

Central Region Newsletter

American Society for Photogrammetry & Remote Sensing

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Dr Elias Johnson Named ASPRS Fellow

The Central Region Board would like to congratulate Dr Elias Johnson on his being named a 2004 ASPRS Fellow. Dr. Elias Johnson is completing a distinguished career of contributions to remote sensing and photogrammetry education, and is teaching his final semester as Professor of Geography Department of Geography, Geology, and Planning at the Southwest Missouri State University (SMSU.) He received his Ph.D. in Geography from the University of Oklahoma in 1977 after earning Bachelor's and Master's degrees from Northern Illinois University. In addition to serving on the faculty at SMSU, he served as an Assistant Professor at St. Cloud State University in Minnesota.

Dr. Johnson has taught photogrammetry, remote sensing, aerial photography interpretation, cartography, and thematic mapping courses at both the graduate and undergraduate levels since 1977 at SMSU. He received numerous honorariums, research grants, and sabbatical leaves all related to his continued interest in the varied disciplines of geography and cartography. Dr. Johnson's research interests included land cover analysis using image processing and GIS, as well as advanced photogrammetric and remote sensing procedures for regional mapping. He has steadily published throughout his career including SMSU "in-house" as well as domestic and international publications. He participated in the ASPRS 2001 Gateway to the New Millennium Conference. He remains active in research as evidenced by his co-authored publication in the Journal of Arid Environments (accepted 2 April 2003). He has also co-authored a presentation at the American Geophysical Union Convention (December, 2003) and co-authored a chapter, Climate of North America, in the Encyclopedia of Climatology since his retirement. Elias was a primary developer of SMSU's Institute of Resource Planning and Management and served as a consultant to the City of Springfield on aerial photography interpretation issues.

Professor Johnson played a principal role in developing and modernizing the Cartography and Map Technology program at SMSU. He worked closely with U. S. Geological Survey and National Imagery and Mapping Agency personnel to design and modify the curriculum. He developed a Cartography Minor for the university in 1984. He works continuously with companies and individuals in the GIS industry to ensure his students are involved with state-of-the-art techniques, processes, materials, and equipment.

For more than 30 years, Dr. Johnson provided support and assistance to ASPRS and the State of Missouri in advancing applications of the mapping sciences. He has demonstrated continued long-time service to ASPRS, and has won ASPRS' Ford Bartlett Membership Award five times. He served on the society's Student Activities Committee for three consecutive years. Professor Johnson was also instrumental in establishing the SMSU Student Chapter, Central Region of ASPRS in 1986 and served as faculty advisor for a dozen years. He served as the faculty sponsor of the campus Environmental Education Committee and Gamma Theta Upsilon (GTU -- an international honor society in geography) for three years each - both of which use advanced geospatial information technology. In 1989, the Rolla Region (now the Central Region) honored Dr. Johnson with the Outstanding Member Award. In addition to ASPRS, Dr. Johnson is a member of GTU, Association of American Geographers, The Remote Sensing Society, Missouri Academy of Science, and the Missouri Geographic Society.



THE IMAGING & GEOSPATIAL INFORMATION SOCIETY

Conference Calendar

March 2-5, 2004 **SATELLITE 2004**, Washington Convention Center, Washington D.C.
www.satellite2004.com

March 13-18, 2004. **Geovisualisation — EuroConference on Methods to Support Interaction in Geovisualisation Environments**, European Commission, Research DG, Human Potential Programme, High-Level Scientific Conferences, Kolymbari, Crete, Greece. Contact: euresco@esf.org.

March 22-23, 2004. **TUGIS 2004: Seventeenth Annual Towson University GIS Conference**, Towson University, Baltimore, MD. Contact: Jay Morgan 410-704-2964, 410-704-3888 (fax), jmorgan@towson.edu

March 28-31, 2004. **The 17th Annual GIS-T (GIS for Transportation) Symposium**, Rapid City, South Dakota. (www.gis-t.org) Sponsored by AASHTO (American Association of Highway and Transportation Officials). The Symposium is being hosted by the South Dakota Department of Transportation.

