



THE FILTER PRESS

Newsletter of the Georgia Section of the American Chemical Society

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May 2005

2005 Herty Medal Awarded to Professor Dennis C. Liotta of Emory University

Professor Dennis C. Liotta of Emory University has been chosen by the Herty Award Committee to receive the 2005 Charles Holmes Herty Medal. He is recognized for his seminal contributions in medicinal chemistry that are highly imaginative, of high quality and practical. The award ceremony will be held in Atlanta at 6:30 pm on Thursday, May 26, 2005. See inside of the Filter Press for meeting details.

Liotta received his Ph.D. in organic chemistry in 1974 from The City University of New York with Robert Engel. Following a postdoctoral appointment with Leo Paquette at The Ohio State University, he began his career as an Assistant Professor in the Department of Chemistry at Emory University in 1976, where he advanced to Full Professor in 1988. Liotta's research accomplishments have spanned a broad range of chemistry, beginning with a program in synthetic organic methodology development during the first years of his independent academic career but expanding more recently to becoming an academic leader in the field of medicinal chemistry. His current research is focused on the design, discovery and synthesis of novel antiviral agents, an endeavor that has far reaching implications for the treatment of HIV and hepatitis infections. His expertise in medicinal chemistry is recognized by several major pharmaceutical companies, for which he serves as an advisor or consultant. Liotta has more than 200 peer reviewed publications and 22 patents on various an-

tiviral and anti-cancer agents, some of which have been developed into drugs on the market (e.g., Emtriva and Emtricitabine; Reverset, DPC817, and D-D4FC fixed-dose combinations). Liotta's research accomplishments have been well recognized by many awards, including an Alfred P. Sloan Foundation Fellowship, a Camille and Henry Dreyfus Teacher-Scholar Award, an Alexander von Humboldt Senior Scientist Award, a Johnson & Johnson Focused Giving Award, and the Biomedical Industry Growth Award, the highest award bestowed by the Georgia Biomedical Partnership.

Liotta has equally impressive credentials for his service both as a teacher and a citizen of the university, the region, the nation and the world. He is the recipient of the Emory Williams Distinguished Teaching Award in the Natural Sciences, which is the highest teaching award given by the University. As chair of the Department of Chemistry, and later as Vice President for Research at Emory, he has played a major role in the growth of biotechnology in the region, and especially in the creation of "incubators" for new biotech initiatives with resources from Emory, Georgia Tech and the State of Georgia. Recently, he formed a drug company in South Africa where anti-HIV drugs are critically needed. He has served as the Chair of the Georgia ACS Section, as a

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Thursday, May 26, 2005, at Petite Auberge, Atlanta



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member of the Executive Committee of the National ACS Organic Chemistry Division, and Chair of the NIH AIDS and Related Research Study Section.

The Georgia Section of the ACS proudly awards the Herty Medal to Professor Dennis Liotta, an outstanding scientist, scholar, inventor and educator.

2005 Herty Award Committee: Dr. Lihong D'Angelo (Chair), The Coca-Cola Company, Councilor, Georgia Section; Dr. Lissa Dulany, Councilor, ACS Georgia Section; Professor Dabney Dixon, Georgia State University; Professor Rigoberto Hernandez, Georgia Institute of Technology; Dr. Robert Lichter, Merrimack Consultants, LLC; Professor David Lynn, Emory University; Professor David Sherrill, Georgia Institute of Technology ♦

"New Therapies for Treating Viral Infections and Cancers"

*Dennis Liotta, Ph.D.
Emory University*

The combined efforts of chemists, pharmacologists and biochemists at Emory have successfully resulted in the development of novel and selective preclinical and clinical agents of biomedical interest. I will briefly describe several recent projects involving collaborations with Emory University School of Medicine faculty that have resulted in the identification of novel small molecules targeted to proteins of high biomedical interest. These include: (a) HIV Nucleoside Reverse Transcriptase Inhibitors (NRTI's); (b) CXCR4 Antagonists; (c) pH-dependent NMDA Receptor Blockers; (d) Signal Transduction Modulators; and (e) Synthetic Curcumin Analogs. ♦

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May Meeting**The Herty Medal****Herty Awards Banquet****Dr. Dennis Liotta, Emory University**

Date: Thursday, May 26, 2005

Time: 6:30 - 7:00 PM Arrive
7:00 - 9:00 PM Awards Banquet

Location: Petite Auberge Restaurant
Toco Hills Shopping Plaza
2935 North Druid Hills Road
Atlanta, GA 30329

Directions: From downtown Atlanta, follow I-85 North to the North Druid Hills Road exit (#89A). Turn right from the exit ramp onto North Druid Hills Road going east toward Decatur. Proceed 1.8 miles on North Druid Hills Road to the Toco Hills Shopping Plaza. Turn right into the shopping plaza and proceed through the parking lot to Petite Auberge restaurant. See <http://www.petiteauberge.com/directions.shtml> for a map.

