New Haven Section

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May 18, 2005 – New Haven Section Meeting

Ms. Katrina Mateo

Townsend Harris High School at Queens College

will present

THE ANTIMICROBIAL EFFECTS OF COMMON CUISINAL SPICES ON THE GROWTH OF *BACILLUS CEREUS* VERSUS *SERRATIA MARCESCENS*

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National Chemical Week Awards Ceremony

Wednesday May 18, 2005

Eli's on Whitney Restaurant

Ms. Katrina Mateo

will present

THE ANTIMICROBIAL EFFECTS OF COMMON CUISINAL SPICES ON THE GROWTH OF BACILLUS CEREUS *VERSUS* SERRATIA MARCESCENS

Eli's on Whitney
2392 Whitney Avenue
Hamden, CT
(203) 287-1101
www.elisonwhitney.com

Social Hour:	**5:30 p.m.**
Awards Presentations:	**6:00 p.m.**
Dinner:	**6:30 p.m.**
Lecture:	**7:30 p.m.**

Abstract: Herbs have been used for centuries to act against pathogens. *Bacillus cereus* is an aerobic, rod-shaped, Gram-positive, motile, spore-forming bacterium. *Serratia marcescens* is a Gram-negative, motile, facultative anaerobe that maintains a pink pigment. An experiment was conducted to test the antimicrobial effects of common cuisinal spices on the growth of a *Bacillus cereus* versus *Serratia marcescens*. It was hypothesized that the spices will have a stronger overall effect on the Gram-positive bacteria, *Bacillus cereus*, by creating larger zones of inhibition. In this experiment, three disks soaked in garlic, oregano, and black pepper extract and a disk soaked in demineralized water were placed on sterile agar plates inoculated with *Bacillus cereus* and *Serratia marcescens* by means of the Kirby Bauer technique. After an incubation period of 24 hours, the zones of inhibition were measured using a millimeter ruler and analyzed. The hypothesis was supported by the mean results. This experiment can be used to investigate how common spices can be used to preserve foods for longer periods of time by inhibiting the growth of bacteria and how their antimicrobial properties affect a Gram-positive bacterium as opposed to a Gram-negative bacterium.

Brief Biographical Sketch: **Katrina Mateo** is currently a junior at Townsend Harris High School at Queens College. Maintaining high academic achievement, she is currently a member of Arista (National Honor Society), Archon (National Service Society), Mu Alpha Theta (Math Honor Society), and NYSSHS (Science Honor Society). In terms of musical achievement, she takes piano, flute, and violin lessons at the Center of Preparatory Studies of Music at Queens College and has performed at LeFrak Hall at Queens College, Colden Center for the Performing Arts, and Carnegie Hall. She is part of the Science Research Program at her school specifically geared towards preparing for the Intel competition and has completed several research papers mostly about suppression of bacterial growth. In the Summer of 2004, she completed a New York Academy of Sciences Summer Research Program internship at Columbia University School of Nursing under Drs. Elaine Larson and Patricia Stone. Presently, she is conducting research at a Molecular Typing lab at Memorial Sloan-Kettering under Dr. Kent Sepkowitz.

Eli's on Whitney – Wednesday, May 18, 2005

Entrée choices:
- Seafood Stuffed Sole – sherried crab and cracker stuffing topped with lobster sauce
- Sliced Roast Porkloin – topped with apple and onion demi glace
- Stuffed Chicken Pomodoro – spinach, tomato, garlic and herb crumb stuffing
- "Kid's Menu" – Chicken fingers with French fries, dessert, and soda

Price:		
	ACS Members/Guests	$25
	Teachers/Retirees/Unemployed/Students	$20
	Children's meal (Chicken fingers)	$12

Price includes tax and tip. Cash or check only – we cannot accept credit cards

All entrees are served with fresh seasonal vegetable, bread and butter, garden salad with balsamic vinaigrette, dessert choice of ice cream fudge roll with chocolate sauce or white chocolate mousse with raspberry sauce, and coffee, tea or decaf.

BECAUSE THIS MEETING WILL HAVE A LARGE ATTENDANCE, YOU MUST SIGN UP FOR A DINNER BY MAY 14

Please make your reservation by contacting D**ennis Jakiela by Friday, May 13, 2005,** at (203) 375-1137 or e-mail to: *djakiela@hampfordresearch.com*. Please leave your name, telephone number, dinner choice and number of reservations desired. Cancellations must be made 24 hours prior to the meeting or you may be charged for dinner.