March 29-30, 2004. **TNRIS GIS Forum, Texas Natural Resources Information System (TNRIS)**, Austin, Texas. Contact Charles Palmer at cpalmer@tnris.state.tx.us or www.tnris.state.tx.us.

April 15, 2004. **Basic GIS Coordinates Seminar**, by V3 Consultants featuring Jan Van Sickel, Crowne Plaza Hotel, 3000 South Dirksen Parkway, Springfield, Illinois 62703, 1-888-303-1746. Register at: www.v3consultants.com

April 18-22, 2004. **MidAmerica GIS Symposium (MAGIC)**, Hyatt Regency Crown Center, Kansas City <http://magicweb.kgs.ku.edu/>

April 20-23, 2004. **The Florida Joint Mapping Conference** will be held at the Adams Mark Daytona Beach Resort Daytona Beach, FL. This year's conference theme is Innovative Technologies to Manage Florida's Geospatial Challenges. Organizations or individuals interested in submitting an abstract for presentation should contact Trevor Feagin at trevorf@tamarac.org. For information on being an exhibitor or event sponsor contact Drew Fisher at 813-866-0433, e-mail: afisher@applanix.com. Web: www.applanix.com

April 25-28, 2004. **The Geospatial Information & Technology Association's (GITA) Annual Conference 27: Information, Strategy, Vision...Building Performance for a New Age**, The Geospatial Information & Technology Association (GITA), Seattle, WA. Contact: 303-337-0513; info@gita.org; www.gita.org.

May 24-28, 2004 **ASPRS Annual Conference**, Adams Mark Hotel, Denver Colorado
www.asprs.org/asprs/meetings/calendar.html

Technical Presentations

The Central Region of the ASPRS hosted two technical presentations on 20 February at the US Geological Survey Mid-Centinent Mapping Center. This event was doubly

special because we had student members from both student chapters and the University of Missouri - Rolla in attendance.

High-resolution Orthoimage Production for Emergency Mapping

Kallen Bailey, Vice President, Image America

In July 2003, significant flooding occurred in Adams County, Indiana along the St. Mary's and Wabash rivers. Adams County needed to quickly assess the extent of flooding. Having previously collected and delivered a standard orthoimage product for the more than 400 square miles of Adams County in June of 2003, ImageAmerica was requested to recollect the entire county during peak flood stage in July. Using a unique digital camera design

and format to collect the aerial imagery and specially tailored data processing techniques, ImageAmerica was able to deliver over 150 square miles of 1:100-scale orthoimagery overnight. This fully digital process allowed the orthoimagery for Adams County to be used by the county's entire infrastructure in a very short time frame. The data was delivered in a format that could be used in county departments that typically do not possess software requiring expensive license requirements.

Geovisualization Applications at the Kansas Applied Remote Sensing (KARS) Program and the University of Kansas Geography Department

Matt Dunbar, Department of Geography, University of Kansas

Recent rapid advancements in computer technology have given geographers the capability to create realistic representations of the earth's natural and built environments. These techniques allow us to explore new alternatives to traditional methods of data presentation when representing information extracted from remotely sensed data or geographic information systems. The term visualization has been used to describe any recently developed novel method for displaying data, such as animation

and virtual environments, and the term geovisualization has been suggested as a simplified term for geographic visualizations. This presentation will serve as an introduction to the visualization projects at the University of Kansas Geography Department and the Kansas Applied Remote Sensing (KARS) Program. This overview will present a broad collection of geovisualization applications including a 3D model of downtown Lawrence, Kansas, an urban expansion study in Olathe, Kansas and forestry research in Yellowstone National Park and Northwest Kansas.

