

## From Our Members



### Towards Saving Africa's Architectural Heritage Sites

By Heinz Rüther, e-mail: [heinz.ruther@eng.uct.ac.za](mailto:heinz.ruther@eng.uct.ac.za)

Many of Africa's architectural heritage sites are in a poor condition and threatened by slow destruction through environmental and human impact. In view of their relevance for the understanding and interpretation of humankind's history and the rather limited awareness of African Heritage in Africa and the international community, the development of a database of African Cultural Heritage and Landscapes was initiated and is being realized with the help of a generous grant of the Andrew W. Mellon Foundation. The project is a joint initiative of Ithaka/Aluka, a Mellon initiative, and the University of Cape Town with the author as the Principal Investigator. The database will be linked to the widely-used JStor database for scientific publications as well as ArtStor.

The principal objectives of the African Cultural Heritage and Landscapes database are the provision of spatial data and content data for scholars and students together with the creation of a permanent record of historical architectural structures and towns in Africa in digital form for



Mosque in Kilwa Kisiwani, Tanzania.

future generations. It will also serve as a basis for their restoration and reconstruction and the creation of awareness of cultural African Heritage within the international and more importantly, the African community through educational material.

The spatial database content is created employing laser scanning, photogrammetry, remote sensing, GIS, databases and visualization. Local academics and government officers are involved in the acquisition and processing of the spatial data which will result in the creation of capacity build-



Dagons people in Timbuktu – tradition meets high-tech.

ing in these areas. Heritage sites to included in the database are, among others, Kilwa Kisiwani, the great mosques of Djenne and Timbuktu, the rock churches of Lalibela, the stele of Axum, Lamu and Great Zimbabwe. Non-spatial data fro each site will be collected by a group of experts in African history.

The database is a non-profit project and will be available free of charge to the African scientific community, while for users outside Africa the rules similar to those of JStor will apply.



Great Mosque in Djenne, Mali.



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## KODAK International Educational Literature Award

*Application Deadline: December 1st, 2005*

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This award is made to a university or educational institution outside the USA for the purpose of improving the quantity and quality of the literature in its library that deals with the mapping sciences (i.e., photogrammetry, remote sensing, GIS, and related disciplines). It is supported by the KODAK Corporation and the American Society for Photogrammetry and Remote Sensing.

The Award consists of the following:

- a. \$350 worth of books, manuals, or other literature published by ASPRS.
- b. a five-year free subscription to Photogrammetric Engineering & Remote Sensing.
- c. Proceedings of the annual conference and fall technical meeting for a five-year period.
- d. one free registration to the conference where the award is to be presented for a member of the institution to whom the award is given.

The total value of this award is over \$1,500. The materials are to be placed in the libraries of the institutions receiving the award.

Any institution that receives the award is ineligible to apply for the award again for a period of five years. Application is by special application form.

The award now also includes the complete catalogue of the ESRI Press, selected titles from Publisher John Wiley & Sons, and a set of conference proceedings from the Geospatial Information and Technology Association (GITA) and the Association of American Geographers (AAG).

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## ‘Monitoring and Understanding a Dynamic Planet with Geodetic and Oceanographic Tools’

*Cairns, Australia from 22-26 August 2005*

*By John Manning, Secretary, Local Organising Committee, e-mail: [info@dynamicplanet2005.com](mailto:info@dynamicplanet2005.com)*

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‘Dynamic Planet’ was a joint conference of the International Association of Geodesy (IAG), International Association of the Physical Sciences of the Ocean (IAPSO), and the International Association of Biological Oceanographers (IABO). ‘Dynamic Planet’ offered an opportunity to present and discuss cross-disciplinary research into the solid earth and oceans. In fact the scientific program, under the theme ‘Monitoring and Understanding a Dynamic Planet with Geodetic and Oceanographic Tools’, emphasized the interaction of the earth and oceanographic sciences.

‘Dynamic Planet’ attracted 796 delegates (including 44 accompanying persons), from 62 countries. There were 27 distinct topic themes, in which a total of 812 papers were presented – 495 posters and 317 oral presentations. The IAG sessions attracted 215 posters and 205 oral presentations.

