FACULTY NEWS and NOTES

The Rensselaer Board of Trustees approved the following:

Promotion to Full Professor:
**Peter Kramer**, Department of Mathematical Sciences
**Chang Ryu**, Department of Chemistry and Chemical Biology

Promotion to Associate Professor with Tenure:
**Joel Giedt**, Department of Physics, Applied Physics & Astronomy

Approval of Tenure for recent appointments:
**Richard Gross**, Constellation Professor, Department of Chemistry & Chemical Biology
**Catherine Royer**, Constellation Professor, Department of Biology

**Sibil Adali**, Associate Professor of Computer Science, recently published a new book titled, "Modeling Trust Context in Networks". It is published as part of the Springer Briefs in Computer Science series by Springer Publishing Company.

**Peter Fox**, Tetherless World Constellation Professor and Director of the ITWS Program, was noticed by the Navy that a proposal submitted by Rensselaer to provide graduate education in Information Dominance to Navy personnel was selected as the winner. A cohort of five Navy personal will start in the Fall 2013 semester and larger cohorts are expected in future years.

**Susan Gilbert**, Professor and Head of Biology, was notified by NIH that she will receive a MERIT award. This award extends her current grant, titled "Mechanistic Analysis of Microtubule Based Motors", to a fifth year with an abbreviated renewal process for another five years of funding. The overarching goal of the work is to gain critical insights into the fundamentals of kinesin motor structure and function and to extrapolate this understanding to the inner workings of the cell. The purpose of a MERIT award is to provide long-term grant support to investigators whose research competence and productivity are distinctly superior and who are highly likely to continue to perform in an outstanding manner. Investigators may not apply for a MERIT award. Program staff and/or members of the cognizant National Advisory Council/Board identify candidates for the MERIT award during the course of review of competing research grant applications prepared and submitted in accordance with regular requirements.

**Jim Hendler**, Tetherless World Constellation Professor and Professor and Head of Computer Science, has been elected Chair of the Digital Government Committee of US ACM – an officer position on the USACM Council (http://usacm.acm.org/) - US ACM is the US Policy branch of ACM, the world’s largest Computer Science Professional Organization.


**K. V. Lakshmi**, Associate Professor at the Baruch ’60 Center for Biochemical Solar Energy Research and the Department of Chemistry and Chemical Biology, participated in a invited panel “*Breaking Barriers, Women Unite*”. The panel was organized by the Society for Hispanic Professional Engineers, Society for Black Engineers and Society for Women Engineers and the panelists included Cynthia Collins (Assistant Professor of Chemical Engineering and Biology), Lauren Fovargue (Postdoctoral Research Associate, Scientific Computation Research Center), Brittany Pickering (Open Order Engineer, Otis Service Center), Kathy Sengbusch (Manager of Supplier Quality and Development, Otis Elevator Company, Anne Roberts (Project Engineer, Automated Dynamics), Elizabeth Vitaliano (ColorXpress* Engineering Leader, SABIC), Marissa Goldblatt (Reliability Engineer, SABIC) and Hilary Lashley-Renison (Global Research, GE).

**K. V. Lakshmi**, Associate Professor at the Baruch ’60 Center for Biochemical Solar Energy Research and the Department of Chemistry and Chemical Biology, presented an Invited Lecture titled, “Electronic Structure of the Oxygen-Evolving Complex in the S2 Photochemical Intermediate of the Solar Water Oxidation Reaction: A Comparative HYSCORE Spectroscopy Study of Photosystem II andRelated Dimanganese Models” at the 30th Eastern Regional Photosynthesis Conference that was held at the Marine Biological Laboratory (Woods Hole, MA). She also Chaired a session on Artificial Solar Water Oxidation at the conference.

**Michael Shur**, Patricia W. and C. Sheldon Roberts Professor (ECSE and Physics), was appointed Deputy Editor-in-Chief of Nano and Micro Systems journal ([http://www.microsystems.ru/eng/edit.php](http://www.microsystems.ru/eng/edit.php))

**Bruce Watson**, Institute Professor of Earth and Environmental Sciences, will receive an Honorary Doctorate of Science from the University of Chicago at its 515th Convocation on June 15, 2013.

**Bulent Yener**, Director of the Data Science Research Center, announced the first industrial member of the center. General Dynamics paid a membership fee of $100K to become a member of the center.

