



CHICAGO AREA

Undergraduate Research Symposium



April 26, 2008

**Hermann Union Building, IIT
Chicago, Illinois**



Introduction

The American Undergraduate Research Society (AURS) is proud to present the Chicago Area Undergraduate Research Symposium, an annual event held each spring that allows hundreds of undergraduates from six outstanding Chicago area universities the opportunity to present their research results in a professional setting. Any undergraduate student conducting research, from the sciences to the humanities, is invited to submit an application and abstract.

CAURS provides an excellent opportunity for students to learn about the research of their peers, speak to the attending university faculty, interact with industry representatives, and receive both wisdom and inspiration from the invited speakers. Members of the larger Chicago and Midwest scientific research community are invited to attend. This unique event is a collaboration involving the University of Chicago, the University of Illinois at Chicago, Loyola University Chicago, Illinois Institute of Technology, DePaul University, and Northwestern University.

The 4th Annual CAURS

The 2008 Chicago Area Undergraduate Research Symposium was held on April 26, 2008 at the Hermann Union Building on the campus of the Illinois Institute of Technology. Over 120 undergraduates from all six institutions presented 107 research projects as poster presentations and 16 oral presentations in the fields of biology, chemistry, physics, social sciences, psychology, humanities, engineering, mathematics, and economics. These projects spanned a wide range of subfields, from theoretical physics to behavioral ecology to Mexican indigenous history to aerospace engineering to neurovirology to mental health care.

Many faculty members from the participating institutions generously donated their time to judge these poster and oral presentations. Carlo Segre, Ph.D, Associate Dean for Special Projects of the IIT Graduate College, gave the opening address to begin the conference. Oral presentations were held simultaneously in 4 different rooms, followed by lunch. During lunch, a dozen different graduate and medical school programs in the area had information tables set up with representatives available to answer questions, in addition to a short informational session by Dr. Larry Tobacman of UIC's MD-PhD program. After poster presentations in the afternoon, the engaging research lecture was given by Dr. Eric Brey, Ph.D, Assistant Dean of the IIT Office of Undergraduate Research and Assistant Professor of Biomedical Engineering. After a banquet dinner, the fascinating keynote speech was given by Chef Ben Roche, Pastry Chef of Moto Restaurant and Director of Research and Development for Cantu Designs.



The Host School: Illinois Institute of Technology



The Illinois Institute of Technology is a private university with five campuses located in greater Chicago, Illinois area. IIT has programs in engineering, science, psychology, architecture, business, communications, industrial technology, information technology, design, and law. It is a member of the Association of Independent Technological Universities. It was formed in 1940 by the merger of Armour Institute of Technology (founded in 1893) and Lewis Institute (founded in 1895).

Undergraduate students at IIT are involved in government, foundation, and industry funded research projects in all areas of science, engineering, technology and mathematics. These research experiences offer students the opportunity to be

involved in cutting edge research, applying their knowledge and skills outside the classroom. The Office of Undergraduate Research has been developed to enhance existing programs at IIT and provide new opportunities for mentored collaborative research experiences for undergraduates. We are grateful to have the Illinois Institute of Technology be our host school this year, with Xuan Kang and Manuel Lopez as host directors of the symposium. Every year, representatives from the host school are responsible for planning the logistics of the event, booking a venue, and securing speakers and special guests.

Schedule

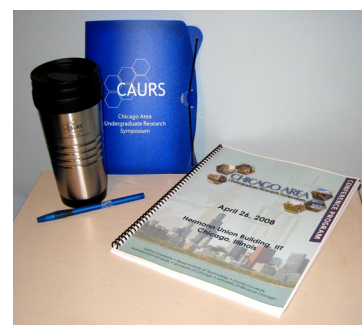
10:00 am	Registration and Breakfast
10:45 am	Opening Address: Carlo Segre, Ph.D., Associate Dean for Special Projects of the Graduate College of IIT and Professor of Physics
11:00 am	Oral Presentations
12:15 pm	Lunch with graduate/medical school information tables
1:15 pm	Poster Presentations, Session I
2:15 pm	Coffee Break
2:45 pm	Poster Presentations, Session II
4:00 pm	Research Lecture: Eric M. Brey, Ph.D., Assistant Dean of the IIT Office of Undergraduate Research and Assistant Professor of Biomedical Engineering
5:00 pm	Banquet Dinner (Keynote: Chef Ben Roche, Pastry Chef of Moto Restaurant and Director of Research and Development for Cantu Designs) and Awards Ceremony

