Wayne T. and Mary T. Hockmeyer Hall of Structural Biology

Newsletter

Arrivals:
Rossmann Lab:        Moh Lan Yap (post doc).
Kihara Lab:        Mingjie Tang (CS, from August 2010)

Departures:
Rossmann Lab:      Lucy Winchester, Carol Bator, Erica Zbornik & Baerbel Kaufmann

Visitors
Rossmann Lab:       Nick Sauter May 5th
Shee-Mei Lok May 24th to July 2nd
Sukyeong Lee plus family, July 29th to Aug 1st
Kuhn Lab:         Young-Min Lee
Kihara Lab:       Sang-Goo Lee (Computer Science, Seoul National University) Sept. 17th

Recent PhD’s in 2010:
Kuhn Lab:          Karla Combs (February 2010)    Yu-hsuan Chang (April 2010)
Elisa “Sadie” LaBauve (May 2010)
Chen Lab:            Alanna Steffen –PhD 5/20/10
Kihara Lab:        Yifeng David Yang, (May 2010)
Hao Chen (May 2010)
Sael Lee (August 2010), continuing as postdoc

** Don't forget to check your mailboxes. Each Faculty and each Lab has their own box. They are located on the first floor in the mailroom/file room.

Michael Rossmann celebrated his 80th birthday!
Cramer


Friedman


Xiong, F., Friedman, A. M. & Bailey-Kellogg, C. 2010. Planning combinatorial disulfide cross-links for protein fold determination, 9th International Workshop on Data Mining in Bioinformatics, BioKDD ’10, of the 16th ACM SIGKDD International Conference on Knowledge Discovery and Data Mining, SIGKDD ’10.

Golden


Kihara


Lee Sael & Daisuke Kihara, *Protein surface representation for application to comparing low-resolution protein structure data.*, BMC Bioinformatics (GIW 2010 issue), Accepted. (2010)


Kuhn


Mesecar


Post


Rossmann


Kaufmann, B., Vogt, M.R., Goudsmit, J., Holdaway, H.A. Aksyuk, A., Chipman, P.R., Kuhn R.J., Diamond, M.S., Rossmann, M.G. Neutralization of West Nile Virus by cross-linking of its surface proteins with Fab fragments of CR4354 MAb. PNAS in press


Kaufmann, B., Bowman V.D., Li,Y., Szelei, J., Wadell, P.J., Tijssen P., Rossmann M.G. The structure of Penaeus stylirostris densovirus, a shrimp pathogen. J. Virol, in press

Xiao,C., McKinlay, M.A., Rossmann M.G. Design of capsid binding antiviral agents against human rhinoviruses. Book Chapter, in press

Sanders


Yernool

Rossmann

May 13th. Webinar. 50 years of protein crystallography
June 10th to 11th NIH study section MSFC
June 27th-July 2nd. FASEB Virus Assembly. Saxton River. “Structural changes in alphavirus envelope proteins during maturation and fusion” Other members of the lab attending this meeting: Siyang Sun, Thomas Klose, Nastya Aksyuk, Ye Xiang, Pavel Plevka
July 27. Siyang Sun attended ACA annual meeting in Chicago and gave lecture on molecular motors.

Sanders

BBC World Today interviews Prof. David Sanders on the Ebola virus

BBC World Today aired an interview on Monday Aug. 23rd with structural biologist David Sanders about the new developments in the treatment of Ebola virus being developed by others. The interview covers why Ebola is so dangerous, potential modes of fighting it, its potential use as a bioweapon, and Sanders own experience visiting a formerly secret bioweapons lab in Siberia to prevent the spread of Weapons of Mass Destruction expertise (as a participant in the United States Defense Threat Reduction Agency's Biological Weapons Proliferation Prevention Program).

Yernool

Title: Structural insights into mechanism of secondary transporters June 29, 2010 at IIT-Roorkee, India
Kuhn

Convenor of Plenary Session “Viral Entry and Assembly” at the 9th International Symposium on Positive-Strand RNA Viruses, Atlanta, GA, May 17-21, 2010. Posters presented by Cinthia Sanchez-Hernandez “Genetic Variation in dengue virus and its role in viral replication”, Jose Jose “Molecular genetic analyses of alphavirus 6K protein and complementation heterologous viral ion channel chimeras” and Rushika Perera “Title: Alterations in Membrane Architecture in Flavivirus Infected Cells”. Jon Snyder presented a talk on “Characterization of a microinjection-based system to study the budding process of an alphavirus”

Invited participant at the Pediatric Dengue Vaccine Initiative (PDVI) 7th Research Networking Meeting, Santa Monica, CA, June 3-6, 2010.

“Insights into Alphavirus Assembly and Budding”, member and invited speaker at the 44th Annual US Japan Virology Panel Meeting and Mucosal Immunity Workshop Symposium, Hokkaido University, Sapporo, Japan, June 28-30, 2010.

