



MidSouth  
Bioinformatics Center

# GEMS

## Calendar of Events

### February

13 Dr. Robert J. Turesky\*\*

16 Dr. Ralph Kodell\*

20 Dr. David Andre\*\*

Deadline for Summer Fellowship Applications

23 Dr. Kathleen Gilbert\*

### March

1 Dr. Clayton Johnson\*

5 Dr. Christoph Sensen\*\*

8 Dr. Leming Shi\*

15-19 Spring Break

19 UALR closed

22 Dr. Jin-Woo Kim\*

### April

5 Mr. Junaid Khan\*

12 Dr. Yong Tang\*

26 Ms. Preethi Samuel\*

### May

15 UALR Commencement

\* Seminar Speaker

\*\* Colloquium Speaker

# NIH Funding Update



The National Center for Research Resources of the National Institutes of Health (NIH) funded the three-year Arkansas Biomedical Research Infrastructure Network (AR BRIN) program which provided the funding for nearly all the recent bioinformatics efforts in Arkansas. A number of faculty have been hired throughout the state using AR BRIN funds and the MidSouth Bioinformatics Center (MBC) and the MidSouth Computational Biology and Bioinformatics Society (MCBIOS) also owe their creation to the AR BRIN.

June 30, 2004 marks the official end of the BRIN program, though some efforts will extend for a short time beyond this date. Fortunately, NIH

created a BRIN-follow-on program entitled IDeA Networks for Biomedical Research Excellence (INBRE). Though the goals of the INBRE program are somewhat different than those of the BRIN, the Arkansas bioinformatics efforts will be continued if the Arkansas submission for INBRE funding is approved. We expect to get an early indication of likely funding in March with official notification in May or June.

While it is certainly inappropriate to assume that the AR INBRE proposal will be funded, we feel that we submitted a strong proposal and that NIH has been pleased with the accomplishments of the AR BRIN.



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# Bioinformatics Curricula Update

The Spring 2004 semester marks a milestone for the academic programs in bioinformatics with the offering of UALR's first course in this area.

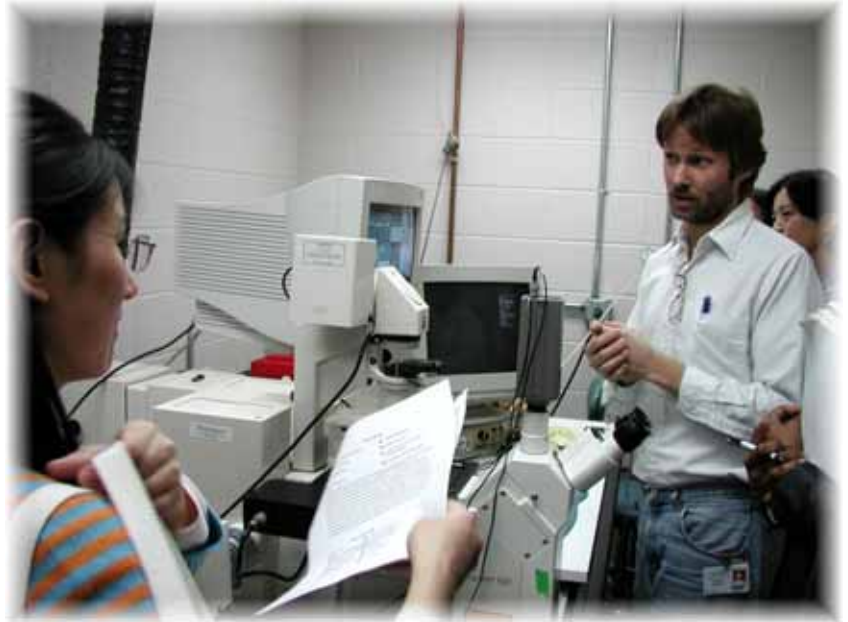
"Introduction to Bioinformatics" is a sophomore-level course which is offered this semester as an Information Science "special topic" (IFSC 4399-01) until the undergraduate minors in bioinformatics are approved by UALR. This course meets TTh from 4-5:50 p.m. with the Tuesday time period devoted to lectures and the Thursday time period devoted to computer labs, visualization labs, and biotechnology lab tours.