There were three IAG/IAPSO joint sessions:

- GP1 Ocean circulation and contributions from new gravity field missions.
- GP2 Global sea-level change: Altimetry, GNSS and tide gauge measurements.

GP3 Oceanography and geodesy in polar regions.

There were eight IAG sessions:

- G1 Frontiers in the analysis of space geodetic measurements.
- G2 Gravity field determination from a synthesis of terrestrial, satellite, airborne and altimetry measurements.
- G3 Earth Processes: geodynamics, tides, crustal deformation and temporal gravity changes.
- G4 Advances in the realization of global and regional reference frames.
- G5 Global Geodetic Observing System (GGOS).
- G6 Systems and methods for airborne mapping, geophysics and hazards and disaster monitoring.
- G7 Atmospheric studies using space geodetic techniques.
- G8 Geodesy of the planets.

Selected papers from the above 11 sessions will be reviewed for the IAG Proceedings which will be published by Springer.

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The spirit of the conference was highlighted at the delegates dinner in the Rainforest at Kuranda.

There were also seven separate IAPSO sessions and two IABO sessions:

- P1 CLIVAR theme I: Interannual climate predictability - ENSO/Indian Ocean/SST impacts on Australian and New Zealand climate variability.
- P2 CLIVAR theme II: Decadal to Century climate variability of the ocean-atmosphere system.
- P3 Marine risks and sustainability.
- P4 Argo and GODAE - global and regional partners.
- P5 Ocean interactions with sea ice, polynyas, ice shelves and Icebergs.
- P6 Deep ocean exchanges with the shelf and upwelling.
- P7 Processes in oceanic fronts.
- B1 Pelagic Biogeography.
- B2 Census of Marine Life.

'Dynamic Planet' hosted a series of association, commission and splinter group meetings, including joint events with FIG Commission 5 to promote a working relationship with IAG.

Photos of the event can be viewed in the photo gallery at [http://www.gmat.unsw.edu.au/album/20050830IAG\\_conference/](http://www.gmat.unsw.edu.au/album/20050830IAG_conference/)

#### APPENDIX 1

Number of countries represented. The Dynamic Planet Delegates represented these 62 countries:

- |                  |                   |
|------------------|-------------------|
| ARGENTINA        | KENYA             |
| AUSTRALIA        | KOREA             |
| AUSTRIA          | MALAYSIA          |
| BANGLADESH       | MEXICO            |
| BELGIUM          | MOROCCO           |
| BRAZIL           | NEPAL             |
| BRUNEI           | NETHERLANDS       |
| BULGARIA         | NEW CALEDONIA     |
| CANADA           | NEW ZEALAND       |
| CHILE            | NIGERIA           |
| CHINA            | NORWAY            |
| CZECH REPUBLIC   | PERU              |
| DENMARK          | PHILIPPINES       |
| EGYPT            | POLAND            |
| ESTONIA          | PORTUGAL          |
| FIJI             | PR CHINA          |
| FINLAND          | REPUBLIC OF KOREA |
| FRANCE           | ROMANIA           |
| FRENCH POLYNESIA | RUSSIA            |
| GAMBIA           | SOUTH AFRICA      |
| GERMANY          | SPAIN             |
| GHANA            | SWEDEN            |
| HONG KONG        | SWITZERLAND       |
| GREECE           | TAIWAN            |
| HUNGARY          | THAILAND          |
| INDIA            | TUNISIA           |
| INDONESIA        | TURKEY            |
| IRAN             | UNITED KINGDOM    |
| ISRAEL           | USA               |
| ITALY            | UZBEKISTAN        |
| JAPAN            | VIETNAM           |

#### APPENDIX 2

##### TOTAL PRESENTATIONS PER THEME

	Posters	Orals	Total
Joint IAG/IAPSO Sessions	35	42	77
GP1 Ocean circulation and contributions from new gravity field missions (Conveners: D. Chambers, V. Zlotnicki)			
GP2 Global sea-level change: Altimetry, GNSS and tide gauge measurements (Conveners: R. Coleman, G. Mitchum)			
GP3 Oceanography and geodesy in polar regions (Conveners: M. Drinkwater, S. Rintoul)			