The *Rensselaer Cisco Academy* was featured in an article in the Washington Post about careers in IT. The following is a link to the article: [http://sites.mediaplanet.com/stem-education/its-a-beautiful-life-exploring-careers-in-it](http://sites.mediaplanet.com/stem-education/its-a-beautiful-life-exploring-careers-in-it)

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**RESEARCH NEWS and NOTES**

**Mark Wentland**’s drug candidate is moving from Phase I to Phase II clinical trials! Alkermes announced positive clinical results for ALKS 3831 (Rensselaer’s ALKS 33 in combination with olanzapine). The link to the press release is:
Alkermes Presents Positive Results from Phase 1 Study of ALKS 3831 as a Broad Spectrum Treatment for Schizophrenia
— Clinical Data Presented at the 53rd Annual NCDEU Meeting —

HOLLYWOOD, Fla. & DUBLIN--(BUSINESS WIRE)--May. 28, 2013-- Alkermes plc (NASDAQ: ALKS) today presented positive results from a phase 1 study of ALKS 3831, a novel drug candidate for the treatment of schizophrenia, in an oral session at the 53rd Annual New Clinical Drug Evaluation Unit (NCDEU) Meeting in Hollywood, Fla. By combining a novel opioid modulator, ALKS 33, and olanzapine, an antipsychotic drug commercially available as ZYPREXA®, ALKS 3831 is designed to be a broad spectrum treatment for schizophrenia with the potential benefits of reduced weight gain associated with olanzapine and expanded utility in patients with schizophrenia and comorbid substance abuse.

Asymmetric random walks and drift-diffusion
Mark Holmes
Department of Mathematical Sciences, Rensselaer Polytechnic Institute - Troy, NY 12180-3590, USA
http://epljournal.edpsciences.org/articles/epl/abs/2013/09/epl15422/epl15422.html

Abstract – To obtain the drift-diffusion equation from an asymmetric random walk it has been required that the left and right jump probabilities are approximately equal. It is shown here that such a restriction is not needed. Using multiple scales the equation is derived, where the scales are based on the advection and diffusion scales.

The Baruch ’60 Center Open House for Earth Day

The Baruch ’60 Center for Biochemical Solar Energy Research in the School of Science at Rensselaer hosted an open house to celebrate Earth Day, 2013. The event was attended by students and faculty in the Schools of Architecture and Science. The participants explored the basic light-driven reactions of photosynthesis, the design of a new generation of bio-inspired artificial solar energy devices and the enormous potential and impact on the built environment in the near future.

STUDENT NEWS and NOTES

ACS Scholars Program

Scholarships for African American, Hispanic, and American Indian Chemical Science Students
Celebrating 16 years!

ACS awards renewable scholarships to underrepresented minority students who want to enter the fields of chemistry or chemistry-related fields. Awards of up to $5,000* are given to qualified students. African American, Hispanic, or American Indian high school seniors or college freshman, sophomores, or juniors pursuing a college degree in the chemical sciences or chemical technology are eligible to apply. Eric Dominguez has been accepted as an ACS Scholar for 2013.
Awards to Science Faculty

David M. Darrin ’40 Counseling Award
This award was established by David M. Darrin ’40 to recognize a faculty member who has made an unusual contribution in the counseling of students. The selection of the award recipient is made by Phalanx, the student leadership honorary society, based on nominations received from an open solicitation to the campus in the Spring semester. The David M. Darrin ’40 Counseling Award is presented at Commencement in May. The winner addresses the campus community at the Phalanx Tapping ceremony the following Spring.

Charles W. Boylen, Professor of Biology and Associate Director of the Margaret A. and David M. Darrin ’40 Fresh Water Institute.

Rensselaer Alumni Teaching Award
The Teaching Award was created in 1994 by the RAA Board of Trustees and is designed to recognize current members of the Rensselaer Faculty for their outstanding teaching techniques, contributions to the campus experience and commitment to students.

Nominations may be made by any member of the Rensselaer Community and should contain a justification for the award. The selection committee will be under the auspices of the Office of the Dean of the Faculty and will include the Dean of the Faculty, Faculty Senate Representative, President of the RAA and a student representative. Recipients will be approved by the RAA Executive Committee. The candidate shall practice creative and innovative teaching techniques, contribute toward improving the campus experience, be readily available to students, based on contact hours both in and out of the classroom, possess a warm, supportive attitude towards students and treat students as valued colleagues within the community of scholars.

Based upon a proposal submitted by the recipient, he/she is awarded up to $2,500, targeted to enhance the classroom experience. The award is presented by the President of the Institute, assisted by the President of the RAA. One award is presented each year.