Dr. Steve Jennings, the professor offering this course, reports that eight students are registered and that they come from both computer/information science and biology backgrounds. "This will make for a great classroom experience," he said, "as we draw upon these varied backgrounds to understanding the importance of a multi-disciplinary approach to bioinformatics. While maintaining high academic standards, this should be a fun course for students and hopefully interest them in bioinformatics as a career choice."

As of press time, the Joint Graduate Program in Bioinformatics is being reviewed by both the UALR and UAMS Graduate Councils. The UALR review began early this past fall and the UALR Graduate Council (and especially their Curriculum Committee members) have spent a considerable amount of time in the process and have made a number of much-appreciated suggestions for improving the proposal.

The UAMS Grad Council began its review early in January.

In a major show of support for the proposal, Dean Mary Good (UALR CyberCollege) and Dean Al Reece (UAMS



*Students enrolled in the first UALR "Introduction to Bioinformatics" course toured the Digital Microscopy Core Facility at UAMS. Geoffrey Shubert, UAMS, (pictured right) demonstrated the lab equipment.*

College of Medicine) have committed to providing two graduate assistantships each to the program as well as faculty release time for campus liaisons to the program. Dean Good also is offering to support the program with faculty release time for the Program Director and a half-time administrative assistant. These resources, coupled with the administrative support of UALR Graduate Dean Dick Hanson's office, allow the program to get off on a strong start.

The program will be submitted to the Arkansas Department of Higher Education early in the spring semester. We still hope to obtain approval for the program by the Fall 2004 semester.



**GEMS** is published to share information about the scope of activities surrounding the MidSouth Bioinformatics Center located in the Donaghey College of Information Sciences and Systems Engineering (CyberCollege) at the University of Arkansas at Little

Rock. For more information about the MidSouth Bioinformatics Center phone (501) 569-8501 / fax (501) 569-8020. You may also visit us in the ETAS Building, Room 507 on the UALR campus.

This publication was made possible by NIH Grant # P20 RR-16460 from the BRIN Program of the National Center for Research Resources.

# Computing Facilities: A Blast

by: Roger Hall

The MBC Bioinformatics Computing Facility team is proud to announce our first web service! The Delta Blast Bot enables the user to create and maintain a list of their favorite DNA or protein sequences. Each sequence is re-submitted to the NCBI blast server once per week using any of the blast search mode variants. The new results are compared to the previously saved results. Whenever new sequences or annotations are discovered, the 'Bot' emails the user!

The blast schedule is currently timed for weekend searches, due to the load requirements for the publicly available servers. We are considering an enhancement for nightly blasts for a limited number of sequences per user.

Currently we are only supporting NCBI's server, but will be adding specialized databases as requested. (The next planned additions are tair.org and tigr.org.) If you would like to request a specific database for this service, you can do so at the MBC website.

The Delta Blast Bot is available to any student or researcher who completes the free online registration. To register, comment on this feature, or request an enhancement, please visit the MBC website at <http://app.bioinformatics.ualr.edu>.

## Interesting Links

### 1) Molecular biology quiz

The quiz is designed to cover the flow of genetic information, going from DNA to protein. Most questions are related to DNA and protein sequence information.

<http://bio.lundberg.gu.se/edu/>

### 2) BSML (An Emerging Industry Standard for Linking Genomic Sequences to Biological Function)

BSML is an extensible language specification and container for bioinformatic data. Extensible Markup Languages describe data in a way that captures the semantics of encoded information, allowing more efficient access to information. BSML encodes biological sequence information and includes graphical representations of biologically meaningful objects such as sequences, genes, electrophoresis gels, and multiple alignments.

<http://www.bsml.org/>

### 3) GENSCAN (Identification of complete gene structures in genomic DNA)

This server provides access to the program Genscan for predicting the locations and exon-intron structures of

## Solaris Accounts

Solaris accounts are currently available for any interested student or researcher on our dual-processor development server (Sun 280R). The development server supports the same bioinformatics packages as our bigger eight-processor server (Sun V880). All projects must successfully run on the development server in order to be eligible for production time. In order to help us develop our internal benchmarks, we are also offering free production time for a limited period. If you are interested in an account, or have a large bioinformatics job ready to go, please visit the MBC website or email Roger Hall at [rahall2@ualr.edu](mailto:rahall2@ualr.edu).



