Proteins in 3D Now Showing on Campus

University Professor Jim Hinton has been searching for an immersive virtual reality system to visualize proteins for many years. He found what he was looking for with Virtalis, an advanced visualization company and a leader in the development and use of immersive virtual reality for the automotive industry, the aircraft industry and geology. Because of the successful installation of their system in the department Virtalis is now looking into the academic market biochemistry and biophysics.

The only immersive 3D virtual reality in the U.S. for the study of proteins resides here in the department of chemistry and biochemistry as part of the Center for Protein Structure and Function at the University of Arkansas. The only other similar system is in England.

Hinton and doctoral candidate Vitaly Vostrikov, who has been instrumental in the installation and demonstrations of the system, have shown it to a number of research groups since the system was installed in April. Together with University Relations, they are creating a movie on DVD with narration, music and sound effects for the Arkansas INBRE Research Conference and other demonstrations.

Interacting with proteins in virtual reality is a stunning experience since one shares the same space as the protein. Walking through or around a protein makes one feel a part of the structure. This new research tool for the study of protein structure and function will also enhance the teaching of small biochemistry classes.

The on-screen experience has also drawn the interest of the science community with articles in Drug Discovery and Development, Scientific Computing, ScienceDaily and Future Medicinal Chemistry. Hinton has been invited to chair and be the keynote speaker at the session on Visualization of Proteins at the 4th Annual Protein and Peptide Conference in Beijing in March.

Funding for the Virtalis system was provided by the Arkansas Biosciences Institute.

Those interested in a demonstration should contact Jim Hinton, jhinton@uark.edu.

Wilkins Selected as ACS Fellow

Distinguished Professor Charles L. Wilkins was selected as a member of the 2010 class of Fellows of the American Chemical Society (ACS).

Wilkins is the only person in Arkansas to be included in the 2010 class of 192 distinguished scientists who have demonstrated outstanding accomplishments in chemistry and made important contributions to ACS.

He will be recognized on Aug. 23 during the ACS national meeting in Boston.

Crowell Wins Jude Award

Vernon D. Crowell, Jr. (D.J.), of Wynne received the Tony Jude Award for outstanding research at the conclusion of the Research Experience for Undergraduates (REU) program. Crowell is a chemistry and mathematics major at Lyon College.

His research “Computer Modeling of the Thermal Rearrangement of 2-aryl-2H-azirines to Indoles,” was carried out under the direction of Distinguished Professor Peter Pulay.

From left: Peter Pulay, D.J. Crowell and REU coordinator David Paul
Faculty News

Research News
A paper “Magnetic Fields for Fluid Motion,” Melissa C. Weston, Matthew D. Gerner and Ingrid Fritsch, was the feature article in Analytical Chemistry, Anal. Chem., 2010, 82, 3411-3418.

Fritsch spoke about the topic on a podcast that was aired on the journal’s Web site http://pubs.acs.org/subscribe/journals/ancham/audio/ancham050110.mp3.

A paper by researchers in the Stenken lab “Long-Term Subcutaneous Microdialysis Sampling and Qrt-PCR Of MCP-1, IL-6 And IL-10 in Freely-Moving Rats,” Erika von Grote, Venkat Venkatakrishnan, Jia Duo and Julie A Stenken, is in print in Molecular BioSystems DOI:10.1039/C0MB00059K

On the Go

T.K.S. Kumar and Anna Daily are attending.

The following posters will be presented.

Paul Adams “A Method for the Prevention of Thrombin-Induced Degradation of Recombinant Proteins”

Graduate students

Rebecca Kerr “The Role of Heparin in Fibroblast Signaling”

Lindsay Rutherford “Characterization of the Minimalistic FGF-D2 domain Interface”

Ryan Thurman “Characterization of the FGF Receptor Mutations Involved in Disease”

Undergraduates

Lauren Hall “The Conformational and Functional Role of Proline in Human Fibroblast Growth Factor-1”

Rory Henderson “Determination of Backbone Dynamics of the C2A Domain of Synaptotagmin-1”

Ashley Martfeld “Defining the Interaction between S100A13 and Annexin II Peptide: Insight into Non-classical Secretion”

Daniel Vo “Understanding the Structure and Stability of FGF-1 in a Cellular Environment using NMR Spectroscopy”


Derek Sears attended the Lunar Science Forum meeting at NASA Ames Research Center, Moffett Field, Calif., in July.