You may also attend the lecture without the dinner. Please notify Dr. Jakiela so he can keep the count of number of attendees, and arrive at the restaurant by 7:30 PM when the presentation will normally begin.

Directions to Eli's on Whitney Restaurant in Hamden

From the North or South on Interstate 91: Take I-91 to Exit 10 (Mt Carmel / Cheshire) Rte 40 (Exit 10 puts you on Rte 40 Connector running from I-91 to Whitney Ave., Hamden) Take Rte 40 Connector to end. At the end take left fork. Take a left onto Whitney Ave. and go approximately 1.2 miles. (You will go through one double set of traffic lights) Eli's On Whitney is on the right (at the second set of traffic lights). Parking is across the street on the left with limited parking behind Restaurant.

From the North on Rte 15 - Wilbur Cross Parkway: Take Exit 62 (Whitney Avenue, Hamden) Take a right onto Whitney Ave. and go approximately 1/3 mile, past Hamden

Town Hall. (You will go through 2 sets of traffic lights) Eli's On Whitney is on the left (at the third set of traffic lights): Parking is across the street on the right with limited parking behind Restaurant. (cont.)

From the South on Rte 15 - Wilbur Cross / Merritt Parkway: Take Exit 61 (Whitney Avenue, Hamden) Take a right onto Whitney Ave. and go approximately 1/3 of a mile, past Hamden Town Hall. (You will go through 2 sets of traffic lights). Eli's On Whitney is on the left (at third set of traffic lights). Parking is across the street on the right with limited parking behind Restaurant

From New Haven - via Whitney Avenue or Dixwell Avenue: Follow Whitney Avenue or Dixwell Avenue to the Hamden Town Hall. (There will be a set of traffic lights). If on Whitney Avenue, follow through the traffic lights; if on Dixwell, take a left onto Whitney Avenue. Eli's On Whitney is on the left. Parking is across the street on the right with limited parking behind Restaurant.

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Chair's Message

(This article was partially omitted from the previous newsletter due to insufficient space.)

I am honored to once again serve as the Chair of the New Haven Section of the American Chemical Society for 2005. With your continued active participations and support, the Executive Board of Directors and I are planning several unique activities for 2005. The Section will once again be engaged in several enrichment and community outreach activities, including, the Chemistry Olympiad, Kids in Chemistry, and National Chemistry Week activities.

Your Section, therefore, needs your continued support and participation in organizing these activities. The list of Committee Chairs is available under the Officers Section in our website at *http://membership.acs.org/N/NewHaven*. Please consider becoming active with one of these committees. You will find the Committee Chairs eager to hear from the Section members, and most of the committees do need new members. One crucial committee for which the Section is in urgent need of assistance is with National Chemistry Week (NCW). National Chemistry Week encourages young people to consider science as a career, as well as to provide outreach to the community dispelling some of the apprehensions that exist about chemistry. The NCW week theme for 2005 is "Chemistry and Toys." If you are interested in helping out with this year's NCW activities, please contact me at my place of business at 203-573-3220, or send me an e-mail at *ali.banijamali@cromptoncorp.com*.

The Section has made great stride in bringing in a stellar mix of speakers in this year's program; we have tried to hold the meetings at various locations so as to broaden our member coverage. We are trying to curtail the costs of the dinners in the hope that more of our members will consider attending both the lectures and the social to follow.

If you have an area of research or interest and would like to share with the New Haven Section, then please contact our program chairman, Dr. Dennis Jakiela (*djakiela@hampfordresearch.com*) with the title and few words briefly summarizing your area of research/specialty. We look forward to hearing from you about the topics that you wish to share with your Section.

As always, it is important to stress that all New Haven Section activities depend on YOU, the members, to be successful. When your ACS membership renewal notice arrives, please don't forget to check the box for due membership to New Haven Local Section. While Local Section dues are a voluntary contribution – they are not required to maintain Section membership – they are however, critically important to the well-being of the New Haven Section. Your $6 voluntary dues directly fund events and services including the prestigious Kirkwood and Chamberland Awards and other excellent programs. It is your support and participation that makes it possible for the Section to play a positive role in our broader community.

Dr. Michael Gelbin, the Past Chair, has provided excellent leadership for the New Haven Section during 2004 and Dr. Dennis Jakiela is the Chair-Elect for 2005. Together with the members of the Executive Board, I hope that we remain proud of the New Haven Section of the American Chemical Society due to the unique role it plays. I look forward to meeting all of you at one of the Section functions this year.

