



SoFlacs



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South Florida Section ACS – 25th Anniversary

April 2016

SOUTH FLORIDA SECTION'S TWENTY-FIFTH ANNIVERSARY

Compiled by George Fisher based on previous articles in *FLACS* by Harry Schultz

2016 marks the 25th anniversary of the formation of the South Florida ACS Section, section #409. Roots of the SoFL-ACS section, however, originate from the founding of the Florida Section in 1924 by Dr. William J. Husa, a faculty member of the School of Pharmacy at the University of Florida. Just after arriving on campus in August 1923, Dr. Husa inquired of Dr. Charles L. Parsons, ACS Secretary, about the possibility of forming the Florida Section of the ACS. Dr. Parsons' reply of September 5, 1923 included an observation by ACS Directors that local sections should include only territory from which members could easily attend meetings and that 25 active ACS members were required to form a local section. In all of Florida in 1923 there were less than 30 ACS members! Gainesville had 6, Jacksonville 5, Tampa 4, Lakeland 2, Miami 2, Nichols 2, and one member in each of 7 other locations in a total Florida population (1920 census) of 968,470.

Dr. Husa replied immediately, arguing that a need did exist for a local section, that the University of Florida at Gainesville was the logical headquarters, that lack of chemical facilities and centers in the rest of Florida interdicted formation of more than one section, and, therefore, one section should be established for the entire state. Although Dr. Parsons' reply reflected doubts about and a lack of enthusiasm, Dr. Husa devised a plan for rotating the section meetings throughout the state, whereupon a petition of 24 signatures was sent to Dr. Parsons on October 27, 1923, requesting a Florida Section charter. By letter dated December 12, 1923, Dr. Parsons informed Dr. Husa that the ACS Directors authorized formation of the Florida Section headquartered at Gainesville and covering the entire state. The Charter of the Florida Section, signed by ACS President L. H. Baekland and Secretary Charles L. Parsons, was issued on January 4, 1924. The first meeting of the new Florida Section was held at the University of Florida on January 19, 1924, with members from ten different cities attending.

Throughout the rest of the 1920s and 1930s, the new section grew slowly. It was not until the end of World War II that chemical activity in Florida quickened. The vigor of chemistry in Florida can be best measured by the Section's membership that rose from 30 in 1924 to 300 in 1947 and over 3000 by the mid-1980s. Higher levels of research were needed in the citrus and phosphate industries, pine-tar chemicals, agriculture, etc. With this local demand for research scientists and technicians, existing educational and research centers had to be expanded and new facilities created. Only the University of Florida offered a chemistry Ph.D. program, but in the mid-1940s graduate programs began at Florida State University in Tallahassee and the University of Miami.

Until 1948 the older practice of shifting meetings from place to place was maintained, but this was no longer satisfactory; many cities now had enough ACS members to form new sections. At the June 1948 meeting in Pensacola, Santa Rosa and Escambia counties, Florida's westernmost counties, requested and were given approval

to withdraw from the Florida Section to form the new Pensacola-Mobile Bay Section. Now the problem had to be faced whether to maintain a large section encompassing the remaining areas of Florida, or to divide the state into new sections. Meetings were encouraged in larger population centers, having four speakers sent to them in addition to having local speakers. Thus, the idea of subsections was born. The first use of the word "subsection" appeared in the November 1953 issue of *FLACS*, and subsections sprung up in the Gainesville, Tallahassee, Lakeland, and Miami areas, with 278, 60, 110, and 52 members, respectively. Orlando formed a subsection with 43 members in 1955; the Tampa Bay Subsection was organized in 1956; Jacksonville in 1962, and the Cape Kennedy Subsection, the eighth, in 1966; but with the subsequent reduction of technical activity at Cape Canaveral the subsection status of the area ceased in 1974, and the territory again became part of the Orlando Subsection.



