellow of the American Society for the Advancement of Science in 1988. He has served on NIH and USDA peer review boards, editorial boards of leading scientific journals, and is currently Editor-in-Chief of *Biology of Reproduction*.

R. MICHAEL ROBERTS

Dr. R Michael Roberts received the BA degree in botany from Oxford University and the D. Phil. degree in plant physiology and biochemistry from oxford in 1965. Dr. Roberts' early research interests were in the field of botany and involved studies on plant cell wall biochemistry. In 1970 he joined the faculty of the Department of Biochemistry and Molecular Biology of the University of Florida where he earned the rank of Professor in 1976. In 1985 he joined the faculty of the Departments of Animal Science and Biochemistry of the University of Missouri-Columbia and is currently the J.F. McKenzie Distinguished Professor of Reproductive Biology at the University of Missouri.



Dr. Roberts, while a plant biochemist at the University of Florida, became interested in mammalian cellular proteins and the "purple protein" that was being studied by Dr. Bazer's research group. From that time on, Dr. Roberts has contributed greatly to our understanding of the biochemical structure and functions of proteins that are involved in the communication between the conceptus and the uterus. In addition to his novel and important finding that oTP-1 is closely related to the alpha family of interferon, Dr. Roberts has systematically analyzed the biochemical properties of other uterine proteins such as uteroferrin, retinol-binding proteins as well as a

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uterine plasmin inhibitor that may contribute to the non-invasive nature of placentation of the porcine conceptus. As part of his continuing investigations on the regulation of oTP-1 and its homologue from cows, Dr. Roberts and his students have characterized the endometrial receptor for oTP-1 and identified a series of endometrial proteins that appear to be under regulation by oTP-1. Dr. Roberts has obtained cDNAs for both the ovine and bovine forms of TP-1 as well as uteroferrin and its serpin-like associated protein. With these molecular probes, Dr. Roberts has initiated studies to examine the mechanisms by which the synthesis of these proteins is regulated. It is clear that Dr. Roberts' talents as a biochemist and reproductive biologist have greatly expanded our understanding of the interactions between the uterus and the conceptus and have added new dimensions to fundamental questions in reproductive biology.

Dr. Roberts is a past recipient of a Research Career Development Award and currently serves on NIH and NSF peer review boards. He has served as Vice-chairman and Chairman of recent Gordon Conferences on Reproductive Tract Biology and has participated in many national and international symposia.

The recognition bestowed upon Drs. Bazer and Roberts by the awarding of this year's SSR Research Award is truly merited and serves to highlight the exponential rate of progress that can be made by the merging of the disciplines of physiology and molecular biology.

Anthony J. Zeleznik, Chair
1990 SSR Awards Committee