Dr. Ali Banijamali, 2005 New Haven Section Chair, American Chemical Society

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Robert Grubbs is 2005 Kirkwood Awardee

Professor Robert Grubbs, California Institute of Technology, has been selected as the recipient of the 2005 Kirkwood Award. The award address and banquet were held on Wednesday, April 27th. Dr. Grubbs award presentation was titled "Olefin Metathesis Catalysts for the Synthesis of Large and Small Molecules". We regret that the selection of the awardee and schedule for the lecture presentation were not available in time to be included in the previous newsletter.

The Kirkwood Award, presented jointly by the Yale University Department of Chemistry and the New Haven Section of the American Chemical Society, commemorates the life and work of John Gamble Kirkwood (1907 – 1959), former Sterling Professor of Chemistry and Chair of the Yale Chemistry Department. This award, presented biennially, recognizes outstanding research contributions, theoretical or experimental, in the physical sciences. Since the award was initiated in 1962, many of its recipients subsequently have won the Nobel Prize.

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Safety Publications are Available from ACS

The ACS Joint Board-Council Committee on Chem. Safety (CCS) is pleased to announce the availability of the 7th edition of Safety in Academic Chemistry Laboratories (SACL). SACL has been in print continuously since 1972. This edition has two volumes: Vol. 1 for college and university students; and Vol. 2 for faculty, graduate teaching assistants, and administrators. With this latest edition of SACL, CCS has now produced new safety booklets within the last two years for all academic levels: Safety in the Elementary (K-6) Science Classroom; Chemical Safety for Teachers and Their Supervisors, Grades 7-12; and SACL. All these publications may be ordered from ACS (single copies are free) and or be viewed in PDF on the Committee website, *http://chemistry.org/committees/ccs*.

AD SPACE Available in the Newsletter

The Ad Guidelines are as follows: Situations-wanted by New Haven Section member - **No Charge**. Non-members **$20 for four lines**. Want Ads are **$40 for a 4-line ad** or **$85 for a full-page (4 x 8 inch)**.

National Chemistry Week 2004 --- Winners

The theme for 2004 National Chemistry Week, held October 17-23, was *"Health and Wellness"*. Schools in New Haven County were invited to participate in our contests. All students who entered won a small prize and teachers received a subscription to the Journal of Chemical Education.

A special thank you to Dr. Dennis Jakiela, Hampford Research for judging the grammar school entries, Dr. Irene Covey, U. Conn, Waterbury, for judging the high school entries, and Jan Galloway and Caroline Maselli for judging the posters. This year National Chemistry Week will be celebrated October 17-23, 2004, with Health and Wellness as the theme (read the next article).

Poster Contest Winners

Student	Teacher	School	Grade	Town
Francesca Pepe	Nancy Ryan	Mary T. Murphy	4	Branford
Rebecca Mencseli	Tara Daly	Norton	6	Cheshire
Anesha Agarwal	Nancy Graham	Hamden High	10	Hamden
Alex Borkowski	Nancy Ryan	Mary T. Murphy	4	Branford
Justin Hatch	Nancy Ryan	Mary T. Murphy	4	Branford
Brittany Virgulto	Jan Frank & Kevin Staton	Thomas Edison Middle	6	Meriden
Breanne Hunt	Jan Frank & Kevin Staton	Thomas Edison Middle	6	Meriden
Colleen Arntsen	Tara Daly	Norton	6	Cheshire
Nathaniel Dziuba	Kathleen Griffin-Daley	N. Branford Intermed.	6	N. Branford
Kimberly Barnes	David Tremblay	West Haven High	-	W. Haven
Anna Rogoulina	Nancy Graham	Hamden High	-	Hamden
Brian Williams	Nancy Graham	Hamden High	-	Hamden

Grammar School Winners

Student	Teacher	School	Grade	Town
Michael Wray	Roberta Mack	N. Branford Intermed.	6	N. Branford
Alex Brenner	Roberta Mack	N. Branford Intermed.	6	N. Branford
Molly Johnson	Kathleen Griffin-Daley	N. Branford Intermed.	6	N. Branford
Julia Gritzbach	Roberta Mack	N. Branford Intermed.	6	N. Branford
Madeline Slubowski	Joe Daley	Totoket Valley	5	Northford
Andrew Moeller	Joe Daley	Totoket Valley	5	Northford
Ryan Dombrowski	Joe Daley	Totoket Valley	5	Northford
Jack White	Roberta Mack	N. Branford Intermed.	6	N. Branford
Maggie Sullivan	Kathleen Griffin-Daley	N. Branford Intermed.	6	N. Branford
Shannon Pearson	Kathleen Griffin-Daley	N. Branford Intermed.	6	N. Branford

