Program of the 8<sup>th</sup> Annual Conference of the IAMG

September 15 – 20 2002





Berlin, Germany

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#### Heinz Burger & Wolfdietrich Skala



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- Andrew Frank (Austria)
- Nina Gorelikova (Russia)
- Ricardo Olea (USA)
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Editor of the program:

Mark Pourman, FU Berlin, Department of Geoscience

#### Acknowledgements

The Deutsche Forschungsgemeinschaft (DFG) is gratefully acknowledged for having sponsored this Annual Conference of the International Association for Mathematical Geology, IAMG 2002.

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- Freie Universität Berlin
- Rüdersdorfer Zement GmbH
- Naturkundemuseum of Humboldt-Universität Berlin.

The success of this conference would not have been possible without the dedication of our lecturers and contributors.

The Local Organizing Committee

### Next year's IAMG meeting will be held in the UK from September 7 – 12 2003 at the University of Portsmouth, UK focus: Analysis, modelling and simulation of geological hazards You'll find more details on the official web site: http://www.iamg2003.com

### P R E S E N T A T I O N

Welcome to the annual meeting of the International Association for Mathematical Geology.

This program contains the schedule of the 18 sessions of IAMG2002 being held at the Freie Universität Berlin, 15-20 September 2002. The contributions listed in this program include six keynote lectures, 194 oral presentations, 69 posters and 4 software presentations. We will have four parallel sessions and eight plenary sessions for poster presentations, keynote speakers and IAMG Award Ceremonies.

The International Scientific Committee would like to thank all authors for submitting papers and all conveners for their willingness to review abstracts and to chair sessions.

On behalf of the Local Organising Committee and all other people involved in planning the conference, we wish you a pleasant stay in Berlin and a productive meeting.

Heinz Burger & Wolfdietrich Skala Conference Chairs Agnes Schumann Conference Secretary

### FOR YOUR INFORMATION

#### **A. Oral Presentations**

- Duration : 15 minutes plus 5 minutes discussion
- Please install your presentation file(s) at least one hour before your session starts Assistance will be available during the morning (from 7:30 until 8:30 am, during coffee break and lunch time). After the session you may delete your file(s) yourself or they will be deleted after the conference.
- If you need your own laptop for presentation, please install it during the 5-minutes discussion time of the preceding presentation.
- Please contact your convener before the session starts and provide him with necessary information about your person.

#### **B:** Poster & Software Presentations

(contact **René Prissang** for assistance)

- In the morning of the respective day, please fix your poster to the panel indicated with your name and session. Material for fixing the poster will be available on site for you.
- During a plenary session you will have **one minute** for giving a short introduction to your poster. This introduction is followed by a one-hour plenary poster session during which you should be present at your poster for presentation and discussion.
- Posters should be removed at the end of the day.
- Software presentation will be in room SR 53.

#### **C: Workshops**

• There will be a special leaflet about workshops available at the registration desk.

### Special events and announcements

SUNDAY, 15 <sup>th</sup> :	
6.00 pm	Icebreaker party
4.00 pm	IAMG Council Meeting Location: SR 49
MONDAY, 16 <sup>th</sup> :	
8.45 am – 12.00 pm	Social program: Guided sight-seeing tour through Berlin
10.00 am	Opening ceremony <u>Keynote talk</u> : Kanti V. Mardia "Why is Directional Statistics Pivotal to Geosiences?"
5.30 pm	Keynote talk: Roger J. Suthren "Geoscience Teaching and Learning on the Web: Where Next?"
6.15 pm	General Assembly of IAMG members (Location: Audi Max)
TUESDAY, 17 <sup>th</sup> :	
8.45 am – 2.00 pm	<u>Social program</u> : Guided sight-seeing tour through Potsdam, the Palace of Sanssouci and the park of Sanssouci - A world cultural heritage of the UNESCO.
2.00 pm	IAMG award ceremony <u>Keynote talk</u> : Ian Lerche "Don't tell me how right you want to be, tell me how wrong you could be"
8.00 pm	<u>Keynote talk</u> : Hans-Christian Hege "Data Visualization in Science: from Atoms to Galaxy Clusters" Location: ZIB (Konrad-Zuse-Institute, Takustr. 7, lecture room)
WEDNESDAY, 18 <sup>th</sup> :	
11.30 am – 2.30 pm	Social program: Guided tour through the Pergamon Museum
3.00 pm	<u>Keynote talk</u> : M. E. Hohn "The role of the international associations in the geosciences" <u>Keynote talk</u> : Jean-Laurent Mallet "Geomodeling"
8.00 pm	Official dinner in the glass house / Botanic Garden
THURSDAY, 19 <sup>th</sup> :	
9.00 am – 12.00 pm	Informal meeting of session N
10.00 am – 12.00 pm	Guided tour through the Berlin Museum of Natural History
FRIDAY, 20 <sup>iest</sup> :	
8.15 am – 5.00 pm	Guided geological field trip to the Rüdersdorf quarry

### Social program and field trips (registration required)

#### Social Program (for accompanying persons)

#### Guided sight-seeing tour Berlin:

This guided round-trip intends to show you both the new capital of germany with its governmental buildings and representative sites (Kanzleramt, Reichstag, Potsdamer Platz, etc) and the well known historical places like Brandenburger Tor, Unter den Linden Blvd., Island of the museums. The tour will take about 3 hours.