He also attended the Meteoritical Society’s 73rd Annual Meeting in New York, where two papers with Sears as author were presented — “The Case for Many or Most Unequilibrated Ordinary Chondrites Not Coming from the Same Parent Bodies as Equilibrated Ordinary Chondrites,” and “The Fine-Scale Cosmogenic History of the Semarkona Unequilibrated Ordinary Chondrite.”

Wes Stites took part in a study panel on Soldier Resilience and Performance Sustainment at the Army Science Board Summer Study meeting July 12-22.

Graduate student Tim Beng will present a poster “Highly Enantioselective Synthesis of 2-Substituted Piperidines by Catalytic Dynamic Resolution of N-Boc-2-lithiopiperidine,” at the Gordon Research Conference on stereochemistry in Rhode Island, August 1-6.

Instructor Awarded for Community Service

Lorraine Brewer continues to receive accolades for her devotion to community service. This summer she was named Altrusan of the Year by the local chapter of Altrusa International, where she currently serves as vice president.

The American Association of University Women (AAUW) honored her service with a contribution in her name to the International Educational Opportunities fund. The fund has sponsored notable artists, writers and scientists including Madame Curie. Brewer is past president and educational foundation chair of AAUW.
Alumni News

New Alumni Plans

Graduate School
Maher Abulibdeh, Ryan Bauer, Latisha Puckett and Elizabeth Srader - Chemistry and Biochemistry, University of Arkansas.

Kaitlin Castleberry will pursue the Masters in Teaching (MAT) program at the university.

Jacob Burns will pursue a master’s degree in epidemiology at LMU Munich.

Andreas Eiberweiser is in the doctoral program at the University of Regensburg.

Brian St. Clair will pursue a doctoral degree in Environmental Sciences at Arizona State University.

Medical School
Rodney LaGrone, John Sherrill and Jessica Sutton - UAMS.

Iryna Polyakova will attend the Oklahoma College of Osteopathic Medicine.

Christina Ragland will attend the Texas College of Osteopathic Medicine.

Natalie White will attend the Kansas City University of Medicine and Bio sciences.

Andrew Avery and Olena Pickett will attend medical school.

Peter Tran will attend optometry school.

Pharmacy School
Joshua Brown, Geri Burkett, Khanh Do and Katie Hamblin (2011) - UAMS.

Cory Garren and Jaime Nelson will take a year off.

Kellie Ong is engaged to marry and is working in Malaysia.

Courtney Peterson is working in industry.

Alumni Updates

Mike Condren, B.S. ’65, has relocated to Tahlequah, Okla., where his wife Jan is the new pastor of the First Presbyterian Church.

Mary Good, M.S. ’53, Ph.D. ’55, dean of the Donaghey College of Engineering and Information Technology at the UALR, plans to retire in June 2011.

Yun Ho Kim, Ph.D. ’03, was here as a lecturer again this summer and was promoted to associate professor the University of Western Alabama.

Hiroko Takeuchi, B.S. ’10, was one of 80 students recognized for their leadership roles in campus activities during their time on campus.

She attended the annual Graduating Student Leaders breakfast, presented by the Division of Student Affairs, and received a medallion to wear during commencement.

Takeuchi plans to return to Japan for a year before pursuing graduate school.

Home Notes

It has been a summer of milestone events for Markeeta LeRay.

She welcomed her first great-grand-child born to granddaughter Yuki and her husband Matt Freeman May 28.