High School Winners

Student	Teacher	School	Town
Kara Marcello	David Tremblay	West Haven High	West Haven
Katherine Marcello	David Tremblay	West Haven High	West Haven
Cara Moran	David Tremblay	West Haven High	West Haven
Brian Williams	Nancy Graham	Hamden High	Hamden
Megan Hochstrasser	Nancy Graham	Hamden High	Hamden

Improve Your Skills with Internet-Based Courses from the ACS

ACS's Webcast Short Courses team the technology and convenience of Internet learning with the dynamism of live, in-person training — ACS now offers Internet-based training courses to help you quickly learn the information that you need to succeed in your job. In the convenience of your home or office, you can learn new techniques, improve your lab skills, and hone your leadership and communication skills. The following courses will be offered Winter/Spring 2005

To obtain more information or to register online for a course, go to *http://chemistry.org/elearning* or call (800) 227-5558, ext. 4508, or (202) 872-4508.

Basic Statistical Analysis of Laboratory Data - Review and learn the fundamentals of statistics as they apply to laboratory data. Learn from practical examples that are found in typical analytical laboratories. Spring 2005 Session: April 22, 29, May 6, 13, and 20.

Cutting Edge HPLC Techniques for Analysis of Proteins and Peptides - This seminar will teach you how to analyze proteins and peptides by using cutting-edge HPLC techniques. You'll also learn different modes of separation techniques and how to choose a cost-effective HPLC column. Spring 2005 session : May 23-24.

Effective Technical Writing - Researchers, technical professionals, and managers who want to enhance their professional success by writing effectively and persuasively. You are encouraged to submit samples of your own writing, along with technical writing samples (such as scientific papers, reports, reviews, etc.) that you aspire to write. Spring 2005 Session: April 1, 8, 15, 22, and 29, 2005.

Fourier Transform Infrared Spectroscopy - Enroll in this course to improve your skill in identifying or quantifying molecules in unknown samples and to maximize your spectral quality while minimizing your preparation time. Managers who want cost-effective infrared analyses will find this course especially valuable. Spring 2005 Session: April 7, 11, 14, 18, and 21.

Gas Chromatography Basics - This course will help you to gain a sound working knowledge of basic gas chromatographic analysis principles and procedures and enable you to develop a greater understanding of theoretical and practical relationships. Become more efficient by learning ways to reduce the time you spend on selecting optimum parameters for separating species present in complex mixtures. Spring Session 2005: April 5 12, 19, 26, May 3, 10, and 17.

Infrared Spectral Interpretation, I - In this overview of infrared interpretation, you will learn how to integrate peak position, height, and width information in a spectrum to successfully determine unknown molecular structures and to perform identities properly. Gain hands-on experience in interpreting unknown spectra. Spring 2005 Session: Apr. 7, 11, 14, 18, and 21

Innovative Chemistry—The Road to Commercial Success

Learn the aspects of chemical engineering that are needed to transform your bench work into full fledged production. First you'll learn the issues of scale-up and scale down—what engineers do with your process once its chemistry is well defined. Your will learn the basic design lessons, estimates, appraisal, project thinking, along with the basic steps of patent work and funding options. Spring 2005 Session: April 6, 13, 20, 27, and May 4. Leadership in Science: Managerial and Technical Skills. Understand the basic principles of leadership, motivation and communication. Prepare yourself to assume a leadership position or, if you are already in a leadership position, strengthen your leadership and participation skills. Spring 2005 Session: April 20, 27, May 4, 11, 18, and 25.

A Pharmacology Primer for Chemists - In this course, you'll get a solid understanding of pharmacological principles and how the chemical sciences impinge upon pharmacology research. Master the language and terminology of pharmacology by exploring the study of the interaction of chemicals with receptors to elicit physiological responses. Understand the chemistry behind the drugs used for therapy as you study the theory, application, and methods of receptor pharmacology as it is used to characterize drug activity. Spring 2005 Session: May 2, 5, 9, 12, 16, 19, 23, and 26.