By the mid-1980s the Florida Section membership approached 3000 and serious talk of dividing the Section into multiple sections began. In 1985, the Jacksonville Subsection, with over 200 members petitioned and was granted permission to form a separate ACS section. At the September 13, 1989 Florida Section Executive Committee Meeting Dr. Ed Mellon presented a report on "The Future of the Florida Section" which recommended division of the Section into multiple sections. Subsequently, the Executive Committee appointed an ad hoc committee to study the procedure for dividing the Section. During 1990, the Orlando, Tampa Bay, and Miami Subsections polled their members about forming separate ACS sections. Orlando was first to gain approval from the Florida Section Executive Committee to secede, and their petition to form a section was approved by the ACS Council at the Spring 1991 ACS National Meeting.

By December 1990, members in the Miami Subsection had been polled and the majority approved forming the South Florida Section with slightly over 1100 members in Dade, Broward, Palm Beach, Martin, Monroe, Collier, Hendry, Glades, Lee and Charlotte counties (the latter two previously being part of the Tampa Bay Subsection). A petition to secede from the Florida Section and to form the South Florida Section was approved by the Florida Section Executive Committee at its January 26, 1991 meeting in Tampa and then forwarded to National ACS. The petition to form the South Florida Section was approved by the ACS Council at its Fall meeting on August 28, 1991, in New York, and ratified by the ACS Board of Director a few days later. The charter for the South Florida Section was formally presented to the new Section by ACS Region IV Director Dr. William Neville during a ceremony held at Barry University on January 29, 1992, the first official meeting of the new section. The Florida Section agreed to continue to publish and send *FLACS* newsletter to all Florida sections members and to be responsible for the Annual Meeting-In-Miniature (now called FAME – Florida Annual Meeting and Exposition). The Florida Section Executive Committee also gave \$2500 as startup funds to the new

South Florida Section. The South Florida Section began publishing its own newsletter, *SoFlacs*, early in 1991, with Dr. Howard Moore (FIU) as editor, to be followed briefly in early 1992 by Dr. Mike Elliott (Barry University), and then by Dr. George Fisher (Barry University) in 1992 to the present.

Dr. George Duncan of the Broward County Sheriff's Crime Lab was the Subsection's chairman in 1991 and thus became the first chairman of the new South Florida Section from September through December. Formal election of officers and approval of the Section's proposed bylaws was held in November, 1991. Dr. Howard Moore of FIU was elected as chairman; Dr. Don Baird of FAU as chair-elect; Dr. Mark Jackson of FAU as secretary; Mr. Kevin O'Donnell of FPL-Central Lab as treasurer; Ms. Zaida Morales-Martinez (FIU) and Dr. George Fisher (Barry U) as National Councilors; and Dr. Marvin Richards (MDCC), Dr. Donna Ticknor (FIU), and Dr. Don McCorquodale (Spectrum Laboratories) as Alternate Councilors. Dr. Alfred Mills (University of Miami) and a long time (over 25 years) Councilor for the Florida Section was also elected as one of the new SoFL section councilors, but, unfortunately, he passed away on December 27, 1991. Dr. Richards was appointed to fill out Dr. Mills' term as Councilor. Dr. Howard Moore, the first elected Chairman of the Section, passed away unexpectedly on May 29, 1994.

In 1991 Dr. Moore began the National Chemistry Week program of presenting chemistry magic shows/demonstrations to third graders at local elementary schools with funding from DOW Latin America and assistance from the high school Chemistry Teachers Alliance and chemistry faculty and Student Affiliates from FIU and Barry universities. These efforts resulted in the Section's first NCW Phoenix Award nomination. We didn't win in 1992, but on August 31, 1993 ACS President Helen Free presented a special NCW Phoenix Award to SoFL-ACS for public outreach above and beyond the call of duty: the "Come Hurricane Andrew or High Water Award" for conducting hands-on science demonstrations to over 12,000 third graders at 90 elementary schools. The section had to reschedule its 1992 NCW event to March of 1993 since in November of 1992 we were still recovering from the effects of Hurricane Andrew. The section's outreach to elementary schools continues to the present with university chem clubs presenting chemistry magic shows/demos to 3rd-5th graders.