George E. Plopper, Professor of Biology

Awards to Science Students at Commencement

WILLIE STANTON AWARD (1981)
To the senior who is judged to have contributed the most in the service of the student body,

Kenley Cheung – Computer Science

CLASS OF 1902 RESEARCH PRIZE (1927)
The Class of 1902 Research Prize, established by the Class of 1902. It is awarded at Commencement to the senior in the School of Science or Engineering who has completed two semesters of undergraduate research and who presents the best research results culminating in a written report, submitted paper, or thesis.

Charles Martin, Department of Physics, Applied Physics, and Astronomy

WILLIAM PITT MASON PRIZE (1939)
This prize goes to the senior in the Chemistry and Chemical Biology Department who has demonstrated
outstanding academic work and gives promise of outstanding success in his or her professional chemistry career. Research is a major criterion for this award.

*Shawn Nelson*

**G. HOWARD CARRAGAN AWARD (1961)**

An annual award based on the income from funds contributed by friends and former students of Professor Carragan, the prize is awarded to a senior in the Department of Physics, Applied Physics, and Astronomy for outstanding scholarship.

*Amy Lovell*

**JOSEPH L. ROSENHOLTZ PRIZE (1963)**

An annual award based on the income from funds contributed by friends and former students of Professor Rosenholtz, the prize is awarded to a senior in the Department of Earth & Environmental Sciences for outstanding work in earth sciences. Joseph Rosenholtz was Professor of Geology from 1924 into the 1960s and this award is given in his honor.

*Tessa McGee*

**JOHN AND MARY CLOKE PRIZE (1964)**

Awarded to a graduating senior in the Department of Chemistry and Chemical Biology who is continuing in a graduate school of chemistry, medicine, or biological science, and who has made a distinguished record, especially in the department.

*Elisa Novelli*
*Jessica Ziegler*

**MAX HIRSCH PRIZE (1972)**

Established by Professor Edith H. Luchins in memory of her father, is awarded to a senior in the Department of Mathematical Sciences who has demonstrated outstanding ability in academic work and gives promise of outstanding success in a career in mathematical sciences.

*Vera Axelrod*
*Sunli Tung*

**RALPH ERNEST HUSTON PRIZE (1973)**

Established by Antoinette K. Huston and sons, Peter, Kenneth, Richard and T. Michael, in memory of Dr. Ralph Huston, Professor of Mathematics from 1934–1969. This prize is to be awarded to the first or second year graduate student in the Department of Mathematical Sciences who has demonstrated unusual promise and ability as a teacher.

*Mark Woods*

**HILLARD B. HUTINGTON AWARD (1976)**

Friends and former students of the late Hillard B. Huntington, professor emeritus of Physics, established the prize. It is awarded at Commencement to an outstanding graduate student in the Department of Physics, Applied Physics, and Astronomy.

*Xing Yan*
**LT. CHARLES D. DYCE AWARD (1976)**
Established in memory of Lt. Dyce, Class of 1972, this award is presented to a freshman or sophomore cadet in the Army Reserve Officers Training Corps who has demonstrated high leadership potential and outstanding military bearing and whose superior performance has served to support cadet corps activities. Selection is made in a manner prescribed by the chairman of the Department of Military Science.

*Robert Beaumont, Department of Mathematical Sciences*
*Jessica Krause, Department of Chemistry and Chemical Biology*

**JOAQUIN B. DIAZ PRIZE (1978)**
Established by friends, family and colleagues in memory of Dr. Joaquin B. Diaz, the Albert Einstein Professor of Science at Rensselaer in the Department of Mathematical Sciences. This award is presented to a graduate student in the Department of Mathematical Sciences who shows ability and enthusiasm for research in mathematics.

*Lijie Bai*
*Victor Barranca*
*Kimberly J. Fessel*
*Weituo Zhang*

**W. H. BAUER DOCTORAL PRIZE IN CHEMISTRY (1981)**
This prize goes to a doctoral candidate who has an exceptional graduate record in the Department of Chemistry and Chemical Biology, has carried out meritorious doctoral thesis research, and shows outstanding promise in the field of chemistry.

*Sayaka Masuko*

**KAREN & LESTER GERHARDT PRIZE IN SCIENCE (1982)**
This prize was established to honor a full-time engineering or science doctoral candidate, who by the originality and insight of his/her work emphasizes the tradition of excellence that is Rensselaer.

*Ruchira Chatterjee, Department of Chemistry and Chemical Biology*
*Jesse Weaver, Department of Computer Science*

**EDWARD J. HOLSTEIN MEMORIAL AWARD (1983)**
The prize was established to recognize outstanding academic achievement in economics science.