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Election of Officers: Call for Nominations

The Officers and Board of Directors for the Central Region would like to invite members to nominate fellow members (or themselves) for office. This year the Region is due to elect a Vice-President, Secretary/Treasurer, and two Directors for three-year terms. The current Board strongly encourages people to self-nominate. Physical location does not preclude someone from serving. Teleconferencing, e-mail, and collaborative software can allow any member to participate. Brief descriptions of the duties of each office are included below. Individuals interested in being considered for nomination for any of these positions should send their names and bio-sketch to the Central Region Nominating Committee. The society will also accept nominations from the region membership at large. Nominations close 31 March 2003. Ballots will be mailed in April and the votes will be counted on 31 May. Any and all regular members of the Region are eligible to serve. If you would like to nominate someone or nominate yourself, please contact the nominating committee chairperson, Scott Perkins, by written, voice, or electronic correspondence.

Mr. Scott Perkins

Vice President

8909 W 105th ST

Overland Park, KS 66212-5520

Phone: (800) 643-5177

Fax: (913) 652-9933

Contact Email: sperkins@westernair.com

Vice President

The Vice President office is a three-year commitment. The incumbent spends one year as Vice President, another as President, and a third year as Past President. Other duties of the Vice-President include:

- .. Function as the President if the situation requires
- .. Chair the Membership Committee
- .. Assist the Secretary/Treasurer in compiling the Annual Report
- .. Drafting the Past-President's certificate for presentation to the outgoing Past-President

Secretary/Treasurer

The Secretary/Treasurer serves a one-year term as the Region's chief financial officer. Principal duties include maintaining accounting records of region funds and writing checks to cover Region expenses.

Directors

Directors normally serve a three-year term as a voting member of the board as well as some committee responsibilities. Committee work focuses on activities such as special programs, newsletter, outreach, etc. This year we are electing two Directors.

New Members!

The Central Region Board would like to welcome the following new members:

- Mr. Tommy G. Collins
- Mr. David G. Davis
- Ms. Jessica Drees
- Mr. Vijay Garg
- Ms. Teri Hunsinger
- Mr. Kevin James
- Mr. Jude Kastens
- Mr. Subodh Kulkarni
- Mr. Robert Lash
- Mr. Ashish Ratn Mishra
- Tyler Moore
- Mr. Jason Penka
- Mr. Nicholas Schrader
- Ms. Karla Sterling

News From the SMSU Student Chapter

The student chapter of ASPRS at SMSU, and students from Dr. Monika Moskal's remote sensing and photogrammetry classes attended the Central Region Technical Presentations on February 20th. First, the students took a tour of the USGS facility as they examined the photogrammetric lab and



SMSU Students relax between Technical Presentations

students attended a lecture session in which two presentations were given by Kallen Bailey, Vice President of Image America, and Matt Dunbar, graduate student at the University of Kansas. Overall, the day's activities were a great experience and good learning tools

had a hands-on experience of the National Map Program. The Central Region then treated the students to lunch at Bruno's, a local restaurant. In the afternoon, the SMS

as to what mapping techniques and projects can be accomplished.

