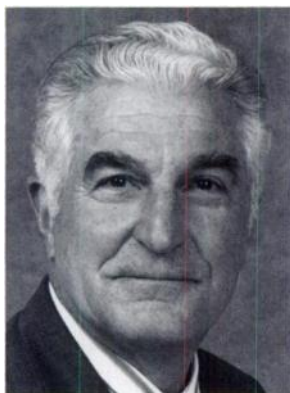


DeNardos to Be Awarded 2000 Cassen Prize



Gerald L. DeNardo, MD



Sally J. DeNardo, MD

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Couples who work together successfully in medical research are uncommon. Even Pierre and Marie Curie, who shared the 1903 Nobel Prize for their work on radioactivity, were said to have had private difficulties dividing up the credit for their efforts. This year's Benedict Cassen Prize, called by some the “Nobel Prize of nuclear medicine,” has been awarded to Sally J. DeNardo, MD, and Gerald L. DeNardo, MD, who for 30 years have managed one of the most successful—and amicable—collaborations in modern medicine. The prize, which carries a \$25,000 award, will be presented Sunday, June 4, at the annual meeting of the Society of Nuclear Medicine (SNM) in St. Louis, MO.

Although the SNM Education and Research Foundation (ERF), which sponsors and awards the Cassen Prize, usually considers only single nominees, there was no question that the DeNardos and their extraordinary body of work—both as individual researchers and as a team—constituted a special case. As one nominator noted, “Their work in the last 30 years has been inextricably woven together with unparalleled synergism, leading to important advances for patients.” The DeNardos were informed of the award in late February 2000. “We are most honored to be chosen for this prestigious award,” says Sally, “And we’re especially honored to follow in the large footsteps of Hal Anger, David Kuhl, and Henry Wagner.”

In awarding the prize, the ERF Board cited Sally DeNardo for her “remarkable ability to master multiple disciplines sufficiently to initiate and lead collaborations with immunologists, molecular biologists, chemists, and radiopharmacists,

to generate novel antibody-based therapies.” Gerald DeNardo was cited for his “significant contributions leading to improved patient diagnosis and therapy” and the “dedication to research and appreciation of the importance of interdisciplinary collaboration that have characterized his career.” The couple continue their collaboration at the University of California, Davis (UCD), School of Medicine (Sacramento, CA), where Gerald is professor emeritus of internal medicine, radiology, and pathology, and Sally is professor of internal medicine (hematology/oncology) and radiology (nuclear medicine).

In the early 1980s, the DeNardos developed an interdisciplinary program at UCD to use the hybridoma technique for radioimmunotherapy. Over the past 2 decades, the program has grown through a series of grants that have recognized the international significance of its activities. The early years of the program were dedicated to developing a team of scientists and resources, generating a conceptual and technical basis for radioimmunotherapy, and establishing a broad array of procedures, including hybridoma production, purification of monoclonal antibodies from ascitic fluid, and preparation of radiopharmaceuticals for human use in a GMP-approved laboratory. Among the groundbreaking work that came from these efforts were their leadership in the first successful treatment of non-Hodgkin's lymphoma with a radiolabeled monoclonal antibody and a series of articles by the DeNardos and colleagues that ultimately led to the determination of the maximum tolerated nonmyeloablative dose of ^{131}I -Lym-1 in non-Hodgkin's lymphoma.

The DeNardos also launched a strong collaboration with chemist Claude Meares, PhD (UCD), to develop better chelates and radiochemistry for radiometals, such as ^{111}In , ^{90}Y , and ^{67}Cu . On the basis of extensive preclinical mouse trials and patient trials, the group ultimately published results showing that ^{67}Cu -labeled antibodies have more favorable therapeutic indices than ^{131}I -labeled antibodies. Today Sally DeNardo reports that the UCD team is working on development of a modular tumor-targeting system to deliver pretargeted α and β radiometal isotope therapy using genetically engineered multivalent, multifunctional

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molecules. "New genetic-based biotechnology provides unique potential for future nuclear medicine cancer therapeutics," she adds. Both researchers note that the field of nuclear medicine has changed substantially since the 1960s and 1970s. "It's not just thyroid cancer therapy anymore!" says Gerald. "Ben Cassen was a pioneer in nuclear imaging. He converted the handheld detector to the scanning detector, which provided images of general clinical use. These images have driven thyroid therapy for 50 years. We hope that our work on a 'treatment planner' based on radiation dosimetry will prove as useful for targeted therapies, e.g., radioimmunotherapy, in the future." Sally agrees that encouraging developments are changing the nature of the field. She notes that "radioisotope tumor-targeted therapy can now deliver a therapeutic radiation dose to many cancers that is many times greater than the radiation dose deposited in 'bystander' normal organs. This therapy, although far from

optimized, can be useful in multimodality care of oncology patients. Since local external-beam radiation, when combined with surgery and/or chemotherapy, can eradicate local prostate and breast cancer micrometastasis, then the therapeutic index currently available from radioimmunotherapy should be useful as part of such combined therapy to produce a similar effect on systemic micrometastasis."

In discussing the developments that have helped nuclear medicine evolve into one of the most dynamic fields in science, both DeNardos are too modest to note that many of these developments rest solidly on the foundation of research carried out under their direction and collaboration at UCD. Their separate and combined publications, numbering in the hundreds, include works referenced repeatedly by new generations of clinical and basic researchers. The SNM congratulates the DeNardos for their contributions to the field and for their much-deserved receipt of the 2000 Cassen Prize.

The Cassen Prize and the Education and Research Foundation

The Mission of the Society of Nuclear Medicine (SNM) Education and Research Foundation (ERF) is to advance excellence in health care through support of education and research in nuclear medicine. To accomplish this mission, the Foundation invests in people and ideas by awarding fellowships, scholarships, grants, and awards. Outstanding achievement is recognized through the Cassen Prize, the Marc Tetalman Award, and the Technologist Award. The ERF also funds post-doctoral fellowships in nuclear medicine and supports designated activities that promise to enhance the science and status of the field.

The establishment of the Cassen Prize was made possible by funds from the estate of Mary Wylie Cassen in honor of her husband, Benedict Cassen. Cassen's invention of the rectilinear radioisotope scanner, the first instrument in nuclear medicine to make an image of an organ in a patient, was seminal to the development of the field. The prize is intended to recognize a significant achievement in nuclear medicine and is awarded to a living scientist or physician-scientist whose work has led to a major advance in basic or clinical nuclear medicine. "The ERF is pleased to have the counsel of Mitzi and Bill Blahd as members of the Cassen Committee," reports Conrad E. Nagle, MD, ERF

president. Mitzi Blahd, a long time friend of the family, was instrumental in Mrs. Cassen's decision to honor her husband with the bequested funds.

The prize is awarded at the SNM annual meeting in those years in which a nominee is chosen to receive the award. Past winners have included Hal Anger, David Kuhl, and Henry Wagner. Nominations for the Cassen Prize are submitted from all over the world. The Cassen Committee of the ERF reviews the nominations and makes recommendations to the ERF Board, which then decides whether the prize should be awarded in a given year and to whom. "The Education and Research Foundation Board believes the work of the DeNardos honors the tradition of the Cassen Prize and the man for whom the prize is named," says Nagle. "Their work together and with other prominent members of the nuclear medicine scientific community will be enduring and has already benefited countless patients."

For additional information on the ERF or for nomination forms for next year's Cassen Prize, contact Susan C. Weiss, CNMT, at The Children's Memorial Hospital, 2300 Children's Plaza, #242, Chicago, IL 60614, or by e-mail at SWeiss@childrensmemorial.org.