

## Profiles of Women and Minorities in Science



Department of Cell Biology  
Lerner Research Institute / NC10  
9500 Euclid Avenue  
Cleveland, Ohio 44195  
Telephone: (216) 444-5222  
Fax: (216) 444-9404  
[cathcam@ccf.org](mailto:cathcam@ccf.org)

Dr. Martha K. Cathcart is a Professor in the Department of Molecular Medicine at Cleveland Clinic Lerner College of Medicine of Case Western Reserve University (CWRU) and a full staff member in the Department of Cell Biology at Cleveland Clinic's Lerner Research Institute. Dr. Cathcart is internationally known for her contributions to understanding the signal transduction pathways that regulate activation and migration of primary human monocytes during inflammation.

Dr. Cathcart began her scientific career at Denison University where she received her BA, *magna cum laude*, in Biology in 1974. Dr. Cathcart's interest in both bacterial metabolism and eukaryotic cell adhesion led her to pursue her Ph.D. in Microbiology and Biochemistry under the guidance of Dr. Lloyd Culp at the Case Western Reserve University. Her Ph.D. work focused on cell adhesion and tumor cell metastasis. She chose to perform her postdoctoral fellowship (1978-80) in the area of immunology at the Cleveland Clinic where she studied the molecular aspects of immunoregulation as it relates to how monocytes and lymphocytes regulate fibroblast adherence and collagen production. She then went on to serve as a Project Staff Scientist in molecular and cellular biology at Cleveland Clinic from 1980 to 1982 and then rose through the faculty ranks to Professor and Full Staff Member.

Currently her work has focused on understanding the regulation of NADPH oxidase generation of superoxide anion, lipid oxidation, expression of 15-lipoxygenase and monocyte chemotaxis to MCP1. Dr. Cathcart's research efforts have resulted in over 75 peer-reviewed publications, continuous NIH funding since 1982 and numerous speaking engagements. Recently, she has been invited as a keynote speaker at several national and international meetings with invitations to Portugal, Italy, Kuwait, Qatar, UAE, Oman and India. Dr. Cathcart has also taken on several leadership roles by chairing scientific sessions at national and international meetings, serving on leadership councils and editorial boards, and serving on grant review committees such as the NIH 'Pathology A' study section and the NIGMS T32 study section. She received an International Travel Fellowship that funded a month of travel to the Weizmann Institute and Cambridge University. She was the First Prize winner of William E. Lower Award, received the Cleveland YWCA Career Woman of Achievement award and an Alumni Citation from Denison University.

Dr. Cathcart has taken a keen interest in graduate education serving as the director of Graduate Education at the Cleveland Clinic Lerner College of Medicine of CWRU. With the burgeoning interest in translational research Dr. Cathcart organized and chaired a committee that designed an innovative, new Ph.D. Program in Molecular Medicine at the Cleveland Clinic. The program seeks to train physician scientists by integrating medical knowledge into graduate education. As Director, she attained and recently renewed an \$850,000 grant from the Howard Hughes Medical Institute that funded the final curriculum development, development of evaluation methods, and the tuition, fees and stipends of the first year students. Dr. Cathcart has also put significant effort into mentoring future scientists and was awarded the 2009 Mentor of Women Award granted by the Council of Atherosclerosis, Thrombosis and Vascular Biology of the American Heart Association.

In addition to her leadership in research and education Dr. Cathcart serves as an elected member of the Faculty Senate of CWRU. At the Cleveland Clinic she is a senior member of the Board of Governors and also serves as a member of the Board of Trustees and Board of Directors playing an integral role in the governance of the organization.