

Research program on cell genetics and evolution

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A University of California, San Diego, research program aimed at gaining further understanding of cell genetics and evolution has been awarded a \$258,636 grant by the Public Health Service of the United States Department of Health, Education, and Welfare.

The grant will support the first year's research activities of a proposed five-year program and will allow the Department of Biology at UCSD to add investigators with diversified interests in the field of genetics to its staff.

The project will draw on the resources of both the departments of biology and chemistry at UCSD in an integrated study of the molecular basis of cell heredity. Dr. S.J. Singer, Professor of Biology and Chairman of the Department of Biology, and Dr. Martin D. Kamen, Professor of Chemistry, are co-directors of the program.

It is known that "DNA", the master molecule of heredity, contains the information that determines the characteristic chemical make-up of a cell and that a complementary molecule "RNA" translates this information for biosynthesis. At UCSD, the scientists will study these informational molecules and investigate their role in directing the formation of macromolecules (groupings of simple molecules) and in coordinating and regulating the biochemical activities of single cells.

Another segment of the program will concentrate on the problem of energy storage and utilization in cells, particularly as exemplified by photosynthesis and biological oxidation processes in cells of plant, animal, and bacterial origin.

The scientists will also examine the modification of protein structure and synthesis in cells as brought about by changes in "DNA" occurring either as mutations in laboratory stocks or as accumulations of selected materials in evolution.

"We hope to gain an understanding of the control mechanisms by studying the genetics and biochemistry of regulation in simple organisms and then adapt this knowledge to experiments designed to clarify the role that macromolecules play in the development of cells," Dr. Singer said.

Prior to appointment at UCSD in 1961, Dr. Singer was in the Department of Chemistry at Yale University. He was the recipient of a Guggenheim Fellowship in 1959. He received his undergraduate and M.A. degrees from Columbia University and his Ph.D. degree in chemistry in 1947 from Polytechnic Institute of Brooklyn.

Dr. Kamen has been Professor of Chemistry at UCSD since 1961. He served from 1957 to 1961 as Professor of Biochemistry at Brandeis University, and from 1950 to 1957 as Associate Professor of Chemistry at Washington University, St. Louis, Missouri. Dr. Kamen received his Ph.D. degree in chemistry from the University of Chicago in 1936.