#### Guided sight-seeing tour Potsdam:

This guided trip will take you to the Palace of Sanssouci, the former summer residence of King Friedrich  $2^{nd}$  (Friedrich the Great, 1740-1786) and the Park of Sanssouci - A world cultural heritage of the UNESCO. A special guided tour through the palace and ist fabulous park will be held. The tour will take about 5 hours.

#### Guided tour through the Pergamon Museum:

On Wednesday you will be guided through the famous Pergamon Museum. You will see the The Collection of Classical Antiquities containing Greek and Roman works including not only architectural remains, sculptures and vases, inscriptions and mosaics but also bronzes and jewellery. The tour will take about 2 hours.

MEETING POINT FOR THE SOCIAL PROGRAM: MAIN ENTRANCE OF THE CONFERENCE BUILDING

#### **IMPORTANT NOTE:**

# You are kindly requested to show up 15 minutes prior to the announced beginning (see program ,special events and announcements') of each tour.

#### Geological and Palaeontological Field Trips

#### Museum of Natural History:

Discover the Berlin Museum of Natural History by a guided tour through the amazing mineralogical collection, the singular collection of meteorites and the paleontological exhibition of dinosaurs! The Museum displays many zoological, paleontological, mineralogical and geological exhibits, among them numerous dioramas, more than 300 taxidermic preparations etc.

MEETING POINT: You are kindly requested to show up 15 minutes prior to the beginning (10.00 am) at the main entrance of the MUSEUM OF NATURAL HISTORY, Invalidenstr. 43, 10115 Berlin.

How to get there: Underground U6 to Zinnowitzer Straße (compare attached map). Please note that the Underground is the fastest way to get there, because the S-Bahn is temporarily out of service!

#### Rüdersdorf Quarry:

Rüdersdorf is a little village east of Berlin. 250m thick Triassic lime-stone (Muschelkalk) has been uplifted to the surface by halo-genetic processes. The limestone has been mined for more than 750 years. Today's 60 m deep open pit will be visited. By the way, the Rüdersdorf limestone deposit is the place where the Swedish geologist O. TORELL proved in 1875 the northern German Pleistocene continental glaciation by a correct interpretation of glacial stria at the top of the limestone layers.

MEETING POINT: MAIN ENTRANCE OF THE CONFERENCE BUILDING (FOR PEOPLE TAKING THE BUS-SHUTTLE)

People who will arrive in Rüdersdorf by car, please see attached map for routing instructions and the meeting point in Rüdersdorf next to the parking lot 'open air museum'.

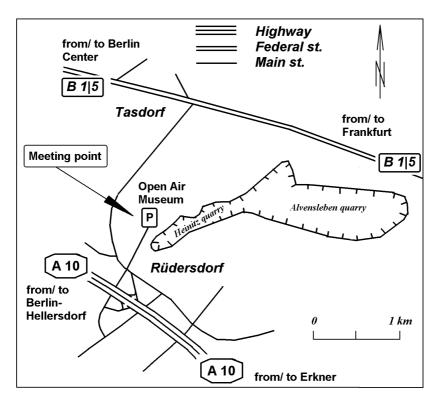
#### You haven't registered yet?

Late registrees are kindly requested to sign up at the registration desk!

S \_\_\_\_\_ Waters Main stree Bvd. Museum of BERLIN  $\overline{\mathbb{O}}$ Nat. History Zinnowitzer Str. Center ÷ — Subway/ Station Ņ City railway/ Station (s) Lehrter Bahnhof Luisenstraße Canal Oranienburger Tor Out of (U) (s)operation! Hackescher Markt S Friedrichstraße ίŪ Island of Bellevue S) Spree r. Spree r Museums Reichstag Building <u>-</u>(S)-Unter den Bvd. Unter den Linden Linden Brandenburg Gate Spree r. 38 Straße des 17. Juni Straße des 17. Juni Out of Französische Str.  $\hat{\mathbf{U}}$ operation! Stadtmitte 500 1000 m 1 U Mohrenstraße 1 1

Overview map of public transportation and main roads to the Museum of Natural History

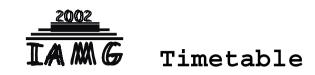
Map of the Rüdersdorf Area for people arriving by car (not by bus-shuttle). Please note the meeting point next to the open air museum, where you'll meet the other field-trip participants!