Baby Jordan Massey Freeman weighed 5 pounds and 12 ounces and was 19 inches long.

Her first grandson Aaron Todd Hopwood, married Masie Elizabeth Cochran July 16, at Thorncrown Chapel in Eureka Springs. The bride is the daughter of Vice Provost for Enrollment Suzanne McCray and Professor of English Bob Cochran.

Frank and Eunice Millett welcomed their first grandchild Keslynn Grace Millett who was born July 15. Jason Millett and his wife Amy are the parents of baby Keslynn, who weighed 7 pounds and 4 ounces and was 19.5 inches long.

Jennifer and Jim Sims are also grandparents for the first time with the birth of Addison Nicole Morris born May 26.

Andrew and Dana Sims Morris are the parents of baby Addy, who weighed 7 pounds and 7 ounces and was 19.5 inches long.
Calendar of Events

August
06......................... Last day SSII
20......................... Meet the new graduate students luncheon
22......................... Last date to receive 100% cancellation of fees for an official withdrawal for fall 2010
23......................... First day fall semester
27......................... Last day to register or add a full semester class
30......................... Fall seminar series begins

September
03......................... last day to drop a full semester class without a “W”
06......................... Labor Day - university closed
13......................... Department seminar
17......................... INBRE conference registration deadline
20......................... Department seminar
23......................... Department picnic
27......................... Department seminar

October
01......................... Application deadline to graduate at the end of Fall 2010
04......................... Department seminar
06......................... Early Progress grade reports e-mailed for 1000 and 2000 level classes
11......................... Department seminar
15-16..................... Arkansas INBRE Research Conference
18......................... Department seminar
25......................... Department seminar
29......................... Last day to drop a full semester class or classes with a mark of “W”

November
01......................... Department seminar
01-12..................... Priority registration for spring 2011
08......................... Department seminar
12......................... Incomplete marks from the previous semester changed to failing
15......................... Department seminar
22......................... Department seminar
24......................... Fall break, no class, university is open
25-26..................... Thanksgiving holiday - university closed
29......................... Department seminar

December
06......................... Department seminar
07......................... Last day of fall classes
07......................... Last day to officially withdraw from all courses
08......................... Dead day, no classes
08......................... Department holiday potluck
09-15..................... Final exams
24-31..................... Holiday, university closed

The above dates and events are listed on the department’s Blackboard site https://courses.uark.edu/

August Birthdays
02.............Frank Millett
04.............Susan Grisham
11...........John Hutchinson
14............Grace Ong
14............Charles Wilkins
17............Joseph Smeal
19............Neil Allison
21............Maha Shrestha
22............Paul Adams
23............Jerry Homesley
27............Jennifer Sims

The publishing of birthdays is not intended to invade the privacy of anyone. If you prefer not to be included, please let us know.

Library Hours
CHBC Library (CHEM 225)
http://libinfo.uark.edu/chemistry

Summer hours (May 17 - August 6)
Saturday-Sunday ..........CLOSED
Monday-Thursday .......... 8 a.m. to 6 p.m.
Friday ......................... 8 a.m. to 5 p.m.

Interim hours (August 7-22)
Saturday-Sunday ..........CLOSED
Monday-Friday ............ 8 a.m. to 5 p.m.

Fall hours (August 23 - December 15)
Sunday ...................... 2 p.m. to 6 p.m.
Monday-Thursday .......... 8 a.m. to 9 p.m.
Friday ......................... 8 a.m. to 6 p.m.
Saturday ..................... CLOSED

Exceptions to regular hours
Sunday, Sept. 5 ..........CLOSED
Monday, Sept. 6 ..........CLOSED

Meet the New Grads Luncheon
The largest incoming class of graduate students in a decade will arrive on campus the week of Aug.16 to being orientation.

Meet the 19 new graduate students at the annual welcome lunch Friday, Aug. 20 from noon to 1:30 p.m. in CHEM 105 and the administrative area. All are welcome.