## Mark Your Calendar

**Dr. Christoph Sensen (<http://www.visualgenomics.ca/sensencw/>), a leading bioinformaticist and visualization expert, will be visiting UALR on Thursday and Friday, March 4 and 5, 2004. In addition to giving the Friday afternoon colloquium, Dr. Sensen will be conducting a workshop at the UALR Virtual Reality Laboratory. He is a member of the Department of Biochemistry & Molecular Biology in the University of Calgary's Faculty of Medicine. More details will be provided later.**

genes in genomic sequences from a variety of organisms.

<http://genes.mit.edu/GENSCAN.html>

### 4) Introduction to Mass Spectrometry

Mass Spectrometry has become one of the most important tools in the biochemical sciences with capabilities ranging from small molecule analysis to protein characterization.

<http://masspec.scripps.edu/information/intro/>

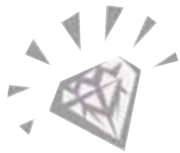
### 5) TreeView

Tree View is a simple program for displaying phylogenies on Apple Macintosh and Windows PCs. TreeView provides a simple way to view the contents of a NEXUS, PHYLIP, Hennig86, Clustal, or other format tree file. While PAUP and MacClade have excellent tree printing facilities, there may be times you just want to view the trees without having to load the data set they were generated from. TreeView can print multiple trees per page, and one tree over more than one page. It also has drag-and-drop facility for easy opening of files. TreeView is free.

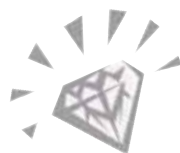
<http://taxonomy.zoology.gla.ac.uk/rod/treeview.html>



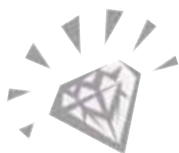
# MBC Announces Two New Summer Programs



WANTED:  
Computer Science or  
Information Technol-  
ogy Juniors or Seniors



DEADLINE:  
February 20, 2004



Apply online: [http://  
bioinformatics.ualr.edu/  
fellowship.html](http://bioinformatics.ualr.edu/fellowship.html)



## #1 Summer Mentored Research Program

The Arkansas BRIN Bioinformatics Core is pleased to announce the Summer Mentored Research Program offering competitive fellowships to undergraduate students from undergraduate colleges and universities in Arkansas. The central goal of the Mentored Research Program is to encourage students with aptitudes in the information sciences to choose a career in bioinformatics. Through a summer of laboratory bench experience, we hope they will become interested and engaged in biomedical research projects and will consider enrolling in our proposed graduate program in bioinformatics. This program is funded by a supplemental grant from the National Institute of Health, National Center for Research Resources (NIH/NCRR).

The Summer Mentored Research Program is for 8 weeks during the summer months, June 1, 2004—July 23, 2004, and involves research at one of the following institutions: University of Arkansas at Little Rock, University of Arkansas, Fayetteville, National Center for Toxicological Research or the University of Arkansas for Medical Sciences. Each fellowship includes a salary stipend (\$300/week), research supply budget (\$2,600 issued to student's lab mentor) and participation cost allowance (*i.e.*, housing, mileage and parking, up to \$2,000).

Participating students will spend the first four days in the BRIN Summer Fellowship Program at UAMS (1-day orientation) and introductory sessions on bioinformatics at UALR (3 days). We hope to give them some basic bioinformatics skills, make them

aware of some of the biological, chemical and physical issues, and, most importantly, put them in contact with us at the MidSouth Bioinformatics Center so that we can be a resource for them during their summer experience. Students in this Summer Fellowship Program also will be given complementary admittance to the Second Annual MidSouth Computational Biology and Bioinformatics Conference in Little Rock in early October along with a travel and housing allowance.

Eligible students may come from any undergraduate institution in Arkansas and will be placed in labs at UALR, UAF, NCTR, or UAMS (but not their home institution). They should be juniors or seniors in computer science, information science or information technology programs and hopefully will have had some biology, chemistry, and/or statistics courses already. As part of the application process, undergraduate students are to select an area of research with their campus preference. Every effort will be made to match students to a research group/area of their choice. Selection criteria for the fellowship will include faculty recommendations from the applicant's home institution, GPA, and evidence for inclination toward a career in research. The AR BRIN Mentoring Advisory Committee will recommend funding up to eight student summer fellowships.

Students are encouraged to apply online, <http://bioinformatics.ualr.edu/fellowship.html>. All applications are due by February 20, 2004. For additional information, we invite you to visit the website, or to call us at 501.569.8501.