# Technical Sessions

Session	Session Title	Convener
В	Geostatistical Modeling and Propagation	Pierre Goovaerts, USA; Roland Froidevaux,
	of Uncertainty	Switzerland
С	Geostatistical Simulation	J. Jaime Gomez-Hernandez, Spain
D	Multivariate Geostatistics and Data	Hans Wackernagel, France
	Assimilation	
E	Statistical Methods in Geology	John C. Davis, USA
F	Statistics of Petrochemical/physical Data	A. Buccianti, Italy; J. A. Martín-Fernández, Spain
G	Compositional Data Analysis: From	V. Pawlowsky-Glahn, Spain; Hilmar von
	Theory to Practice	Eynatten, Germany
Н	Spherical Problems in Geosciences	Helmut Schaeben, Germany
Ι	Bridging and integrating GIS and	Grégoire Dubois, Belgium; Edzer J.
	geostatistics	Pebesma, The Netherlands
K	Geomodeling and Web Presentation	Robert Marschallinger, Gert Furtmüller, Austria
L	Interoperable and Mobile GIS -	Martin Breunig, Andreas Thomsen,
	Developments and Applications	Germany
М	Spatial Databases	Agnès Voisard, Germany
N	Developments and Status of Standards,	J. Broome, Canada; K. Asch, Germany
	Dictionaries and Technologies for	
	Geoscience	
0	Studies in Mathematical Geology (General	Dan Merriam, USA; Andrea Förster,
	Session)	Germany
Р	Modeling Geochemical and Physical-	Nina Gorelikova, Irina Tchijova, Russia
	Chemical Processes at the Earth's Crust	
Q	Fractals and Multifractals	Frederik P. Agterberg, Canada; Qiuming Cheng, Canada
R	Exogene Dynamics and the Lithosphere's	Jan Harff, Germany; Victor Dech, Russia;
	Sediment Cover	Dan Tetzlaff, USA
S	Hydrogeology: Groundwater Monitoring	Maria-Th. Schafmeister, Germany
	and Quality Assessment	
Т	Quant. Models for Environmental Security:	A. G. Fabbri, The Netherlands; Chang-Jo
	Focus on Representation and Perception	Chung, Canada



	Monday, Sep 16	Tuesday, Sep 17	Wednesday, Sep 18	Thursday, Sep 19	Friday, Sep 20
8.30- 9.00 am	registration & coffee	PS3	PS7		
9.00- 9.30 am	break	Q, R, O, G	C,M,R,F	9.15 am - 4.45 pm	9.15 am - 4.45 pm
9.30-10.00 am				tutorial workshops	tutorial workshops
10.00-10.30 am	opening ceremony			-workshop 1	
10.30-11.00 am	K.V. Mardia	plenary poster	plenary poster	-workshop 2a/b	- workshop 4
	keynote talk	introduction	introduction	-workshop 3	- workshop 5
11.00-11.30 am	PS1	poster presentation &	poster presentation &	-workshop 6	-
	B,S,H,E	coffee break	coffee break		
11.30-12.00 am		I,O,G,Q	C,L,N,M,F,P,T	9.00 am - 12.00 pm	8.15 am - 5.00 pm
12.00-12.30 pm		PS4	PS8	informal meeting of	- geological
12.00 12.00 pm		K,H,Q,R	C, L, T, N	session N	excursion to
12.30-1.00 pm			0,2,1,1		Rüdersdorf
1.00-2.00 pm	lunch	lunch	lunch	10.00 am - 12.00 pm	
2.00-3.00 pm	PS2	awards ceremony	PS9	<ul> <li>guided excursion</li> </ul>	
_	B,K,S,E	I.Lerche	L,D,P,N	at the Berlin	
		keynote talk		Museum of Natural	
3.00-4.00 pm		PS5	M. Hohn	History	
		I,D,O,G	keynote talk		
			J.L. Mallet		
			keynote talk		
4.00-4.30 pm	plenary poster		presentation of the		
	introduction		IAMG 2002		
			distinguished		
			lecturer		
4.30-5.00 pm	poster presentation &		coffee break		
5.00-5.30 pm	coffee break	coffee break	PS10		
	B,E,K,H		N,L,P,T		
5.30-6.00 pm	R.J. Suthren keynote	PS6			
6.00-6.30 pm	talk	L,N,C,T			
6.30-7.00 pm					
7.00-7.30 pm	General Assembly of		break		
7.30-8.00 pm	IAMG members	break	-		
8.00 pm		H. C. Hege	dinner		
		keynote talk			