Review

Students were greeted at the registration desk with a CAURS program, mug, magnet, and pen while guests and judges received an additional CAURS padfolio. Scientific artwork submitted by participants was displayed throughout the building, and volunteers and Inter-School Board members were available during the day to assist students and judges. Participants were treated to a light breakfast, a healthy lunch, a refreshing afternoon snack, and a delicious dinner and dessert throughout the day.

After a greeting by Dr. Carlo Segre, oral presentations were held in four rooms simultaneously on the lower level of HUB, monitored by a CAURS Inter-School Board member and judged by faculty. During lunch, representatives from graduate schools in the Chicago Area were available to speak with students and to give them more information about their programs. Larry Tobacman, Ph.D., also gave an informational session about UIC's MD-PhD program. Poster presentations were held in the large Gallery EXPO where participants shared their posters with their peers and faculty judges. Afterwards, the research lecture was given by Dr. Eric Brey, who spoke of his research in neovascularization, tissue engineering, cell-matrix interactions, and vascular imaging. After the research lecture, participants settled down for an elegant white tablecloth banquet with a jazz trio playing in the background. When dessert was finished, the keynote lecture was given by Chef Ben Roche, who spoke of molecular gastronomy techniques involved in making his innovative dishes at his restaurant.

Following the keynote speech, the awards ceremony wrapped up the end to a long and fruitful day.





Awards were presented to the top poster presentations in each field, the top oral presentation, and the top overall abstract/presentation. The top overall award is designated the Joe Cribari President's Award in appreciation of Joe Cribari who was a faculty founding member of CAURS and former director of the Undergraduate Success in Science program at Northwestern University. Each award included a cash prize.

- **Joe Cribari President's Award:** Robert Whittlesey of Illinois Institute of Technology
- **Top Oral Presentation:** Vanessa Coffman of DePaul University
- **Top Poster Presentation:**
 - **Biology:** Josh Abecassis of Northwestern University, Ekaterina Khramtsova of University of Illinois at Chicago
 - **Chemistry:** Emily Jane Glassman of University of Chicago
 - **Mathematics/Economics/Engineering:** Alok Patel of Illinois Institute of Technology
 - **Physics:** Ryosuke Kita of Northwestern University
 - **Psychology/Social Sciences:** Priya Fielding-Singh of Northwestern University, Pamela Kaye of University of Chicago

All posters and oral presentations were of the highest quality and we were extremely impressed by all of the participants. We are very grateful for the support of our sponsors, the six participating institutions, and of the faculty members who served as advisors and judges for our event. Thank you also to the student participants who presented their research and enjoyed the opportunity to learn about the research of their peers at neighboring institutions.

The Inter-School Board

The CAURS Inter-School Board is comprised of student representatives from the six participating institutions. These talented and responsible individuals devote much time during their school year to travel to meetings and to plan the event. Many months of planning are involved, and careful detail is paid to ensure that each symposium is a professionally run event. For each institution that is represented on the board, students have an equal voice in the decisions that are made and have an important role in ensuring that their institution is well represented at the event. Board members also lend their expertise in web design, event planning, fundraising, and other areas to make important contributions to CAURS. Planning the event also provides excellent opportunities for ISB members to make valuable connections in the academic and scientific field. Additionally, ISB members have a strong voice in deciding faculty awardees for outstanding support of undergraduate research, which are recognized at each year's awards ceremony. ISB members are sometimes supported by a faculty advisor at their institution who helps them with administrative and publicity tasks. Nonetheless, the spirit of CAURS continues to be that of a student-run professional event that gives Chicago area undergraduates an exciting opportunity to present their research in a supportive atmosphere fully backed by their institution's faculty and administration.