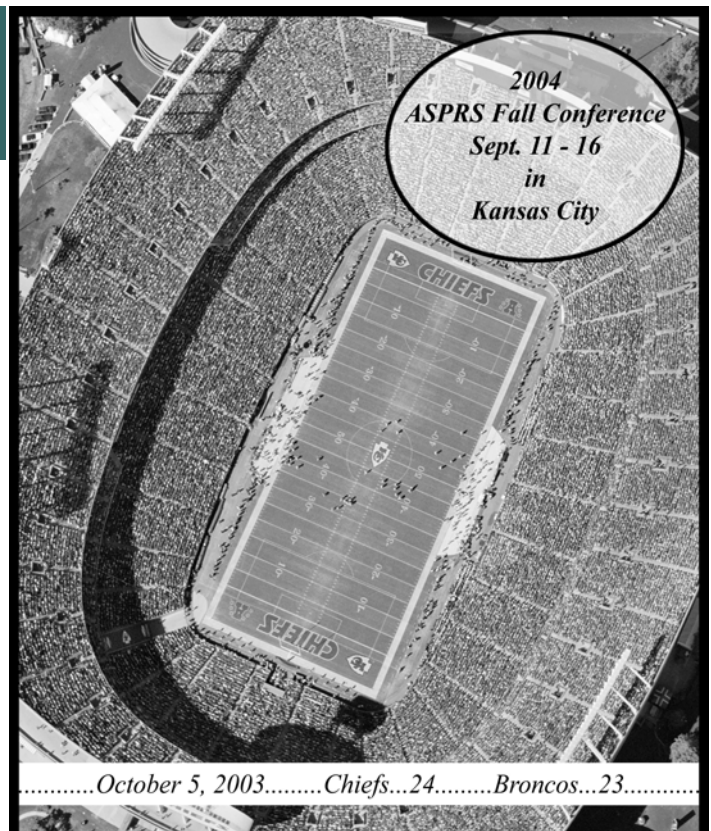
— submitted by Robert C. Touzinsky

News From The Mt Oread Student Chapter

There will be strong representation from the Mount Oread Student Chapter at the Association of American Geographers (AAG) annual meeting in Philadelphia this coming March. Matt Dunbar will present Geovisualization Applications at the Kansas Applied Remote Sensing (KARS) Program and the University of Kansas Geography Department. Kevin Dobbs will be presenting Visualizing Recent and Future Urban Growth with Thematic Mapper and Quickbird Imagery. Matthew Ramspott is presenting Characterization of Biophysical Factors in an Experimental Cool-season Grassland using Multiscale VNIR Remote Sensing. All three presentations are scheduled for Wednesday, March 17th.

On January 21 Patrick Taylor, Matt Dunbar and Dana Peterson attended the initial meeting of the Capitol City ESRI Users Group held in Topeka, KS. By visual observation there were over 75 people in attendance. Representatives from ESRI were on hand to give a presentation on the new features for ArcGIS 9.0. In addition a technical afternoon session was offered covering ArcSDE.

— submitted by Patrick Taylor



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University of Arkansas Student Research Activities

Although the Central Region has student chapters only at the University of Kansas and Southwest Missouri State University, we have student members at several other academic institutions. One institution that has several members is the University of Arkansas. Board Mem-

bers from Central Region traveled to Fayetteville last November to participate in GIS Day activities. Part of the day's activities included presentations by students on their current research efforts. Here are brief summaries for four of them:

Subodh Kulkarni

(email: skulkar@uark.edu) Department of Biological and Agricultural Engineering

Airborne imagery and spectral data obtained using spectroradiometer for crop growing fields at different time events in a season, can be useful for visual interpretation of status of crop and further it can be used to forecast the probable yield. I intend to use the temporal resolution of such images for forecasting the propagation of cyst nematode in soybean. The spectral characteristics obtained for the soybean canopy can be related to quality and growth of soybean cyst nematode. This correlation can in turn be anticipated to be used for the pest control and pest management.

Viiav Garg

(email: garg@uark.edu) Department of Biological and Agricultural Engineering

Water quality (WQ) models are the principal component of managing a watershed plan. Calibration, validation, and initialization are an important part of model use. Sufficient and accurate input data availability is a prerequisite for that. Water quality by in-situ measurements or collection of water quality samples for subsequent laboratory analysis provides accurate measurements at a point in time and space. However, it is cost prohibitive, time consuming, and does not give information about spatial or temporal distribution of water quality parameters. However, if the water quality assessment from remote sensing data can be improved, it can be linked with the water quality models to improve their accuracy and rapidness.

Limited accuracy of models converting remote sensing data into water quality is one of cause of not using remotes sensing into water quality models. I am trying to improve the accuracy of water quality determination from remote sensing data using physically based model instead of using only empirical models. Then I will assimilate remote sensing in lake water quality model CEQUAL-W2 for its calibration and validation. I am expecting that availability of spatial and temporal distribution of water quality data will improve the water quality model accuracy.