### MONDAY, 16th September 2002 – PS1

Time	Session B Location: SR 05	Session S Location: SR 49	Session H Location: SR 51	Session E Location: Audi Max
11.00	<b>P. Goovaerts, R.A. Viscarra Rossel and</b> <b>A.B. McBratney</b> Geostatistical modeling and propagation of uncertainty: Application to the management of agricultural fields	<b>S.M. Semenov and G.I. Batrak</b> Mathematical methods of hydro-geological forecasts accuracy and veracity estimation	<b>P.S. Lucio and N.L.C. Brito</b> Detecting spatial randomness: A stat- geometrical alternative	L.J. Drew, D. Sutphin and J.H. Schuenemeyer Geology and medicine - Recovery and use of a large set of chemical data for soil and plant samples collected in the 1960s and the 1970s
11.20	<b>S. Goria, M. Armstrong and A. Galli</b> Using a Bayesian approach to incorporate new information when estimating resources	<b>A. Goshu and H. Omre</b> Stochastic approach for better prediction of aquifer parameters	<b>K.G. van den Boogaart</b> Analysis of variance for directions and axes	P. Hellä, P. Saksa, A. Karanko, H. Ahokas, J. Nummela and J. Palmén Statistical analysis of the bedrock properties to determine the boundary zone of the structures in a bedrock model
11.40	<b>R. Froidevaux</b> Incorporating uncertainties in hydrocarbon volumetric estimates: How far can we go?	E. Savelieva, M. Kanevski, V. Timo-nin, A. Pozdnukhov, C. Murray, T. Scheibe, Y. Xie, P. Thorne, C. Cole Uncertainty in the hydrogeologic structure modeling	<b>K. Ardalan, E. Grafarend</b> Ellipsoidal harmonic gravity disturbances: regional, continental, global maps of the vertical derivative of the incremental gravity potential	<b>M. R dulescu and V. Chifu</b> Application of artificial neural networks for lithological evaluation - Case study: The Petro ani Basin, Romania
12.00	<b>P. Biver, C. Bacquet</b> Efficient techniques to include uncertainties on global parameters in a geostatistical procedure.	<b>I. Sekkouri, D. Ouazar</b> (ESGWM) An expert system for data preparation for groundwater modelling	<b>G. Finn, A. Ardalan et al.</b> Ellipsoidal Harmonic Vertical Deflections: Regional, Continental, Global Maps of the Horizontal Derivative of the Incremental Gravity Potential	C. Pomerol, V. Rohrlich and J. Tourenq Interpretation of the provenance of heavy minerals using correspondence analysis and geostatistics
12.20	<b>KJ. Röhlig and B. Pöltl</b> Use of geostatistical methods for the propagation of uncertainty in safety assessments for radioactive waste repositories	E. Spyridonos, I. Fountoulis, E. Andreadakis, D. Mariolakos and E. Manutsoglu Using integrated 3D geological modelling for planning artificial recharge of karstic groundwater. Case study in the Enipefs River Basin, Thessaly, Greece	<b>E. Grafarend, A. Ardalan</b> Gravity ellipsoidal versus potential ellipsoidal geoid: case studies of regional geoid	<b>G. Papatheodorou, C. Mitsis et al.</b> A multivariate statistical approach to the investigation of pockmarks growth and activity. An example from a pockmark field in the Gulf of Patras (W. Greece).
12.40	<b>O.P. Lødøen and H. Omre</b> Bias-correction in production forecasts and history matching	<b>J.E. Capilla</b> A mixed Lagrangian-Eulerian approach for the coupled inversion of the flow and mass transport equations in fractured media	<b>H. Schaeben and K.G. van den Boogaart</b> Rendering of random rotations and their probability density function	<b>G. Mateu-Figueras, V. Pawlowsky-Glahn</b> and J.A. Martín-Fernández Normal in <sup>+</sup> vs lognormal in