This year's ISB members are:

Illinois Institute of Technology: Xuan Kang, Manuel Lopez

DePaul University: Sean McCormick

Loyola University: Kyle Abraham, Elizabeth Chan, Laura Wulf

Northwestern University: Rene Boiteau, Yee Hoong Chow, Mike Jung, Terrance Lee (director), Tinlee Lin, Sharan Srinivasan, Alice Tang (director), Bi-Shun Zeng

University of Chicago: Jane Babiarz, Nicole Baran, Jose Sanchez

University of Illinois at Chicago: Sivaraman Iyer

Faculty advisors:**Northwestern University:** Thy Nguyen**Illinois Institute of Technology:** Carlo Segre, Ph.D

CAURS is also grateful for the tremendous support that student volunteers provided during the event, especially at registration and during poster presentations. Volunteers often become ISB members themselves during subsequent years due to their experience, and the help is much appreciated.

Acknowledgments

The Chicago Area Undergraduate Research Symposium would not have been developed without the help of countless people at all 6 participating institutions. In particular, we would like to thank the following individuals for their help and support:

DePaul University

Rev. Dennis H. Holtschneider, C.M., President

Illinois Institute of Technology

Allan S. Myerson, Ph.D, P.E., Provost and Senior Vice President

Carlo Segre, Professor of Physics and Associate Dean of the Graduate College

Carlo Segre, Ph.D., Professor of Physics and Associate Dean of the Graduate College