SoFL-ACS won two successive "Special NCW Phoenix Awards of Recognition" for 1998 and 1999 NCW activities. After 2000, Phoenix awards became ChemLuminary awards which SoFL-ACS won in 2004 for "Best Student Affiliates NCW Event"; in 2009 for "Most Innovative NCW Activity" for the FIU-BBC "GuacaMole Fiesta" since NCW coincided with Hispanic Heritage Week; and in 2015 for "Most Creative NCW Celebration Using the Yearly Theme" "Candy-The Sweet Side of Chemistry" when over 100 teachers participated in a hands-on workshop on reengineering candy.

In November 1997, SoFL-ACS began its annual NCW Family Day program at different venues throughout the Section such as the Miami Museum of Science, Miami Seaquarium, Parrot Jungle and Gardens, Miami MetroZoo, Flamingo Gardens, and Ft. Lauderdale Museum of Discovery and Science, as well as shopping malls.

From 1991 to 2001, SoFL-ACS sponsored two high school Chemathon competitions at FIU and FAU for high school chemistry students. Beginning in 2002, this effort continued through the Barry University Physical Sciences Department's "Science Olympiad" later renamed "Chemistry and Physics Tournament" to include high school physics students as well as chemistry students in written, oral, and lab competitions. The section also participates in the ACS National Chemistry Olympiad competition, sponsoring local written testing annually for 200-300 high school students, from whom 10 are selected to take the national Chemistry Olympiad exam and lab

competition. In 2005 one South Florida student, Scott Rabin, was one of 20 national finalists who attended the 2-week the summer study camp at the U.S. Air Force Academy; but he did not make the final U.S. team. SoFL-ACS also provides financial support for Project SEED students and travel grants for undergraduate and graduate students to present research at the spring ACS national meetings.

In addition to regular meetings, tour speakers, and seminars, the section hosted several workshops for elementary, middle and high school teachers; annual Forensic Sciences Symposia from 2003 through 2007; and Chemical Sciences Research Symposia in 2005, 2006, 2007, 2009, and 2016 where undergraduate and graduate students present research posters.

In May 2014 National ACS dedicated Thomas Edison's Botanical Research Laboratory in Fort Myers as a National Historic Chemical Landmark. Each year in April we hold an awards banquet where we recognize and honor our 50- and 60-year members, outstanding graduating senior chemistry or biochemistry majors, high school Chemistry Olympiad finalists, Project SEED students, ACS Scholars, student travel award recipients, and other section member's accomplishments. In addition to section accomplishments, individual members have distinguished themselves in many ways:

All three SoFL-ACS Councilors (Delgado, Fisher and Morales-Martinez) and past-chair Dr. Jesse Bernstein have served and currently serve on national ACS committees.

Zaida Morales-Martinez "Mamma Z" has faithfully served the ACS Scholars program since its inception; in 2002 she received the "Women Chemists Award for Contributions to Diversity"; in 2004 the national ACS award "For Encouraging Disadvantaged Students Into Careers in Chemistry"; in 2011 the ACS award for "Outstanding Service to the Society"; and the 2002 Florida International University Distinguished Service Medallion.

Dr. Milagros "Milly" Delgado received the Zaida Morales-Martinez prize for "Outstanding Mentoring of ACS Scholars" in 2015 and the 2014 local section volunteer service award.

Dr. George Fisher received a SoFL-ACS "Distinguished Service" award in 1991; the "Southern Chemist Award" in 1995; the national ACS award "For Encouraging Disadvantaged Students Into Careers in Chemistry" in 2013, and the 2015 SoFL-ACS local section volunteer service award.

Long-time SoFL-ACS treasurer Dr. Leonard Keller received the FIU Distinguished Service Medallion in 2014 and the SoFL-ACS Salute to Excellence in 2015.

Section Chair-Elect Dr. Jesse Bernstein received the James Conant Award for High School Teaching in 2011.