Joint IAPSO/IABO Sessions	20	78	98
PB1 Acoustical remote sensing of physical and biological processes in the ocean (Conveners P. Worcester, S. McClatchie)			
PB2 Chemical and physical controls and impacts on marine biota (Conveners: C. Roy, D. Smythe-Wright, J. Hall)			
PB3 Internal waves, mixing, and biological processes in the ocean (Conveners: E. Morozov, J. Hwang)			
PB4 The climate of the last glacial cycle (Conveners: A. Weaver, P. Clarke)			
PB5 Continental shelf, reef processes and biology (Conveners: M. Heron, C. Griffith)			
PB6 Biological and physical interactions in inter-tidal environments (Conveners: G. Perillo, E. Wolanski)			
Joint IAPSO/IABO/SCAR (Scientific Committee for Antarctic Research)	7	16	23
PBA1 Southern Ocean circulation and marine life (Conveners: S. Nicol, E. Hofmann, V. Strass)			
IAG Sessions	180	163	343
G1 Frontiers in the analysis of space geodetic measurements (Conveners: M. Rothacher, M. King, J. Kusche)			
G2 Gravity field determination from a synthesis of terrestrial, satellite, airborne and altimetry measurements (Conveners: C. Jekeli, M. Kuhn)			
G3 Earth Processes: geodynamics, tides, crustal deformation and temporal gravity changes (Conveners: V. Dehant, P. Tregoning)			
G4 Advances in the realization of global and regional reference frames (Conveners: R. Neilan, J. Dawson, H. Drewes)			
G5 GGOS (Conveners: C. Reigber, Hans-Peter Plag, F. Lemoine, Jean-Pierre Barriot) – see G8			
G6 Systems and methods for airborne mapping, geophysics and hazards and disaster monitoring (Conveners: R. Forsberg, C. Rizos, T. Kato)			
G7 Atmospheric studies using space geodetic techniques (Conveners: S. Skone, N. Penna)			
G8 Geodesy of the Planets			
IAPSO Sessions	66	174	240
P1 CLIVAR theme I: Interannual climate predictability - ENSO/Indian Ocean/SST impacts on Australian and New Zealand climate variability (Conveners: G. Myers, T. Yamagata)			
P2 CLIVAR theme II: Decadal to Century climate variability of the ocean-atmosphere system (Conveners: C. Reason, T. Busalacchi, T. Suga)			
P3 Marine risks and sustainability (Conveners: T. Beer, E. Kontar)			
P4 Argo and GODAE - global and regional partners (Conveners: N. Smith, J. Gould)			
P5 Ocean interactions with sea ice, polynyas, ice shelves and Icebergs (Conveners: D. Holland, I. Allison)			
P6 Deep ocean exchanges with the shelf and upwelling (Conveners: J. Johnson, J. Middleton)			
P7 Processes in oceanic fronts (Conveners: M. Tomczak, I. Belkin)			
IABO Sessions	9	22	31
B1 Pelagic Biogeography (Conveners: A. Pierrot-Bults, P. Ried, G. Hosie)			
B2 Census of Marine Life (Conveners: M. Costello, I. Poiner, R. O'Dor)			

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## Annual Conference of the German Society for Photogrammetry, Remote Sensing and Geoinformation (DGPF)

By Prof. Thomas Luhmann, President, DGPF, e-mail: [luhmann@fh-oldenburg.de](mailto:luhmann@fh-oldenburg.de)

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The 25th annual conference of the German Society for Photogrammetry, Remote Sensing and Geoinformation (DGPF) was held at the University of Rostock from 21st to 23rd of September 2005. The conference was organized and outlined together with the 53rd German Kartographic Day of the German Society for Cartography (DGfK).

About 400 registered participants visited the commercial exhibition and the scientific sessions. 22 companies delivered information material for the participants and presented their current hardware and software solutions. In



Impression of the commercial exhibition.

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*Dr. Peter Aschenberger, President of the DGfK.*



*Impression of the commercial exhibition.*



*Prof. Dr. Cornelia Glässer, Vice President of DGPF.*

three parallel sessions 70 oral and 12 poster presentations have been presented. In several working groups, topics of satellite and aerial imagery, camera and sensor technology, image analysis, geoinformatics, optical 3-D measurement, academic training and e-learning as well as standardization problems have been discussed.