*Brooks Kinch - Physics*

**ROBERT MCNAUGHTON PRIZE (1989)**
An annual prize established in honor of Professor Robert McNaughton, scholar and teacher in the Computer Science and Mathematical Sciences Departments from 1976 to 1989. The prize is given to an outstanding senior in Computer Science.

*Li Zhang*
PAUL A. MCGLOIN PRIZE (1989)
An annual prize established in honor of Professor Paul McGloin, scholar and teacher in the Computer Science and Mathematical Sciences Departments from 1955 to 1989. The prize is given to an outstanding senior in Computer Science.
Michael Usher

ROLAND WALKER PRIZE (1989)
Established by friends and former students of Roland Walker, Professor Emeritus of Biology. The prize is awarded to a senior in the Department of Biology for outstanding scholarship. The Biology Department selects one recipient from each of the four majors.
Anthony Bishop, Bioinformatics and Molecular Biology
Jonathan Cho, Accelerated Physicians-Scientist Program
Ian Harvey, Biochemistry/Biophysics
Nicola Schmied, Biology

WALTER EPPENSTEIN '52 TEACHING ASSISTANT AWARD (1991)
Established by friends and colleagues of Walter Eppenstein, Professor Emeritus of Physics, to honor his many contributions to education at Rensselaer. It is awarded to one or two graduate students for outstanding contribution to our teaching program in the Department of Physics, Applied Physics, and Astronomy.
Liang Zhao

W.A. TARR AWARD
The Society of Sigma Gamma Epsilon, National Earth Sciences Honor Society, presents the W. A. Tarr Award annually to each society chapter. Scholarship, leadership, and contribution to the school provide the primary basis for the award. RPI’s Delta Theta Chapter 2011 recipient in the Department of Earth & Environmental Sciences is
Deborah Kraft

STANLEY I. LANDGRAF PRIZE (1998)
An annual prize established to honor Stanley Landgraf, Rensselaer trustee, Acting President and friend of the Computer Science Department. The prize is given to a Computer Science major who excels in leadership skills and academic achievement.
Varun Madiath

JACK HOLLINGSWORTH PRIZE (1999)
An annual prize to honor Jack Hollingsworth, Professor of Mathematics. The prize is given to a computer science student who made a major contribution to the educational program at Rensselaer.
Zhengzheng Zhou

GLENN MARTIN MUELLER '64 PRIZE (2000)
Established to honor Glenn Martin Mueller, Rensselaer Trustee and Graduate, Class of 1964. A leading venture capitalist in Silicon Valley, Mueller was a champion of the entrepreneur, funding many successful
start-up companies. This prize is given to a Computer Science major who is deemed to be the most entrepreneurial.

*Daniel Vegeto*

**DR JOHANNA MAAS CHEMISTRY TEACHING ASSISTANT AWARD (2000)**
This award is presented to one or more graduate students for outstanding service in the teaching program of the Chemistry and Chemical Biology Department. Established by Sonja Krause, Class of 1954, and others in memory of Dr. Johanna Zelie Maas, chemist, physician, Holocaust survivor, and humanitarian.

*Akshar Gupta*

**ROBERT G. LAFLEUR AWARD (2011)**
An award established by the friends of Professor Robert G. LaFleur for students in the Department of Earth and Environmental Sciences demonstrating an excellent record in, commitment to, and promise in the field of environmental geosciences.

*Brianna King*

**HENRY EHRLICH PRIZE IN MICROBIOLOGY AND ENVIRONMENTAL SCIENCES (2012)**
The Henry Ehrlich Prize in Microbiology and Environmental Sciences is awarded for excellence in scholarship to either a graduating senior or graduate student (MS, PhD) in the Department of Biology who plans to pursue a career in microbiology and/or environmental sciences.

*Kelly Ann Erkert*
*Jeremy Farrell*

**NADIA TRINKALA SERVICE AWARD (2012)**
Established by Diane and Michael Trinkala in memory of their daughter, is given to a Physics or Applied Physics student who has made significant contributions to the community and quality of life at Rensselaer and in City of Troy.

*Erin Hansen*

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**Awards To Graduating Science Seniors Who Have Achieved A Perfect 4.0 Average**

*Mohammad Aladwani (Mathematics)*
*Erez Arnon (Computer Science)*
*Nowell Closser (Mathematics)*
*Jonathan Cho (Accelerated Physicians-Scientist Program)*
*Brooks Kinch (Physics/Economics)*
*Da Li (Mathematics)*
*Douglas Patti (Computer Science)*
*Vera Saldinger Axelrod (Mathematics)*
The School of Science Awards Program was established seven years ago to recognize outstanding faculty and staff.