Dinner: Seasonal mixed greens with choice of dressing; Choice of entrees: Beef Burgundy Roast (braised in red wine and mushroom sauce), Chicken Hunter Style (in cognac sauce with mushrooms and tomatoes), and Vegetarian Linguine (tossed with vegetables in a cheese sauce); cheesecake; coffee and tea. Please include your choice of entree with your reservation.

Cost: \$30 per person; \$15 for high-school teachers or full-time students with ID. Payment should be made to the ACS Georgia Section and will be collected at the door.

RSVP: David Sherrill, 404-894-4037, or acs@chemistry.gatech.edu (preferred). Please include your choice of entree (beef, chicken, or pasta). Deadline for reservations or cancellations is 5:00 PM, Wednesday, May 18. ♦

The Charles H. Herty Medal is a beautiful solid gold medallion awarded annually by the Georgia Section of the American Chemical Society. The purpose of the award is to give public recognition to the work and service of outstanding chemists who have significantly contributed to their chosen fields. All chemists in academic, government, or industrial laboratories who have been working for at least ten years in the southeastern United States (Virginia, West Virginia, Kentucky, Tennessee, Mississippi, Louisiana, Alabama, Georgia, Florida, North Carolina, South Carolina and Texas) are eligible.

Charles Holmes Herty (1867-1938) was a celebrated, patriotic chemist whose motto was "For Science and Country". He was born in Milledgeville, Georgia, on December 4, 1867. Although orphaned at the age of eleven, Herty went to college at the University of Georgia, where he earned a B.A. degree and was the "First Honor Man" of the class of 1886. Herty attended Johns Hopkins University and received his Ph.D. in 1890. He studied with Ira Remsen, the eminent physical chemist. Herty's thesis dealt with complex ions of the Werner type.

Herty returned to the University of Georgia in 1891 as an instructor in chemistry and as the South's first football coach. He married Sophie Schaller in 1895, and they had three children. In 1899, Herty left Georgia to study in Europe; he worked under Witt and Kerner in Berlin, and under Werner in Zürich.

Upon returning to the United States, Herty joined the US Forestry Service. His work was directed toward saving the pine forests in the Southeast. The naval stores industry had been systematically killing the forests in its efforts to collect tree resin using a trough which was backed into the tree wood. Herty developed a method to collect the resin in a metal cup, sparing the tree's life; the method was used by the Forestry Service for seventy-five years. Herty's patent of the method enabled him to be financially secure for the rest of his life.

In 1905, Herty joined the faculty of the University of North Carolina at Chapel Hill as Chairman of the Chemistry Department and Smith Professor. He was also appointed Director of Athletics. His research interests centered on natural products that had commercial promise, such as turpentine, soaps, leathers,

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and cottonseed oil.

In 1915-1916, Herty became the first President of the American Chemical Society. In 1917, he resigned from the University of North Carolina to become the first full-time editor of the *Journal of Industrial and Engineering Chemistry*. Herty used his position as editor to write political editorials furthering the advancement of chemistry in the United States. His two main concerns were the formation of the Chemical Warfare Service and the ability of the United States to manufacture quality chemical products, which had previously been purchased from Germany.

From 1921 to 1927, Herty served as President of the Synthetic Organic Chemical Manufacturers Association, an organization that he helped to establish. Recognizing the relationship between chemistry and medicine, and with the support of Francis P. Garvan, he initiated efforts that resulted in the start of the National Institutes of Health.

Herty became a private consultant to the chemical industry in 1928. His research focused on the conversion of pine pulp to newsprint. He formed the Savannah Paper and Pulp Laboratory in Savannah, Georgia, with a \$50,000 grant from the Chemical Foundation and a \$20,000 per year grant from the State of Georgia. By 1933, the plant had developed a feasible process for pulp conversion. On March 31, 1933, the first newspaper was printed using paper created with the Herty process.

Charles Holmes Herty made numerous contributions to chemistry in the development of new products and the advancement of new ideas. The Georgia Section of the American Chemical Society pays tribute to this ingenious man each year by awarding a chemist from the Southeastern United States the prestigious Herty Medal.

(The Charles Herty biography was compiled from articles written by: Donald G. Hicks, SERMACS Meeting, 1976; Marion T. Clark, The Filter Press, 1977; M. M. Bursey, The Hexagon, 1983)♦

Charles Herty: A True American Hero

Donald G. Hicks, Councilor

The life of Dr. Charles Holmes Herty (1867-1938), a Georgia native, is celebrated each year by the Georgia Section of ACS. Dr Herty is usually remembered for his Herculean efforts, in the depths of the 1930's Great Depression, to prove that white paper and cellulose could be made from *young* southern pines, and thus "create" the large *southern* pulp and paper industry. This reputation is certainly well deserved because the industry is based on a fast-growing *renewable* resource that had a stunning impact on the poor economy of the region. In fact, this industry still accounted for 11 % of all manufacturing jobs in six states in 2002. However, based on historical sources, my perspective of his legacy is that this contribution to the entire U.S. chemical enterprise was only one of several that are possibly of equal or greater importance.