Elisa La Bauve presented a talk on “Novel Roles for the Flavivirus Envelope Protein in the Life Cycle” at the American Society for Virology Annual Conference Meeting, July 17-21, 2010 in Bozeman, MT.

“Dengue virus induced alterations in the membrane architecture of infected cells”, presented talk at the National Institute of Allergy and Infectious Diseases Regional Centers of Excellence in Biodefense Workshop on Dengue Virus Infection & Immunity, Beaverton, Oregon, August 24-25, 2010.

Kihara

"Protein surface representation for structure-based function prediction and docking" by D. Kihara at Telluride workshop on "Coarse-grained modeling of structure and dynamics of biomacromolecules", July 5-9, 2010, Telluride, CO, USA

"Molecular surface representation for protein shape comparison and docking", D. Kihara, Korea Institute for Advanced Study (KIAS), June 30, 2010, Seoul, Korea.

"Structure of gene functional space in genomes" by D. Kihara at The First International Conference for Industrial Statistics and Bioinformatics, The Research Center for Data Science, Chung-Ang University, Seoul, Korea, June 29, 2010

3DSIG 2010 at ISMB 2010, Boston, July 9-10, 2010:
(oral) "Real-Time Ligand Binding Pocket Database Search Using Local Surface Zernike Descriptors" R. Chikhi, L. Sael, D. Kihara

Golden

June 2010, “The crystal structure of the HDV ribozyme suggests both Lewis acid and general acid mechanisms”, FASEB Summer Research Conference “Nucleic Acid Enzymes”, Saxtons River, VT. Invited talk and session chair.
Cramer

“Traveling inside the cytochrome \(b_6f\) complex.” 12th Annual Fall Symposium, Advances in Structural Biology, September 29, 2010, Danforth Plant Science Center, St. Louis, Mo.

“The Q Cycle of the Cytochrome \(b_6f\) Complex: a Structure Perspective.” Chair’s address, Bioenergetics Symposium, August 23, 2010, XV International Photosynthesis Congress, Beijing, China.


“The Q Cycle of Cytochrome \(bc\) Complexes Considered in a Structural Perspective.” Symposium on “Quinone and Oxygen in Energy Coupling and Catalysis” July 23, Jagellonian University, Kraków, Poland.

“Membrane Proteins; Life in an Oily Environment.” Short Course, “Membrane Proteins; The Essential Protein Engineering Summit,” May 16, 2010, Cambridge HealthCare Institute, Boston, MA.

“Traffic Problems in Membrane Proteins,” Skirball Institute of Biomolecular Medicine, New York University School of Medicine, May 14, 2010, New York, N. Y.


Chen

Session Chair at Gordon Research Conference on Mechanisms of Membrane Transport to be held June 19-24, 2011, Maine.

“Structure and function of ABC transporters,” October 6, 2010, Department of Biological Sciences, Purdue University.


Upcoming Seminars and Events

Kuhn


“Role on Membranes in Dengue Virus Infections” invited speaker at the Cold Spring Harbor Asia Conference meeting on Emerging Infectious Diseases, Oct. 18-22, 2010 in Suzhou, China.

Invited introductory talk for the diagnostics session on antigen structure and neutralization at the World Health Organization/International Vaccine Institute (IVI) Consultation on Next Generation Dengue Vaccines and Diagnostics Workshop, November 1-2, 2010, Atlanta, Georgia.
Lab Members Summer Activities

Bolin Lab

Subhangi Ghosh presented a poster entitled "Role of His265, the most conserved residue of a family of C-C bond hydrolases, in the catalytic mechanism of BphD from Burkholderia xenovorans LB400" at the 2010 Annual Meeting of the American Crystallographic Association in Chicago, IL July 24-29. Co-authors were Prof. Bolin, former Ph.D. student Shiva Bhowmik and collaborators Geoff Horsman and Prof. Lindsay Eltis of the University of British Columbia.

Chen Lab

Mi Sun Jin – (IHFSP): Fellowship International Human Frontier Sciences Program (2010-2013)


Kihara Lab

Poster presentations:

"A novel method for protein-protein interaction site prediction with phylogenetic substitution models", David La, D. Kihara, The 24th Annual Symposium of the Protein Society, August 1-5, 2010, San Diego, CA, USA.

"Multiple protein docking prediction based on genetic algorithms and physics based scoring", Juan Esquivel-Rodriguez, D. Kihara, 18th Annual International Conference on Intelligent Systems for Molecular Biology (ISMB), July 11-13, 2010, Boston, MA.


Golden

October 2010, “The 1.9 Å crystal structure of the HDV ribozyme suggests both Lewis acid and general acid mechanisms contribute to phosphodiester cleavage”, Rustbelt RNA Meeting, Cleveland, OH.

November 2010, “Why are there so few ribozymes?”, Department of Biochemistry, Purdue University.