In 2015 high school chemistry teacher Carlos Montero received a Presidential Award for Excellence in Math and Science Teaching from President Obama.

Student Affiliate/ACS Student Chapters at Barry University, Florida Atlantic University, both campuses of Florida International University, and Nova Southeastern University have each been ACS award winning chapters over 25 years for the many activities they do to promote chemistry.

As of 2016, SoFL-ACS is a medium-large section with 1181 members: 505 (42.76%) regular members, 138 (11.69%) regular student members, 265 (22.44%) emeritus members, 62 (5.25%) retired members, 13 (1.1%) society affiliates, and 198 (16.77%) undergrad student members; 57% male and 16.4% female, (26.6% n/a); 34.2% academic; 3% government; 1% each in engineering or clinical; 7.6% consulting; 3.6% independent laboratory; 14.2% manufacturing-industry; 11% "other"; 23% no response. All-in-all the South Florida Section has been very active and distinguished during the first 25 years of its existence; something that we all take pride in.

PAST CHAIRS OF THE SOUTH FLORIDA ACS SECTION

1991	Dr. George Duncan	2000	Dr. Allen Smith	2008	Dr. Michael Elliott
1992	Dr. Howard Moore	2001	Dr. Don McCorquodale	2009	Dr. Rose Mary Stiffin
1993	Dr. Donald Baird	2002	Dr. Mark Jackson	2010	Dr. Richard Shreve
1994	Dr. Kenneth Furton	2003	Dr. George Fisher		Dr. Konstantinos Kavallieratos
1995	Dr. Mark Jackson	2004	Dr. George Fisher	2011	Dr. Konstantinos Kavallieratos
1996	Dr. Gary Hoffman	2005	Dr. Vic Shanbhag	2012	Dr. Uma Swamy
1997	Dr. Russell Kerr	2006	Dr. K.V. (Venk) Venkatachalam	2013	Dr. Dimitri Tamalis
1998	Dr. Jeff Evansek	2007	Dr. Robert Pomeroy	2014	Dr. Jesse Bernstein
1999	Dr. Ronald Block		Dr. Michael Elliott	2015	Dr. K.V. (Venk) Venkatachalam

SECTION SEMINAR MEETING

3:30 PM, Thursday, April 28
University of Miami, Cox Science Center, room 318
Coral Gables Campus

Dr. Rigoberto Hernandez

School of Chemistry and Biochemistry
Georgia Tech, Atlanta

"Obtaining exact transition state theory rates without perturbation theory"

The rates of chemical reactions (or any activated process) are by definition determined by the flux of reactants (or initial states) that end up as products (or final states). Through the last hundred years of studies on reaction rate theory, it has become clear that this can be equated to the flux through any surface that divides reactants from products as long as only those trajectories that end up as products are included in the flux. Transition state theory (TST) ignores this last clause. It thereby overestimates the rate if any of the trajectories recross the dividing surface. However, its advantage is that it replaces a dynamical calculation with a geometric one. Through the variational principle or perturbation theory, however, one can construct non-recrossing dividing surfaces that lead to exact rates. These approaches are limited by the nature of the search space of surfaces and the reference dividing surface, respectively. We have recently discovered that the Lagrangian descriptor can be used to resolve the dividing surface directly. [G. T. Craven and R. Hernandez, Phys. Rev. Lett. 115, 148301 (2015)] We will further show the accuracy of the approach for barrierless reactions, model reactions, ketene isomerization and LiCN isomerization.