For example, creation of the southern pulp and paper industry also slowed dramatically the decimation of the northern hardwood trees and led to the tree-farming business with over 4 million people practicing it today. Herty had been preaching conservation and reforestation since 1903 when he saved the southern pine forests from extinction by patenting a *simple* cup-and-gutter device for collecting the sticky resin without killing the trees. This gave him an international reputation plus a lifetime of modest financial security; it was *the only contribution to chemistry from which he received any personal financial gain*. It also saved the world's largest "natural" organic solvent (turpentine and naval stores) industry, which had killed half the pines in the Carolinas and Georgia by a deep cutting method of collecting resin.

As 1915-16 ACS President, Charles Herty was a key organizer of chemists to solve critical World War I defense problems on nitrates and munitions supplies, German poison gas attacks, and sources of platinum catalysts. From this time until his death 23 years later, he was arguably the greatest one-man PR machine ever for chemistry as he often traveled two weeks per month across the country by train

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popularizing the value of chemists and chemistry to society via passionate spell-binding speeches to all types of audiences. In 1918, he started and was first Director of the ACS News Service that soon published *C&E News*.

Because of his wife's serious asthma condition, Charles Herty had a lifelong interest in any sort of new pharmaceutical product which might relieve her suffering. This probably had a strong influence on his writing a 1918 editorial proposing the alignment of chemistry with medicine via a "chemo-medical" research institute. In 1919 several newspapers published an interview with him on the subject, and for the next 12 years he chaired an ACS committee to study and promote the concept. He fortuitously met and became friends at this time with Francis Garvan, head of the Chemical Foundation, who had a special interest in this institute because his young daughter had died from an infection with no drug cure. Garvan's Foundation paid for publishing the committee's report on the general subject of *chemistry in service of medicine* in pamphlet form, plus distributing 600,000 copies to ladies clubs and anyone in the country with a connection to medicine. Unable to generate enough funding for a private institute that he preferred, Dr. Herty eventually worked closely with Senator Joseph E. Ransdell of Louisiana to introduce a 1926 bill creating the National Institutes of Health (NIH). When the bill finally passed, Herty stood with Ransdell in the oval office as President Hoover signed it into law in 1930. NIH supported scientific research in 2002 with a 27 billion dollar budget equivalent to the yearly sales of the world's largest chemical companies; Dow, Dupont, and BASF.

Dr. Herty's most important contribution was his promotion of the explosive 1918-40 expansion of the U.S. chemical industry to produce organics, dyes, and pharmaceuticals. He fought the global economy ideas of that era via editorials, speeches, and frequent lobbying in Congress to get tariff protection from European cartels like I.G. Farben. When he received AIC's national gold medal award in New York in 1932, the committee cited him as "the chemist who had the greatest influence on the expansion of our chemical industries and establishment of the chemical independence of the United States".

He "put chemistry on the map" of the public's mind, and the U.S. chemical industry became for many years Wall Street's recession-proof darling. By 1939 chemistry's image was so high that Dupont unveiled its slogan "Better Things For Better Living Through Chemistry!"

Of all chemists throughout U.S. history, Dr. Herty was probably the one best known to the general public during his lifetime. "Pro Scientia et Patria—Herty 1933" is the phrase engraved on the gold medal given by the Georgia Section of ACS each year to an outstanding southeastern chemist. "For science and country" is a loose translation, which is certainly appropriate to honor the spirit of this wonderful turn-of-the-20th-century chemist and leader.♦

Four Section Members Honored for 50 Years of Service to ACS

It is a pleasure to acknowledge and congratulate the following members of the Georgia Section of ACS who have completed 50 years of service to the American Chemical Society:

Eugene C. Ashby
Edward M. Burgess
Raymond D. Kimbrough
William J. Williams

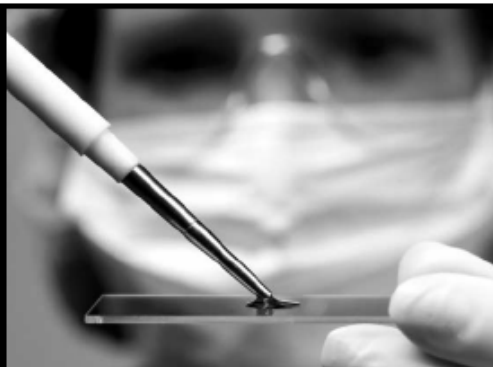
These distinguished scientists have contributed substantially to the success of the Society and to the advancement of the chemical enterprise. We are proud that they are members of our Section.

In recognition of this achievement, these members will be honored at the May meeting of the Section (see announcement elsewhere in the *Filter Press*). They will each receive a 50-year lapel pin, a certificate of recognition, and a 50-year membership card that entitles them to complimentary registration at all ACS national and regional meetings. In addition, their names will *News*. Our warm congratulations to all these members!♦

Filter Press Editor Wanted

The Filter Press is looking for a new editor. Some experience with page-layout software (Microsoft Publisher, QuarkXPress, or similar) required. Contact Matthias Pohl (mtpohl@tmqservices.com) or David Sherrill (sherrill@chemistry.gatech.edu) if interested.♦

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