The opening of the conference took place at the historical building of the University of Rostock in the centre of Rostock. Prof. Monika Sester presented a highly motivated speech about 'Aktuelle Geodaten für aktuelle Entscheidungen' (up-to-date geodata sets for up-to-date decisions).

The annual Hansa-Luftbild Award for the best PFG publication was awarded to Claus Brenner and Carsten Hatger, University of Hannover, for their paper 'Extraktion von Eigenschaften der Straßengeometrie aus Laserscannerdaten und vorhandener Geoinformation' (extraction of road geometry properties from laser scanner data and existing geoinformation).

In addition the German Society for Cartography (DGfK) informed about the Ravenstein award holders and Prof. Jochen Schiewe announced the DGPF Youth Award. Additional information about the awards and the award winners can be found at: [www.dgfk.net](http://www.dgfk.net) and [www.dgpf.de](http://www.dgpf.de).



*The winners of the DGPF Youth Award 2005.*

The conference was completed by several touristic and technical tours to Bad Doberan, Rügen island and to the surveying ship 'Capella' at the BSH (Bundesamt für Seeschifffahrt und Hydrographie).

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## First International Conference on Remote Sensing and Geoinformation Processing in the Assessment and Monitoring of Desertification and Land Degradation (RGLDD)

Trier, Germany, 07-09 September 2005

By Achim Roder, e-mail: [rgldd@uni-trier.de](mailto:rgldd@uni-trier.de)

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In past years, desertification and land degradation have been acknowledged as a major threat to human welfare world-wide. This causes substantial environmental and societal implications, and has sparked the formulation of the UN Convention to Combat Desertification (UNCCD). While decision-makers and politicians are seeking solutions on national and global levels, land managers are actively tackling the problem on local areas with a strong emphasis on prevention and mitigation strategies. Notwithstanding the scale addressed, it is obvious that any measure taken against desertification, or the design of dedicated early warning systems, must take into account both the spatial and temporal dimensions of process driving factors. Equally important, past and present reactions of ecosystems to physical and socio-economical disturbances or management interventions need to be understood. In this context, remote sensing and geoinformation processing support the required assessment, monitoring and modeling approaches, and hence provide an essential contribution to the scientific component of the struggle against desertification.

Funded by the European Commission, DG Research, RGLDD intended to promote scientific exchange between specialists working on the interface of remote sensing, geoinformation processing, desertification/land degradation research and its socio-economic implications. Although targeted at the scientific community, contributions with application perspectives were of crucial importance and both an overview of the current state of the art as well as operational opportunities were presented.

Hosted at the Robert-Schuman Haus in Trier, the conference gained widespread attention and attracted an international audience from all parts of the world, which underlines the global dimension of land degradation and desertification processes. This was particularly emphasized by Ambassador Hama Arba Diallo, Executive Secretary to the UN Convention to Combat Desertification (UNCCD), who delivered a welcome address to the participants and officially opened the conference.

Based on a rigorous review of submitted abstracts, some 100 contributions were accepted for oral and poster presentation and assigned to 5 sessions aiming at illuminating different facets of geomatics approaches in the context of land degradation and desertification monitoring and assessment. Each of these sessions was introduced by a background study specifically prepared for the conference.

The first session on the remote sensing based derivation of biophysical indicators was started with a keynote by Prof. Dr Susan Ustin (CSTARS/University of Davis, USA), who presented presently available concepts and methods to derive indicators of land degradation and desertification from a variety of sensor systems and data types.

The temporal dimension of resource depletion and spatio-temporal dynamics of desertification processes were at the focus of a specific session on monitoring approaches introduced by Prof. Dr Compton J. Tucker from NASA's Goddard Space Flight Centre in Maryland (USA).

Addressing the climatic forcing of land degradation processes, the contribution of remotely sensed data to risk assessments, early warning systems of drought and desertification was extensively discussed. This session was introduced by a keynote on land-surface-atmosphere fluxes delivered by Dr Abdelghani Chebouni (Institut de Recherche pour le Développement, Mexico City, Mexico).