## #2 Bioinformatics Summer Workshop

The Arkansas BRIN program (<http://BRIN.UAMS.Edu>) invites faculty to attend an Intensive Summer Faculty Workshop on Bioinformatics. Chosen participants will have all expenses paid (meals, lodging for non-local participants, textbooks, etc.) for six days (beginning with a reception Sunday evening and ending at 2 p.m. on Saturday, June 6-12) while attending lecture, lab and tour sessions hosted by UALR. Course content will be adjusted based upon the background and interests of the participants but will be modeled after a new "Introduction to Bioinformatics" course at UALR. This course has no prerequisites (other than basic algebra) and is intended for students of varying backgrounds. We will cover a LOT of material very quickly, but will allow ample time for students to participate in classroom

discussions, virtual reality simulations, bioPerl programming assignments, and tours of biotech facilities.

We anticipate having participants from a variety of backgrounds — many of whom could probably teach graduate-level course material in their own discipline. One of the strengths of this kind of setting is being able to draw upon the experience and perspectives of your fellow students (students are expected to attend all sessions — even those covering material with which they are already familiar — so that the group can learn from everyone's experiences). Class will start at 8 a.m. each morning and end at 6 p.m.; after group dinners, participants will be expected to work on reading and homework assignments. The course will be under the direction of Dr. Steve

*Workshop continued page 10*

Interested in learning how bioinformatics could help you in your research?

Would you like to develop a bioinformatics course for your institution?

Just want to figure out what bioinformatics is and how it might impact your career?



## MBC Hosts Open House

The MBC staff and graduate students hosted an Open House on Halloween. The event showcased the Center's new facilities and equipment. Pictured is Vinay Ravindrakumar, graduate student, discussing his research with Joan Duffy of the UALR Office of Communications.

# 1st Annual MCBIOS Conference



**Building  
Networks**



From DNA to dinosaurs, the first annual MidSouth Computational Biology and Bioinformatics Society (MCBIOS) conference was a tremendous success. More than 100 researchers, educators, and students from Arkansas, Alabama, Kentucky, Louisiana, Missouri, Mississippi, Oklahoma, and Tennessee came together to participate in this conference.

The conference, themed “Building Networks”, featured two days of technical presentations, a keynote address by Dr. David Mount of the

University of Arizona, a poster session, and a society business meeting. An optional free NCBI workshop on GenBank and molecular biology tools also was offered.

Even if you missed the great conference, you can still catch up! Visit [www.mcbios.org](http://www.mcbios.org) for the latest updates including: downloading the NCBI workshop lecture slides, reviewing the photographs from the conference, and joining the Society.

**Make plans to attend this year's  
Conference October 7-9.**



## Student Award Winners

### Platform

1<sup>st</sup> Neelima Rungta, University of Mississippi

2<sup>nd</sup> Neeraja Krishnan, Louisiana State University

3<sup>rd</sup> Yuanyuan Ding, University of Mississippi

### Posters

1<sup>st</sup> Phil Williams, University of Arkansas at Little Rock

2<sup>nd</sup> Yong Tang, University of Arkansas at Little Rock

3<sup>rd</sup> Nathan Owens, Harding University

*Students (many pictured above) were encouraged to attend and participate in a student competition. Cash awards were given for the best student posters and presentations. The awards were underwritten by the Arkansas BRIN program, funded through the National Institutes of Health's NCCR Division of Research Infrastructure.*

# HIGHLIGHTS



## MCBIOS Board of Directors

MCBIOS members held their first business meeting during the Conference. The meeting included adopting chapter bylaws and electing a Board of Directors. (See list below.)