# MONDAY, 16th September 2002 – PS2

Time	Session B Location: SR 05	Session K Location: SR 51	Session S Location: SR 49	Session E Location: Audi Max
14.00	U. Leopold, G. Heuvelink and A. Tiktak Scale issues in statistical validation of an environmental model chain	<b>S. Gadenz, M. Latini, L. Martinelli, F.</b> <b>Mori, J. Mugnaini and E.D. Regueira</b> GIS and 3D models of Northern Marche Region (Central Appennine - Italy). Distribution over the internet.	<b>K. Labus</b> Simulation of salty waters migration towards a therapeutic deposit - A case study	<b>C. Hervada-Sala, E. Jarauta-Bragulat and</b> <b>Á.M. Diblasi</b> Adapted Ward's clustering method: Generalisation to several variables using the Fast Fourier Transform
14.20	M. Murphy, L.M. Bloom and U.A. Mueller Geostatistical optimisation of mineral resource sampling costs for a Western Australian nickel-deposit	<b>C. Dyt, C. Griffiths et al.</b> Recent Innovations in Sedsim - Modelling carbonate production using Fuzzy Logic and it's Interaction with a Hydrodynamic Siliciclastic Transport model.	<b>R. Czéh, J. Kovács et al.</b> Application of dynamic factor analysis for groundwater level changes of Danube-Tisza Interfluve	J.J. Egozcue, J.L. Días-Barrero and M.I. Ortego A bivariate normality test adaptive to the sample
14.40	JH. Schuenemeyer, M.R. Karlinger and L.J. Drew The effects of declustering on ground-water estimation	<b>R. Kouda and Y. Murakami</b> Subsurface 3D solid modeling for areas of earthquake active faults, active volcanoes, and a hyper-scale subsurface construction of neutrino detectors	<b>S. Semenov, G. Batrak</b> Kriging as a method for hydro-geological networks optimization	W. Brown, A. Baddeley, T. Gedeon and D. Groves Bivariate J-function and other graphical statistical methods help select the best predictor variables as inputs for a neural network method of mineral prospectivity mapping
15.00	<b>R. Kerry and M.A. Oliver</b> A comparison of kriged predictions using average variograms of soil properties and standardized average variograms of ancillary data	J. van Wees, R. Versseput et al. Shared Earth System Models for the Dutch Subsurface	<b>B. Namys owska-Wilczy ska and J. Pyra</b> Integration of data from soil and underground waters monitoring grids by kriging with external drift	<b>N. Djarfour, K. Baddari et al.</b> Tomographic Velocity Images by Artificial Neural Networks
15.20	<b>A. Hinterding and U. Streit</b> Automatic model selection for spatial interpolation	<b>Y. Murakami and R. Kouda</b> Three dimensional viewer of underground geological structure	<b>J. Kovács, L. Márkus and G. Halupka</b> Measuring contamination-vulnerability of aquifers by dynamic factor analysis	<b>S. Hashemi, A. Zamani</b> Application of principal component analysis (PCA) in seismic zonings of Iran: A tentative approach
15.40	J.J. Egozcue, M. El-Ghaidouni and V. Pawlowsky-Glahn A kernel type estimator of the 2D- multivariate variogram	A. Masoud, V. Raghavan et al. DEM generation based on SAR Interferometry for Kagoshima area, Kuyshu, Japan (cancelled)	<b>P. Szabó, J. Kovács et al.</b> Time series analysis of groundwater levels in the Danube-Tisza Interfluve	<b>Y.G. Yang, Y. Qin and H.Q. Tan</b> Random dynamic combined model and its application on the coalbed methane output forecasting

# MONDAY, 16th September 2002

Time	Poster (P) and software (S) presentation	Туре
16.00	Plenary poster introduction	
16.30	Poster and software presentation	
В	L. Braga, C. Almeida and C. Bettini Using non-linear regression for inference of semivariograms affected by change of support - An exploratory study of an exponential family	Р
В	E. Henry and D. Marcotte Assessing recoverable reserve uncertainty and economical impact of a sublevel caving mine block	Р
В	A. Pasculli and N. Sciarra A 2D mathematical and statistical modelling of soils structures	Р
В	L. Sánchez and J. Molina Application of the geostatistics to evaluation of geologic risks scenaries	Р
E	A. Aiuppa, C. Federico, S. Gurrieri and M. Valenza LINE FINDER - A computer code to find the most probable tectonic direction from soil gas distribution	Р
E	A. Chetyrbotsky Plotting aggregated indices for revealing the geochemical specialization of Sikhote Alin and Koryak of the Kamchatka region	Р
E	<b>F. Felletti</b> Relationship between bed-thickness distribution and corresponding bed volumes within a well-exposed confined turbidite system	Р
E	A. Grosso, M. Pilia, G. Ramazzo and A. Cristini Multivaried analysis of contaminants in underwater beach sediments from the Oristano Gulf (Sardinia Central Eastern - Italy).	Р
Ε	O.K. Mironov Optimal estimations for compiling synthetic maps	Р
Ε	N. Shafranskaya, N. Zhukov Computer prognosis of ore desposits by method of filtration of different geologic information	Р
Ε	F. Usmanov Problems of statistical metallogeny	Р
Ε	<b>K. Voudouris</b> Time series analysis using ARIMA models of the groundwater table in Patras industrial area aquifer system (NW Peloponnese, Greece)	Р
		Continuation $\rightarrow$

# MONDAY, 16th September 2002

Time	Poster (P) and software (S) presentation	Туре
16.00	Plenary poster introduction	
16.30	Poster and software presentation	
K	A. Brenning, T. Bolch and H. Schröder The GeoVis project: An online training course on visualization and digital terrain modeling in the geosciences	Р
К	P. Gôni A geological model for the southern Altiplano at 21° S, Bolivia, using GIS and remote sensing techniques	Р
K	<b>T. Gopinath, H. Sarmento</b> Modelling, mining and variographic structure of the continental bentonite deposits of the Boa Vista region, Praiba state, northeast Brazil	Р
K	<b>B. Mali</b> Consequences and perspectives relating to internet application in cartography	Р
К	S. Masumoto, V. Raghavan, T. Nemoto and K. Shiono Three dimensional geologic modeling and visualization using GRASS GIS	Р
К	T. Nemoto, S. Masumoto, V. Raghavan, T. Fujita and K. Shiono Quantitative expression of relationship between topographic surface and bedding plane	Р
К	S. Walter, W. Skala Modelling of the Hohentauern Magnesite Deposit	Р
К	G. Yonezawa, K. Shiono and S. Masumoto Logical model of faulted geologic structures	Р
Н	T. Shoji Stereographic projection and variograms calculation by MS-Excel/VBA	Р
S	<b>T. Gopinath, J. Morais et al.</b> Fracture analysis in Precambrian metamorphic formations and their hydrogeological properties	Р