Eileen G. Ernenwein

(email: ernenw@uark.edu) Environmental Dynamics Program

Remote sensing and GIS are at the heart of my multidisciplinary dissertation research involving the examination and evaluation of a various remote sensing methods, new analytical tools, and data fusion techniques for the exploration and accurate mapping of buried archaeological sites. The project involves the combined use of high-resolution ground-based geophysical (ground penetrating radar, magnetometry, electrical resistivity, induced electrical conductivity, induced magnetic susceptibility), aerial (thermal, panchromatic, multispectral), and space-based (panchromatic, multispectral) sensor data. GIS makes it possible to simultaneously visualize several data layers through hyperdimensional graphics, RGB color composites, principal components analysis, and image classification. This is important for the maximization of recovered detail about sub-surface archaeological content and for the realization of associations between unique features in different data sets that might otherwise be overlooked. It is anticipated that perfection of these methods will significantly reduce large expenditures of funds, labor, and the destruction associated with traditional archaeological excavations. In order to assess capabilities under variable environmental and archaeological conditions a range of prehistoric and historic archaeological sites from throughout the country are currently being examined.

Husam Ata

(email: hata@uark.edu) Department of Geosciences

My research is primarily using Morphometric analysis in order to determine the tectonic activity of the landscape features (assigning activity classes) of the southern segment (Gulf of Aqaba-Wadi Araba faults) of the Jordan Dead Sea Transform System (JDT). This methodology would be based on utilizing digital data (digital approach) of the study area namely GIS vector data, satellite imagery, and Digital Elevation Models through calculating the Mountain-Front Sinuosity (Smf) and the Valley Width to Valley Height Ratio (Vf) indexes.

Classifieds

The Region Board of Directors has created a Classifieds section in the newsletter. Region members seeking to hire or to be hired should send information to the Newsletter editor.

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Student Volunteer Opportunities. If you are a student at an accredited college or university and would like to volunteer at the Fall 2004 ASPRS Conference in Kansas City please contact Prof. Monika Moskal at (417)836-4273 or email: MonikaMoskal@smsu.edu. Student volunteers will be compensated.

Donors Wanted for a Central Region Corporate Scholarship. The Board awarded two scholarships in 2003 and would like to continue this practice in future years. However, the principal in the Gene Lortz Scholarship Fund is sufficient to sustain one scholarship only. We would like to ask corporate members to consider donating to fund a new Central Region Corporate Scholarship to support students and future professionals in our region. Please contact our treasurer if you are interested in making a donation.

Jerry Wagner
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...mountains of data peak decisions...

- ❧ Workshops including the new Technologist Certification Preparation and other topics of current interest
- ❧ Keynote Address delivered by Dr. Ahmed Noor, Professor of Aerospace Engineering, Old Dominion University, Norfolk, Virginia
- ❧ Plenary Session led by Lynne Sherrod, Executive Director of the Colorado Cattlemen's Agricultural Land Trust
- ❧ Technical Program with over 450 presentations
- ❧ Poster Presentations numbering 70+
- ❧ Technical Tours to BP Center for Visualization, DigitalGlobe, Jeppesen, and Spectrum Mapping
- ❧ Classified Session
- ❧ Social Events including the ASPRS 70th Anniversary Party, a reception at the Denver Museum of Nature and Science
- ❧ User Groups offered by the top names in the industry
- ❧ Exhibition Hall of super size with the latest developments in the field presented by more than 120 suppliers

**ASPRS 2004
Annual Conference
May 23-27, 2004
Denver, Colorado
Adams Mark Hotel**



For complete details and to register on line, visit

DigitalGlobe image of Overland fire in Jamestown, Colorado
processed with RSF's ENVI remote sensing software

www.asprs.org/denver2004

ASPRS CENTRAL REGION

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