<u>Name</u>	<u>Office</u>	<u>Institution</u>	<u>E-mail</u>
Russel Bruhn	Treasurer	UALR	<a href="mailto:rebruhn@ualr.edu">rebruhn@ualr.edu</a>
Steve Jennings	President	UALR	<a href="mailto:sfjennings@ualr.edu">sfjennings@ualr.edu</a>
Anne Maglia	Director	U Missouri—Rolla	<a href="mailto:magliaa@umr.edu">magliaa@umr.edu</a>
Andrey Ptitsyn	Director	LSU	<a href="mailto:ptitsyaa@pbrc.edu">ptitsyaa@pbrc.edu</a>
Bill Slikker	President-Elect	USFDA NCTR	<a href="mailto:wslikker@nctr.fda.gov">wslikker@nctr.fda.gov</a>
Weida Tong	Director	USFDA NCTR	<a href="mailto:wtong@nctr.fda.gov">wtong@nctr.fda.gov</a>
Dawn Wilkins	Secretary	U Mississippi	<a href="mailto:dwilkins@cs.olemiss.edu">dwilkins@cs.olemiss.edu</a>
Stephen Winters-Hilt	Director	U New Orleans	<a href="mailto:winters@cs.uno.edu">winters@cs.uno.edu</a>
Jonathan Wren	Director	U Oklahoma	<a href="mailto:jonathan.wren@ou.edu">jonathan.wren@ou.edu</a>

*(Pictured clockwise starting top left) Phil Williams, UALR, discusses his award-winning poster during the Conference poster session. | Tucker Patterson, NCTR, enjoys the robotic dinosaur exhibit during the special event held at the Museum of Discovery. | Participants spend time networking. | Dr. David Mount, University of Arizona, gave a keynote address on "Cancer Bioinformatics."*

## MBC Expands Book Collection in Library

Check out the new additions to the MBC Library.

Title	Author(s)
A First Course in Database Systems	Jeffrey D. Ullman, Jennifer Widom
Bioinformatics	Stanley Letovsky
Bioinformatics	Pierre Baldi, Sren Brunak, Soren Brunak
Bioinformatics for Dummies	Jean-Michel Claverie, Cedric Notredame
Bioinformatics: Genes, Proteins, and Computers (Advanced Text)	C. A. Orengo
Data Mining: Multimedia, Soft Computing, and Bioinformatics	Sushmita Mitra
Developing Bioinformatics Computer Skills	Cynthia Gibas, Per Jambeck
Genomic Perl	Rex A. Dwyer
Introduction to Bioinformatics	Teresa K. Attwood, David J. Parry-Smith
Mastering Perl for Bioinformatics	Sinan Si Alhir, James D. Tisdall
Microarrays for an Integrative Genomics	Issac S. Kohane, Atul J. Butte, Alvin Kho
New Biology for Engineers and Computer Scientists	Aydin Tozeren, Stephen W. Byers
Programming Perl	Larry Wall, Jon Orwant, Tom Christiansen
The Elements of Statistical Learning	Trevor Hastie, J. Friedman, R. Tibshirani
Algorithms on Strings, Trees, and Sequences	Dan Gusfield
Beginning Perl for Bioinformatics	James D. Tisdall, Betsy Walizewski
Bioinformatics	Zoe Lacroix, Terence Critchlow
Bioinformatics	Des Higgins, D. Higgins, W. Taylor
Bioinformatics and Genome Analysis	Hans-Werner Mewes
Bioinformatics and Genomes	M. A. Andrade
Bioinformatics for Geneticists	Michael R. Barnes, Lon R. Cardon, Ian C. Gray
Bioinformatics: Methods and Protocols	Stephen Misener
Biological Sequence Analysis	R. Durbin, Sean Eddy, Richard Durbin
Computational Molecular Biology	Pavel A. Pevzner
Database System Concepts	Abraham Silberschatz, Henry F. Korth, S. Sundarshan
Database Systems	Jeffrey D. Ullman, Hector Garcia-Molina, Jennifer Widom
Evolutionary Computation in Bioinformatics	Gary B. Fogel, David W. Corne
Evolving Connectionist Systems	Nikola K. Kasabov
Hidden Markov Models of Bioinformatics	Timo Koski
Instant Notes in Bioinformatics	D. R. Westhead, J. H. Parish, Richard M. Twyman
Introduction to Bioinformatics	Stephen A. Krawetz, David D. Womble
Introduction to Computational Biology	Michael S. Waterman
Microarray Analysis	Mark Schena
Microarray Bioinformatics	Dov Stekel
Mining the Web	Soumen Chakrabarti
Neural Networks and Genome Informatics	Catherine H. Wu
New Directions in Statistical Physics: Econophysics, Bioinformatics, and Pattern Recognition	Luc T. Wille
Principles of Data Mining	David J. Hand, Heikki Mannila, Padhraic Smyth
Protein Structure Prediction: Bioinformatic Approach	I. F. Tsigelny
Structural Bioinformatics	Philip E. Bourne, John C. Wooley, Helge Weissig

# Upcoming Seminar and Colloquium Speakers

by: **Philip Williams**

The spring semester Biosciences Seminar series is underway. The current schedule can be found at:

[biosciences.ualr.edu/seminar/](http://biosciences.ualr.edu/seminar/)

Some presentations will be held in conjunction with The DCISSE/CSAM Colloquium with current listings at:

[biosciences.ualr.edu/colloquium/](http://biosciences.ualr.edu/colloquium/)

Listed below is information on several of our colloquium and seminar speakers.