Time	Session Q Location: SR 05	Session R Location: SR 49	Session O Location: Audi Max	Session G Location: SR 51
8.30	W. Shen Study of fractal methods and its application in geology	<b>P. Lucio, E. Bodevan et al.</b> Spatial appproach for grain-seize trends based on directional random predictors	J.H. Doveton and D.F. Merriam Environmental and paleogeographic implications of subsurface spectral gamma- ray signatures of Pennsylvanian (Upper Carboniferous) black shales in the Midcontinent (USA)	J. Aitchison, C. Barceló–Vidal, J.J. Ecozcue, V. Pawlowsky-Glahn A concise guide to the algebraic-geometric structure of the simplex, the sample space for compositional data analysis
8.50	<b>Q. Cheng</b> A new technique for quantifying anisotropic scale invariance and for decomposition of mixing patterns	J.P.M. Syvitski, R.D. Hilberman and S.D. Peckham Sediment flux to the coastal zone: Predictions for the Navy	<b>J. Doveton, D. Merriam</b> Upper carboniferous black shales in the Midcontinent (USA): Their spactral gamma- ray signatures in the subsurface	<b>S. Rehder and U. Zier</b> Some remarks about transformations
9.10	<b>Q. Cheng and S. Zhang</b> Conditional multifractal measure and moment multifractal modelling with edge effect correction	<b>D. Tetzlaff</b> Modeling coastal sedimentation through geologic time	T. Kumke, N. Hultzsch, A. Schoonderwaldt and U. Kienel Spatial variability of lake sediment compositions - A case study from Lake Lama, Central Siberia	<b>G. Weltje</b> Sampling scale and compositional heterogeneity of sands
9.30	<b>L. Telesca, V. Lapenna et al.</b> Fractal structures in time-occurrence sequences of seismic events	<b>P.S. Lucio, E.C. Bodevan and H. Dupont</b> Sediment transport paths in the Westernschelde: One-dimensional alternatives to determine sediment trend	H. Mayer, U.C. Herzfeld and G.K.C. Clarke Analysis of deformation types in fast-moving glaciers	J. Daunis-i-Estadella, J.J. Egozcue and V. Pawlowsky-Glahn Least squares regression in the simplex
9.50		<b>G. Shapiro, T. Akivis</b> Fine sediment transport by coastal jets: Role of Earth rotation	U.C. Herzfeld Higher-order vario functions for geostatistical classification of snow and ice surfaces	<b>J. Aitchison, C. Barceló-Vidal</b> Compositional processes: A statistical search for understanding
10.10		<b>J. Elken, U. Raudsepp and T. Soomere</b> On the current- and wave-induced sediment redistribution patterns in the Gulf of Riga	<b>M.E. Nitsche</b> Are the stabilizing and destabilizing influences of the planetary gravitational field on the structural formation of complex systems real? - Triggering of earthquakes -	H. von Eynatten, C. Barceló-Vidal and V. Pawlowsky-Glahn Modelling Changes in Sediment Composition

Time	Session K Location: Audi Max	Session H Location: SR 51	Session Q Location: SR 05	Session R Location: SR 49
12.00	<b>R. Marschallinger and G. Furtmüller</b> Geological and geotechnical data: Applied solid modelling	<b>R. Heilbronner, K.G. van den Boogaart</b> <b>and H. Schaeben</b> Comparison of coarse- and fine-grained quartz textures using the pole density index (PDI)	<b>L. Márkus and J. Kovács</b> Modelling water capacity of spring: A multifractal approach	<b>T. Neumann</b> A three dimensional ecosytem model of the Baltic Sea - application to decadal time scales
12.20	<b>D. Ledez</b> Euclidean distance mapping: Geological applications	<b>J. Cai, E. Grafarend</b> The statistical inference of eigenspace components of a symmetric random tensor of type strain rate	<b>B. Sim, F. Agterberg</b> Modelling the Distribution of Gold Deposits in the Superior Province using Multifractal Methods	<b>B. Bobertz, C. Kuhrts et al.</b> Parametrization of sediment properties for the sediment transport module of the Warnemünde Baltic Sea Ocean Model ' method and first results.
12.40	<b>L. Souche - Gocad Research group</b> Integrating complex fault network in horizon and reservoir modeling : A 3D parameterized space based approach.		<b>Z. Unger</b> Fracture network investigation with elements from fractal geometry	M. Meyer, J. Harff and R. Lampe Modeling coast line changes of the Baltic Sea - Past and future