Essam Abozid, Assistant Director, External Events & Summer Conferences

Erin Quinn, Catering Coordinator

Loyola University

Rev. Michael J. Garanzini, S.J., President

Amanda Hitterman

Northwestern University

Henry S. Bienen, Ph.D., President

William J. Banis, Vice President for Student Affairs

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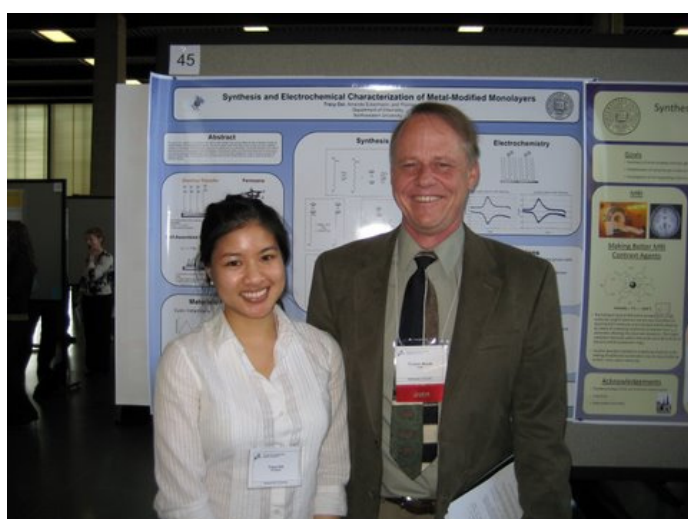
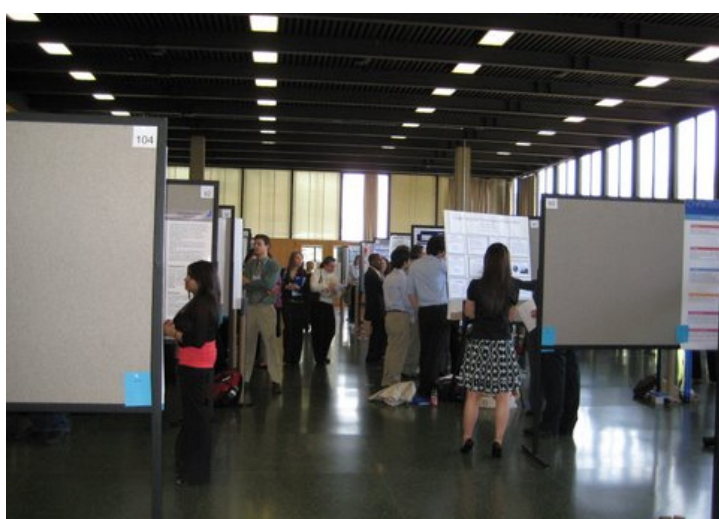
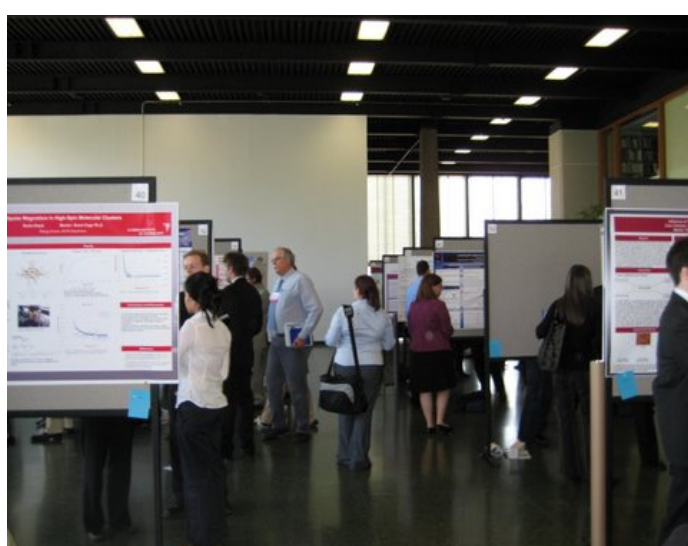
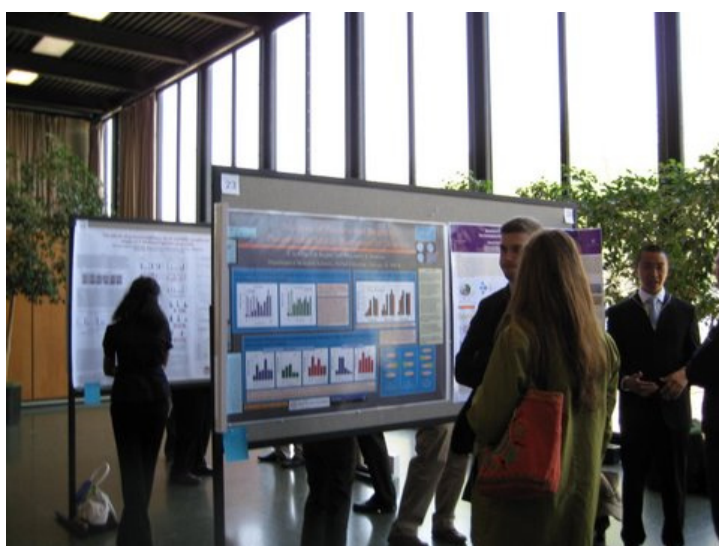
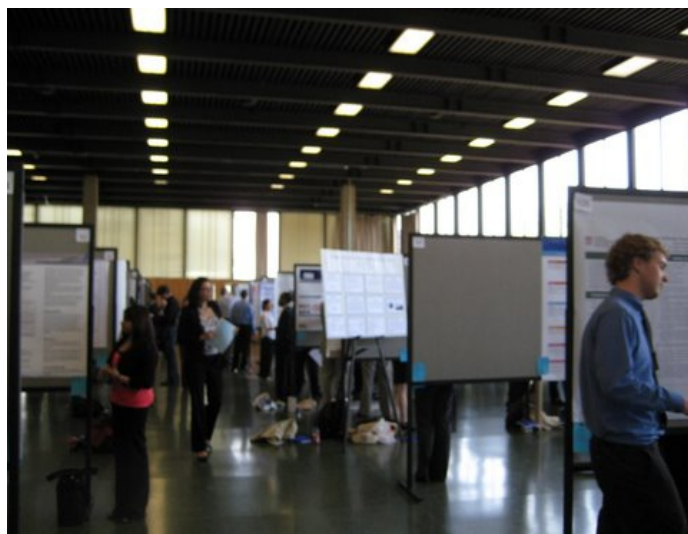
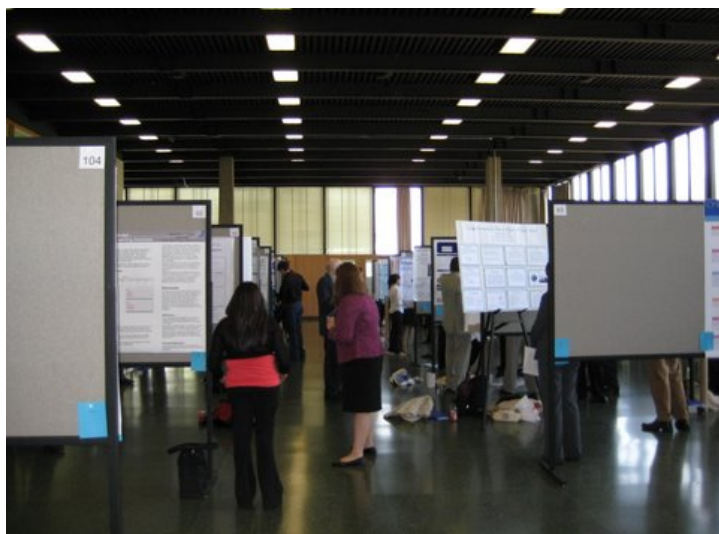
University of Chicago