SoFL-ACS AWARDS and

25th ANNIVERSARY BANQUET

Saturday, April 30

11:00 AM Reception and Poster Session
Noon Luncheon and Awards

Dr. Rigoberto Hernandez – Keynote Address

Wolfe Student Center, 2nd floor ballroom,
FIU Biscayne Bay Campus
3000 N.E. 151st Street, North Miami

Cost: \$30.00 ACS members & guests; \$15.00 Students

Send reservation form with check payable to SoFL-ACS
by Wednesday, April 27 to:

Ms. Zaida Morales-Martinez
13239 SW 85th Ter., Miami, FL 33183
305 386-3206, moralesz@fiu.edu

Name

Address

School if
a student

Number of reservations: _____ @ \$30.00 = \$ _____

_____ @ \$15.00 = \$ _____

Total enclosed \$ _____

Dr. Rigoberto Hernandez will also give the Keynote Address at the Awards Banquet

"Lost in Projection"



What is lost in the projection of how others frame you? That is, there is a potential disconnect between what others expect of you and the person who you believe to be yourself. To what extent are you bound by what others expect of you? Such expectations may arise from how others have seen you in the past or perhaps by whom they see on first impression. I came to the United States as a child, a Cuban immigrant, who spoke no English but proud to be able to count to ten without too much of an accent. Children grow and learn. Surely, they cannot be bound by that early frame. As adults, we may not grow physically, but we also learn. And yet, we have a tendency to hold others to the frames that we first see of them. Even more dangerous to each of us is the fact that the frame is often projected onto us by others, and not always correctly. I will discuss my own career trajectory, weaving in how projections and implicit bias, sometimes accelerated and other times challenged my career.



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Chemistry Olympiad Competition

Over 400 high school students from South Florida took the qualifying exam for the 2016 Chemistry Olympiad. The following ten finalists and their teachers are to be congratulated. Thanks to Dr. Vic Shanbhag, Nova Southeastern University, for coordinating the SoFL-ACS Chemistry Olympiad.

Finalist

Kiran Masroor
Sage Simhon
Stefan Wan
William Yang
Rhys Murray
Jackson Blitz
Arian Mansur

Soryan Kumar
Shangtao Wu
Francisco Acosta

School

Gulliver Preparatory
NSU University School
Dreyfoos School of Arts
Miami Palmetto H.S.
NSU University School
American Heritage
Archimedean Upper
Conservatory
American Heritage
Coral Reef Senior High
Cypress Bay H.S.

Teacher

Jennifer Guerra
Carlos Montero
Kenneth Luba
Yuria Sharp
Carlos Montero
Dawn Gregor
Kalai Pannerselvam

Dawn Gregor
Joshua Cloutier
Clara Russo

2016 SoFL-ACS Officers

Chair: John Reilly, Florida Gulf Coast University, Ft. Myers, 219-590-7200, FAX 239- 590-7200, johnreilly@fgcu.edu

Chair-Elect: Jesse Bernstein, Miami Country Day School, 601 NE 107 St., Miami, FL 33161, 305-779-7260, bernsteinj@miamicountryday.org

Past Chair: K.V. Venkatachalam (Venk), Department of Biochemistry, College of Medical Sciences and College of Osteopathic Medicine, Nova Southeastern University, Ft. Lauderdale, FL 33328, 954-262-1870, FAX 954-262-1802, venk@nova.edu

Secretary: Milagros Delgado, Department of Chemistry, FIU Biscayne Bay Campus, AC1-382A, 3000 NE 151st Street, North Miami, FL 33181, 305-919-5966; delgadam@fiu.edu.

Treasurer: Leonard Keller, Department of Chemistry & Biochemistry, FIU, 12000 SW 8th St. Miami, FL 33199, 305-348-3081; kellerl@fiu.edu.

National Councilors: Zaida Morales-Martinez (2018), 305-386-3206, moralesz@fiu.edu; Milagros Delgado (2016), FIU, 305-919-5966, delgadam@fiu.edu; George Fisher (2016), Barry University, 305-899-3430, gfisher@barry.edu.

Alternate Councilors: Vic Shanbhag (2015), Nova Southeastern University, 954-262-8331, shanbhag@nova.edu; Dimitri Tamalis (2016), Florida Memorial University, 305-626-0267, dimitri.tamalis@fmuniv.edu; Lisa V. Milenkovic (2016), Broward County Public Schools, 754-321-2620, lisa.milenkovic@browardschools.com

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SoFL-ACS web site: <http://www.soflacs.org> National ACS web site: <http://www.acs.org>