Time	Session I Location: SR 53	Session D Location: SR 05	Session O Location: Audi Max	Session G Location: SR 51
15.00	<b>B.M. Nielsen and T.M. Rasmussen</b> Ongoing assessment of mineral resource potential models for the palaeoproterozoic orogens in central West Greenland through data integration methods	W. zu Castell, U. Weller, M. Zipprich, M. Sommer and M. Wehrhan Kriging considered from the deterministic point of view	<b>F. Agterberg</b> Construction of numerical geological time scales	A. Buccianti, G. Montegrossi, F. Tassi and O. Vaselli Log-contrast analysis of volcanic fluid composition: A way to check equilibrium conditions?
15.20	<b>O. Trapeznikova</b> GIS and remote sensing techniques for space-time modeling of ecosystems of the east of Russian plain	<b>P. Marinkovic, E. Grafarend</b> Space Gravity Spectroscopy: homogeneous and isotropic three-dimensional functions (Taylor-Karman structure, spatial autoregressive processes)	M. Spiller, R. Ababou, T. Becker, A. Fadili and J. Köngeter Mass transport with heterogeneous diffusion: Interpolation schemes for random walks	R. Tolosana-Delgado, R. Palomera- Roman, D. Gimeno-Torrente, V. Pawlowsky-Glahn and S. Thió-Henestrosa A first approach to classification of basalts using trace elements
15.40	A. Zahedi, N. Lust and M. van Meirvenne Investigation on the spatial relationship between geological depth and materials in two different forest types	K.G. van den Boogaart and M. Drobniewski Kriging the strain tensor based on geodetic, geotechnic and geological observations	<b>D. Gill, A. Sen and C.G.St.C. Kendall</b> Numerical simulation of the deposition and stratigraphic relations of the Silurian evaporite-encased pinnacle reefs of northern Michigan	<b>G. Bohling, J. Doveton and R. Olea</b> Interpolation of Petrophysically-Derived Compositional Profiles for Cross-Section Generation
16.00	<b>J. Jesus, T. Panagopoulos and J. Beltrão</b> Application of geostatistics and GIS to experiments in irrigation	<b>B.</b> Atfeh and J. Wendebourg Modeling petroleum migration using multi- phase stream line simulation	H. Thiergärtner The Ruedersdorf limestone deposit near Berlin and the mathematical reserve estimation	C. Barceló-Vidal and J.A. Martín- Fernández Differential calculus on the simplex
16.20	<b>G. Dubois and M. Saisana</b> Optimizing spatial declustering weights: Comparison of methods	L. Bertino, H. Wackernagel, G. Evensen and H. von Storch Using data assimilation and geostatistics for variables with non-linear dynamics: Application to an estuarine ecosystem	M. Thibaut and T. Cornu 3D kinematic and reversible deformation in basin modeling	S. Thió-Henestrosa, C. Baceló-Vidal, J.A. Martín-Fernández and V. Pawlowsky- Glahn CoDaPack. A userfriendly freeware
16.40	M.V. Zuccolini, G. Ottonello, L. Marini and F. Cipolli G <sup>4</sup> : An integrated system for the management, analysis, and visualization of the geochemical data stored in the National Geochemical Archive of Italy	A. Chetyrbotsky, E. Chetyrbotsky Estimate of soil volumes of different rock categories by nonparametric regression methods		E. Jarauta-Bragulat, C. Hervada-Sala and A. Diblasi An experimental comparison of cokriging of regionalized compositional data using four different methods. Case study: Bauxites in Hungary