## **Robert Turesky**

Robert Turesky works for the FDA as the director for the Division of Chemistry at the National Center for Toxicological Research. His Ph.D. is from the Massachusetts Institute of Technology, Cambridge, MA. In 1998, Dr. Turesky was honored as the distinguished foreign scientist investigator in the Japanese Journal of Cancer Research. For more information see his webpage at:

[www.fda.gov/nctr/staff/bios-html/rturesky.html](http://www.fda.gov/nctr/staff/bios-html/rturesky.html)

## **Ralph Kodell**

**Using P-value Plots and ROC Curves to Assess Statistical Significance of Microarray Data on Gene Expression**

Dr. Ralph Kodell is from the Division of Biometry and Risk Assessment at NCTR. Dr. Kodell does research in the fairly new area of Microarray technology. Some of his work involves the analysis of tumor multiplicity data from animal experiments specifically distinguishing tumor-frequency effects from tumor-latency effects.

More information on Dr. Kodell's work can be found at:

[www.math.niu.edu/~polansky/IISA/ABSTRACTS/KodellRalph.html](http://www.math.niu.edu/~polansky/IISA/ABSTRACTS/KodellRalph.html)

## **David Andre**

**Drowning in a Data Drought: On the Perils of Hunting Rabbits with Bazookas**

David Andre directs the team at BodyMedia responsible for collecting and analyzing clinical data, creating machine learning models of that data, and developing algorithms that provide high level metrics over that data (e.g. predicting energy expenditure or detecting sleep). He received his Ph.D. from the University of California at Berkeley in Electrical Engineering and Computer Science where his dissertation focused on hierarchical methods for automatic behavior acquisition. Dr. Andre also co-founded Blue Pumpkin Software, which makes call center scheduling software.

[www.davidandre.com/](http://www.davidandre.com/)



## **Kathleen Gilbert**

**Role of Environmental Toxicants in Autoimmune Disease Etiology**

Dr. Kathleen Gilbert is from the Department of Microbiology and Immunology at the University of Arkansas for Medical Sciences. Dr. Gilbert received her Ph.D. at Tulane University and did Postdoctoral research at the Sloan-Kettering Institute, NY, and The National Institute for Medical Research, London. Dr. Gilbert and colleagues are interested in the induction and break down of immune tolerance. Some of their work focuses on the molecular mechanisms responsible for the induction and maintenance of T cell energy. Relevant webpages are:

Autoimmunity-

[www.uams.edu/research/Articles/2001.28.htm](http://www.uams.edu/research/Articles/2001.28.htm)

Gilbert Laboratory-

[www.uams.edu/mbim/gilbert.htm](http://www.uams.edu/mbim/gilbert.htm)

## **Clayton Johnson**

Dr. Clayton Johnson is a Research Assistant Professor of Geriatrics at UAMS. Dr. Johnson received both B.A. (cum laude) and B.S. degrees, respectively, in Zoology and Chemistry from The University of Texas at Austin. Dr. Johnson received his master's and Ph.D. degrees in Molecular and Cellular Biology from The University of Texas at Dallas in 1988. He did his postdoctoral research at the Max Planck Institute for Molecular Genetics in Berlin. Currently at UAMS he is doing research on the pathogenesis of *Histoplasma capsulatum*. There is more information on his webpage at:

[www.geriatrics.uams.edu/faculty/detail.asp?offset=10&ID=81](http://www.geriatrics.uams.edu/faculty/detail.asp?offset=10&ID=81)

## **Christoph Sensen**

Christoph Sensen is from the Department of Biochemistry and Molecular Biology, Faculty of Medicine, University of Calgary in Canada. He obtained his Ph.D. from the Universität zu Köln Germany. He has received several awards, including the NRC Corporate Outstanding Achievement Award for the Outstanding Contribution to the Canadian Bioinformatics Resource Team in 1998.