The **Outstanding Research Award** recognizes a faculty or staff member for accomplishments in research during the past three-years. The winner demonstrates excellence in research innovation and accomplishments; has produced research results viewed as significant by others in the field; and excels in at least one of the following: interdisciplinary collaboration, involving students in research, or involving members of underrepresented groups in research.

*Mimi Katz* is an assistant professor in the Earth and Environmental Sciences department. Her Ph.D. is from Rutgers University. She came to Rensselaer in 2007. Mimi uses the techniques of micropaleontology (the study of fossil remains) to reconstruct ocean temperatures from which can be inferred conditions of global climate in the past. She involves many undergraduate and graduate students in her research and actively participates in community outreach about climate change by giving public talks at local schools and libraries and interviews on local television and radio stations. She has been recognized by her peers for her work, including an Honorary Doctorate of Science from St. Lawrence University and selection as an Ocean Leadership Distinguished Lecturer.

The **Outstanding Teaching Award** recognizes a faculty or staff member for excellence in classroom instruction and other educational activities during the past three-year period. The winner demonstrates excellence in classroom instruction; is regarded highly by students for teaching accomplishments; and excels in at least one of the following: student mentoring, integrating research into the teaching program, course and curricular innovation, and service in introductory or required courses with large enrollments.

*Peter Dinolfo* is an assistant professor in the Chemistry and Chemical Biology department. His Ph.D. is from Northwestern University. He came to Rensselaer in 2007. Peter teaches the Inorganic Chemistry and Advanced Inorganic Chemistry courses each year. He has transformed these courses from relatively unpopular and difficult courses into highly acclaimed and stimulating experiences for students at all skill levels. He has the ability to simplify complex material to make it understandable. He also encourages undergraduate students to get involved doing research in his laboratory by providing a supporting and enriching experience for them. Many have gone on to top Ph.D. programs in Chemistry.

The **Outstanding Staff Service Award** recognizes a staff member for dedication, accomplishments, and contributions to the School of Science. The winner demonstrates excellent performance well beyond what the position requires; makes contributions that allow the department or unit to function effectively and efficiently; and exhibits special qualities such as: innovation, initiative, confidence, enthusiasm, the ability to meet challenges, and a cooperative attitude.

*Jody Malm* is the Administrative Coordinator for the Biology Department. She provides administrative support to the department head and oversees the daily operation of the departmental office. She is dedicated to helping the faculty, staff, and students of the department in any way that she can and each year takes on new responsibilities. Jody is also active in Institute efforts to raise funds for such organizations as
the American Heart Association and the American Cancer Society. It is the extra little things that she does that makes the department more efficient, cohesive, and a great place to work.

DEGREES AWARDED AT COMMENCEMENT

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DUAL BACHELOR’S DEGREES AWARDED AT COMMENCEMENT
(Not Double-Counted Above)

Computer and Systems Engineering – Computer Science  19
Electrical Engineering – Applied Physics  2
Materials Engineering – Geology  1
Mechanical Engineering – Mathematics  1
Electronic Arts – Computer Science  1
Electronic Media, Arts and Communication – Computer Science  2
Games and Simulation Arts and Sciences – Computer Science  14
Science, Technology and Society - Environmental Sciences  1
Biochemistry and Biophysics – Bioinformatics and Molecular Biology  3
Biochemistry and Biophysics – Computer Science  1
Biochemistry and Biophysics – Environmental Science  1
Bioinformatics and Molecular Biology - Biochemistry and Biophysics  1
Biology – Economics  1
The Baruch ’60 Center Hosts High School Students in New York State

The Baruch ’60 Center for Biochemical Solar Energy Research in the School of Science at Rensselaer hosted high school students from Amsterdam and Bronx (New York) in an outreach event organized by the Society for Hispanic Professional Engineers at Rensselaer. The students explored the basic light-driven reactions of photosynthesis and the design of a new generation of bio-inspired artificial solar energy devices at the Baruch ’60 Center in the School of Science.

This newsletter is prepared monthly during the academic year and distributed to School of Science faculty, staff, students and alumni to highlight accomplishments and events within the school. Please submit news items for the next newsletter to Samuel Wait, Associate Dean Emeritus of Science, at waitsc@rpi.edu