



THE FILTER PRESS

Newsletter of the Georgia Section of the American Chemical Society

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February, 2000

*Twisting and Turning of DNA:
A View at Very High Resolution*
Professor Loren Williams
Georgia Institute of Technology

The Watson-Crick structure of DNA, with uniform and repetitive conformation, has been supplanted by models with extensive conformational heterogeneity. Some DNA sequences spontaneously over-twist, others form acute axial bends. Such deformations play critical roles in transcription, replication and packaging. We are trying to understand the origins of these deformations. In one model, DNA and RNA conformation is influenced by direct, through-space interactions between bases. These sequence-specific interactions might modulate positions of bases and base pairs, causing some sequences to adopt non-standard conformations. Alternatively the locations of mobile inorganic cations around DNA could be influenced by functional groups on the bases. Electrostatic deformation by differential partitioning of cations provides an alternative electrostatic model for DNA deformation. Our goal is to evaluate competing models of DNA deformation.

Loren Williams received his B.Sc. in Chemistry from the University of Washington in Seattle where he worked in the laboratory of Martin Gouterman. In 1985 he received his Ph.D. in Physical Chemistry from Duke University, from the laboratory of Barbara Shaw. He was an American Cancer Society Postdoctoral Fellow first at Duke then at Harvard. From 1988 to 1992 he was an NIH Postdoctoral Fellow in the laboratory of Alex Rich in the Department of Biology at MIT. He joined the School of Chemistry and Biochemistry at Georgia Tech in 1992, and was promoted to Associate Professor in 1996. Dr. Williams received an NSF CAREER Award in 1995, and has received grants from the NSF, the American Cancer Society and the American Heart Association. He received the Sigma Xi Award for best paper from Georgia Tech in 1996. He is a member of the NSF Molecular Biophysics Review Panel, and co-directs the Georgia Tech/Medical College of Georgia Seed Grant Program.

*Tuesday, February 15, at the Petite Institute for Bioengineering and
Biosciences, Georgia Tech*



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HERTY AWARD NOMINATIONS SOUGHT

The Georgia Section of the ACS is soliciting nominations for the year 2000 Charles Holmes Herty Medal, which is presented annually to recognize the work and service of an outstanding chemist from the Southeastern section of the country. The award recipient is honored at a ceremony in late spring when an address is given to our section, and the gold medal (designed to commemorate the work of Herty) is given. Nominees may come from academic, government, or industrial laboratories. (See the ACS award booklet for additional information.) The deadline for submission of nominations for the 2000 award is March 10, 2000. Please send all nominations or inquiries to:

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February Meeting

Twisting and Turning of DNA: A View at Very High Resolution Professor Loren Williams, Georgia Tech

Date: Tuesday, February 15, 2000

Time: 6:30 -7:00 arrive & social
7:00 - 8:00 dinner
8:00 - 9:00 speaker

Dinner: "Italian Feast": Fresh Garden Salad with Italian and Ranch Dressing Freshly Baked Garlic Breadsticks, Eclectic Pasta with choice of Meat sauce or Vodka Cream sauce, Italian sausage, Sauteed Vegetables with Red Pepper and Basil, Dessert Bites, Coffee and Iced Tea.
The meal will be served buffet-style in the atrium of the IBB building, and the meeting will be held in the conference room adjacent to the atrium.

Location: Georgia Tech Petite Institute for Bioengineering and Biosciences
Ferst Drive, Atlanta, GA

Directions: Exit at the Techwood/10th/14th exit, go west on 10th street to State Street, turn left onto State, go to the stop sign, turn left onto Ferst. The Bioscience building is one block east on the corner of Ferst and Atlantic. Parking is free and available anywhere around the building or nearby parking lots..

Cost: \$10 per person, full time students with ID and high school teachers, \$5. Payment should be made to the **ACS Georgia Section** and will be collected at the door.

RSVP: Lucian A. Lucia 404-894-9712, lucian.lucia@ipst.gatech.edu or Katherine Seley, 404-894-4013, katherine.seley@chemistry.gatech.edu. When making reservations, please state your name, choice of entree, professional affiliation, and telephone number. **Reservation deadline is 5:00 PM on the Thursday preceding the meeting. If you make a dinner reservation but fail to attend, you must still make payment for your meal to treasurer Angus Wilkinson, School of Chemistry and Biochemistry, Georgia Institute of Technology, Atlanta, Georgia 30332-0400 (404) 894-7452.**

Georgia ACS meeting announcements are available by email. To be placed on our mailing list, just send a short message to Alan Gabrielli (agabriel@spsu.edu)

<http://chemistry.gsu.edu/ACS>



2000 Georgia Section Meetings:

March 20th

Learning from Interactive Web Pages
Dr. Henry Bungay

April 18th

Careers in Chemistry
Dr. Grant Dubois, Coca-Cola
Dr. Larry Gollob, Georgia-Pacific Resins
Dr. Tom Lachocki, BioLab

May

Herty Award

June

Summer Picnic

September

Dr. Tony Shuker

October 4th

NMR on Polymers
Dr. Ben Luberoff

November 6th

Chemistry Profession
Dr. Cecil Dybowski

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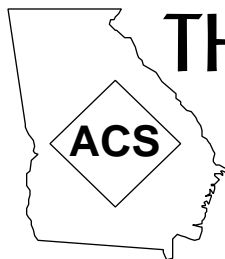
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