Dr. Sensen also is Director of the Sun Center of Excellence for Visual Genomics, a new unique and powerful Bioinformatics Facility of Medicine at the University of Calgary. The center was created in partnership with Genome Prairie and Genome Canada. It includes a high performance Sun Fire™ 6800 server, the world's first Java3D™ enabled

## Workshop Cont.



Jennings, UALR, Department of Applied Science, and will draw upon the assistance of the staff and graduate students of the MidSouth Bioinformatics Center.

This program is funded through a supplemental grant to the AR BRIN (Biomedical Research Infrastructure Network) from the National Institutes of Health, the goals of which are to broadly increase the level of biomedical research within the state of Arkansas. One objective of the BRIN's Bioinformatics Core, which is sponsoring this event, is to increase the effectiveness of researchers by training them in the use of bioinformatics tools and techniques. Another measure of success is an ever-increasing level of external research funding in the state. The opportunity to meet with potential collaborators — those with similar or complementary interests and skills — will be one of the main benefits of attending. Additionally, through interactions with researchers from UALR, UAMS, and NCTR (either by visits during a lab tour or talking with them as invited guests at the dinners) you might also make some important contacts. Furthermore, there will be

ample opportunity to consider what it might take to develop a bioinformatics course at your institution or talk with Dr. Jennings about participating in the UALR bioinformatics courses via Access Grids.

Applications will only be considered at this time from faculty/staff affiliated with an Arkansas institution of higher education. If you do not meet this requirement but would be interested in participating in a similar event, please contact us and let us know of your interest so that we might be able to plan appropriate programs in the future.

Space is limited for this special experience. Interested applicants should complete an application/information form at <http://bioinformatics.ualr.edu/workshops/intensive.html> or contact Lisa Henderson, Managing Director of the MidSouth Bioinformatics Center, via email ([lahenderson1@ualr.edu](mailto:lahenderson1@ualr.edu)) or phone (501) 569-8058. Qualified applicants will be chosen on a first-come, first-served basis until all spaces have been filled.

## Speakers Cont.

CAVE and Sun Ray™ thin clients for graduate students to access the computer network.

Web information:

[www.fp.ucalgary.ca/bmb/sensen/sensen.html](http://www.fp.ucalgary.ca/bmb/sensen/sensen.html)

[www.genomeprairie.ca/bioinfo/christoph\\_w.htm](http://www.genomeprairie.ca/bioinfo/christoph_w.htm)

[www.visualgenomics.ca/sensencw/](http://www.visualgenomics.ca/sensencw/)

### Leming Shi

#### Data Mining and Drug Discovery

Leming Shi works for the FDA as the Senior Bioinformatician at the National Center for Toxicological Research, Jefferson, Arkansas. Dr. Shi has a Ph.D. in Computational Chemistry from the Laboratory of Computational Chemistry, Institute of Process Engineering, Chinese Academy of Sciences, Beijing, China. His thesis title was "Chemometrics-assisted resolution of analytical spectra and studies of structure-activity relationships of pesticides and pharmaceuticals." His curriculum vitae can be found at:

[www.gene-chips.com/CV.html](http://www.gene-chips.com/CV.html)



### Jin-Woo Kim

Dr. Jin-Woo Kim is an Assistant Professor at the University of Arkansas at Fayetteville. Dr. Kim earned a Ph.D. in Agricultural Engineering from Texas A&M University College Station. His dissertation title was: "Microorganisms Immobilized within Poly(Vinyl Alcohol) Cryogels for the Biological Remediation of Organophosphate Pesticides and Chemical Warfare Agents." Dr. Kim earned his M.S. in Biology from the University of Wisconsin, La Crosse/Madison. His thesis title was: "Isolation and Characterization of b-Galactosidase from and Antibacterial Activities of *Lactobacillus crispatus* ATCC 33820 and *L. gasseri* ATCC 33323." See

<http://www.baeg.engr.uark.edu/FACULTY/KIM/>

### Yong Tang

#### A Cross-Linked Peptide Mapping Algorithm

Yong Tang is a student in the department of Applied Science at UALR.

Dr. Tang received his M.D. from Shanghai Medical University in China and did his residency in cardiology at First Municipal People's Hospital of Guangzhou. He also has studied computer science at UALR and currently works in the field of bioinformatics.