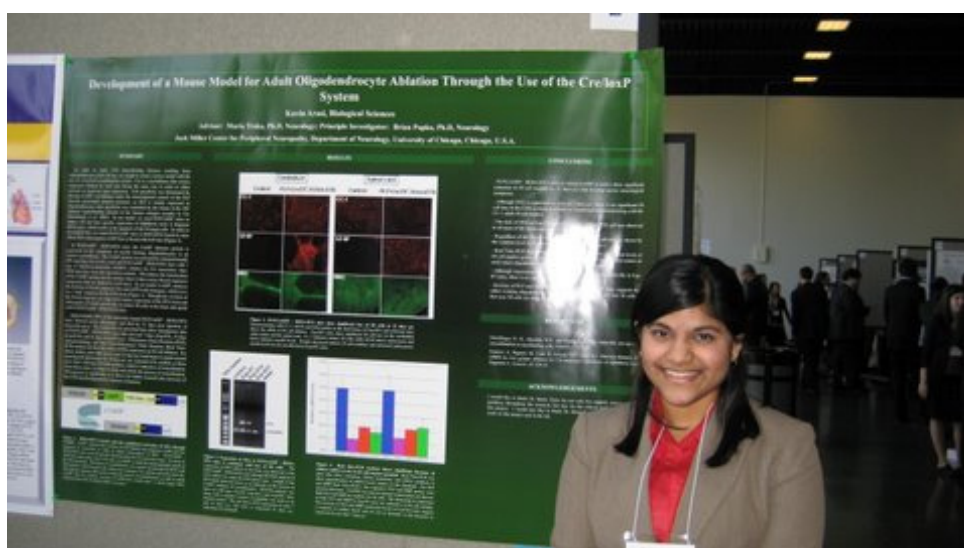
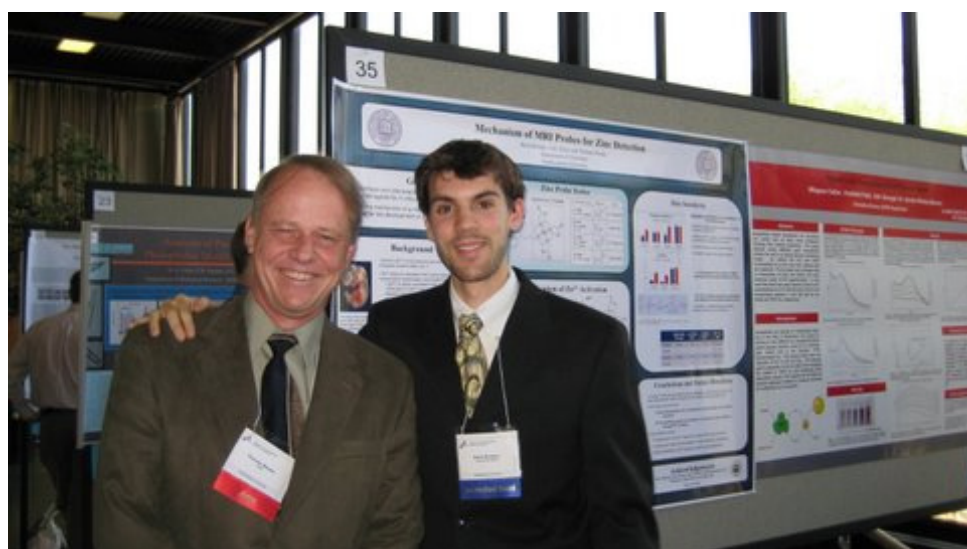
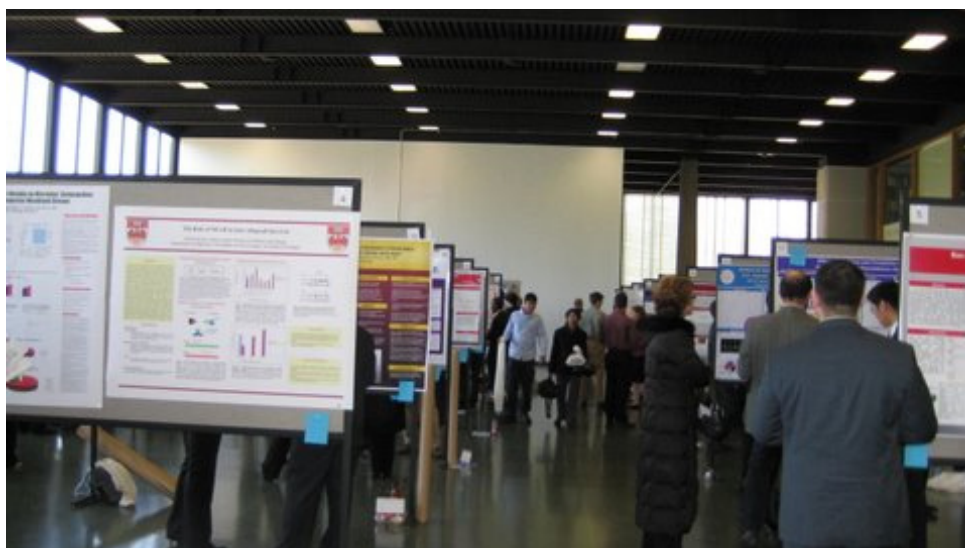
Robert J. Zimmer, Ph.D, President

Richard P. Saller, Provost

University of Illinois at Chicago

Lon Kaufman, Ph.D., Vice Provost for Undergraduate Studies and Dean of the Honors College



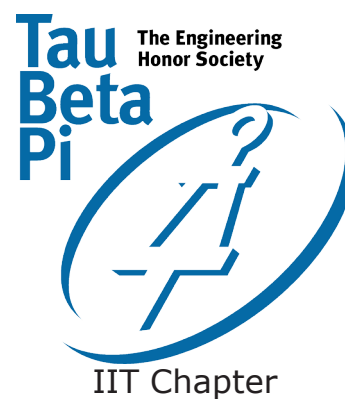








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Personal donation by:
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