With respect to the formulation of specific mitigation schemes for areas affected from land degradation and the implementation of sustainable land management, great benefits may be drawn from advanced geoinformation processing techniques. Dr Mark Mulligan (King's College, London, UK) introduced the integration of remotely sensed information with other geospatial data layers in the context of integrated, spatially explicit environmental modeling. This was followed by a variety of specific modeling approaches, targeted to comply with individual local objectives.

In a last keynote, Prof. Dr Eric Lambin (Catholic University Louvain-la-Neuve, Belgium) urged scientists to extending their focus to the conceptual embedding of socio-economic information on different aggregation levels. In his strategic presentation, he concluded that by 'linking people to pixels', the relevance of spatially explicit information derived from remote sensing and environmental modeling may be significantly enhanced by equally considering the human dimension.

These sessions and keynotes provided an excellent overview of the current state-of-the-art at the interface of geomatics and land degradation/desertification. Complementing this, the final session provided a specific platform to demonstrate national, regional and local networks

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and their implementations of desertification assessment and monitoring procedures as undertaken in the context of the regional annexes of the UNCCD. The contributions to this session highlighted the considerable scientific progress attained in the past years, following which a suite of approaches are now perceived as operational elements in national and international efforts to combat desertification.

In a concluding discussion, the participants agreed that - in comparison to preceding event held 1994 in the City of Valencia (Spain) - remote sensing methodologies and geoinformation processing techniques have considerably matured, which is supported by the wide range of application studies provided during the conference. It was approved that, beside continuous conceptual improve-

ments and refinements, the scientific community should strive to promote the wide use of advanced methodologies in operational monitoring and assessment frameworks and in the context of sustainable land management. In particular, the availability of appropriate data was identified being a crucial issue. The findings of RGLDD hence make a strong case for the continuation of well-established data acquisition missions and the maintenance of long-term archives of remote sensing based data sets on local, regional and global levels.

Based on the integration of a limited number of selected contributions, the organizers of RGLDD will cooperate with Paul Aplin (ISPRS Book Series editor) to produce a volume on 'Advances in Remote Sensing and Geoinformation Processing for Land Degradation Assessment'.



## ETH Zurich Receives Four Awards in 2005

By Armin Gruen, e-mail: [agruen@geod.baug.ethz.ch](mailto:agruen@geod.baug.ethz.ch)

Prof. Armin Gruen's group at the Institute of Geodesy and Photogrammetry of ETH Zurich received four significant awards this year, all for their outstanding work in digital photogrammetry.

Dr Jana Niederoest received the 'Eratosthenes Award' of the Förderkreis Vermessungstechnisches Museum e.v. Dortmund, Germany for her outstanding contributions to the history of Surveying and Cartography. Her work is summarized and published in the PhD thesis 'The Relief of Central Switzerland of Franz Ludwig Pfyffer (1716-1802): 3D Reconstruction, Analysis and Interpretation'. The award will be handed over at INTERGEO, October in Düsseldorf.



Jana Niederoest.

Jafar Amiri Parian received the Leica Geosystems-Award 2005 for his excellent work in high-accuracy modeling, calibration and point positioning with digital panoramic cameras. The award is given every 2 years and was handed over at the General Assembly of the

Swiss Society of Optics and Microscopy (SSOM) on 31 August in Davos.



Jafar Amiri Parian.

Dr Zhang Li was awarded the Carl Pulfrich Award 2005 of Z/I Imaging Ltd. The award honors outstanding scientific, application-oriented design and/or manufacturing activities in the field of photogrammetry and remote sensing. He received it for his algorithmic and software developments in the field of processing of Linear Array CCD aer-



Zhang Li.



ial and space images. The award is given every 2 years and was handed over on 7 September at the Photogrammetric Week in Stuttgart.

Prof. Armin Gruen, Fabio Remondino and Zhang Li received the E.H. Thompson Award of the Remote Sens-

ing and Photogrammetry Society, United Kingdom for their article 'Photogrammetric Reconstruction of the Great Buddha of Bamiyan, Afghanistan'. The award is given every 2 years for an outstanding article in 'Photogrammetric Record' and was handed over on occasion of the RSPSoc Annual Conference, 7 September in Portsmouth.



Armin Gruen.



Fabio Remondino.



Zhang Li.

Paris 2006  
www.isprsinformation.com/paris2006

Paris - Marne-la-Vallée - France - 3-6 July 2006

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