Location: SR 53Location: SR 51Location: Audi MaxLocation: SR 0517.30T. Bode, A.B. Cremers, U. Radetzki and S. Shumilov COBIDS: A component-based framework for the integration of geo-applications in a distributed GI-infrastructureG.M. O'Brien, F.A. D'Agnese, A.K. Turner and K.H. Nasser The Role of geoinformatics in the geoscience-business processJ. Sénégas Spatial simulations with Markov chainsJ.C. Davis and G.C. Ohlmach Landslide hazard prediction us generalized logistic regression17.50T. Jerome, M. Ford Structural geology tools with 3D CAD tools for geometrical modell ing using field dataI. Jackson Why standards matter. The experience of converting 167 years of geological mapping into quality assured digital services for non-G. Tavares, H. Lopes, S. Pesco and C.A. PolettoC. Chung, A. Fabbri Landslide risk analysis from th future occurrences based on ge related	ier
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traditional clients.	
18.10F. LepageJ. Matti, D. Soller et al.T. Tran, U.A. Mueller and L.M. BloomU. Maurer and D. Balzer	
Triangle and tetrahedral meshes forScience Language for Digital Geologic-mapConditional simulation via Haar wavelets: AA new approach towards select	
geological models Databases: A North American Perspective comparison of regions, areas or sites for dis	posal of
18.30       V. Mikhailov and B.R. Sirazetdinov       M. Pennanen and C. Kortman       J. Gómez-Hernández, E. Cassiraga et al.       L. Disperati, E. Guastaldi and	
10.50       V. Inikilatov and B.K. Shazetuniov       M. Fernanen and C. Kortman       J. Gonez-Hernandez, E. Cassiraga et al.       L. Disperati, E. Guastaldi and C. Kortman         Variational methods application for       Semantic web - towards more intelligent       Conditional simulation under linear       Carmignani	1 12.
geological modeling geoscience web applications constraints. Gaussian vs. non-Gaussian. Landslide mapping and hazard	prediction in
the Pergola area (Marche, Italy	
18.50 M. Aurnhammer and K. Tönnies K. Wakita, J. Bandibas, R. Kouda and Y. M. Le Ravalec-Dupin S. Sterlacchini, M. De Amicis	et al.
Image processing algorithm for matching Murakami Conditioning truncated Gaussian realizations GIS and groundwater modellin	
horizons across faults in seismic data Formulation of interoperable common codes to static data determination of landslide fail	
for various geological expressions among probability: the Oltrepo Pavese	case study
different languages, cultures and standards	
19.10 HJ. Götze and S. Schmidt H. Thiergärtner Strategy and algorithms for the	datamain ati
Geophysical 3D-modelling using GIS- functions       Strategy and algorithms for the of informative parameter profil	determination
multivariate areal predictions	

# TUESDAY, 17th September 2002

Time	Poster (P) and software (S) presentation	Туре
10.30	Plenary poster introduction	
11.00	Poster and software presentation	
С	M. Cozzi, F. Roncarolo, P. Balossino, R. Bersezio, F. Felletti and M. Rossi Combining facies analysis, log interpretation and geostatistical simulation to characterise heterogeneity of a turbiditic reservoir	Р
С	M. Kumral Enhancements on reproduction of spatial variability with geostatistical simulated annealing	Р
D	A. Baião, T. Albuquerque, A.J. Sousa and H.G. Pereira VarimaW software	S
F	M. Labus	Р
F	Computer image analysis in clastic rocks porosity measurement A. Michaelichenko The application of the 3D dynamic projections in coordinates petrochemical parameters	Р
G	A. Buccianti and S. Monechi Bi-plot analysis to discover relationships among species in micropaleontological quantitative data	Р
G	<b>R. Tolosana-Delgado, R. Palomera-Roman, D. Gimeno-Torrente, V. Pawlowsky-Glahn and S. Thió-Henestrosa</b> A first approach to classification of basalts using trace elements	Р
I	<b>D. Kawabata</b> Geomorphic features measurement of the landslide area based on GIS analysis	Р
I	J. Tamás and C. Lénárt Using geoinformatics in regional environmental modelling	Р
Ι	<b>Z.W. Yu and H.Q. Tan</b> Regionalized interpolation - A new approach to surface map reconstruction	Р
0	H.A.F. Chaves, L.R. Tupinambá, E.R. Pombo and E. Pereira Sedimentary cycles in the Cenomanian Turonian transition in the Sergipe Basin, Brazil	Р
0	A. Chetyrbotsky Geochemical mineralization process as dynamics of "resource-consumer"-type system	Р
0	T.A. Jelmert Bi-linear pressure signatures of horizontal wells	Р
0	S. Ki, J. Choe and M. Jang Fractal conditional simulation with irregularly spaced data	Р
		Continuation $\rightarrow$

# TUESDAY, 17th September 2002

Time	Poster (P) and software (S) presentation	Туре
10.30	Plenary poster introduction	
11.00	Poster and software presentation	
0	V. Marchenko	Р
	TU 100 – Anniversary of application. Mathematical methods by russian geologists	
0	U.A. Mueller, P. Goovaerts and A.G. Mueller	Р
	Geostatistical modelling of rock-type: A comparison of the performance of classification schemes based on data from the Big Bell gold deposit, Western Australia	
0	Y. Noumi, K. Shiono, S. Masumoto and V. Raghavan	Р
	Generation of DEM from the topographic maps - Utilization of inter-contour height information -	
0	R. Pattisina and E. Verrecchia	Р
	A cellular automata and DLA model for growth surface simulation: Application to stromatolites	
0	P. Scheck	P & S
	New Scales in Modeled Geology - Geomorphologie, Sediment Budget, Mass Balances, Loading History	
0	K. Shiono	Р
	Mathematical basis for classification of sedimentary layers under the law of superposition	
0	A. Weller	Р
	Development of an Automated Microscopy System for the Identification and Quantification of Sedimentary Organic Matter and Dinoflagellate Cysts in Palynological	
	Preparations	
Q	A.G. Ediberidze, A.Sh. Gugushvili, V.K. Sesadze, I.S. Kucia, P.D. Jokhadze and D.G. Gigauri	Р
	Earthquake cycles and fractal time series	
Q	A.G. Ediberidze, A.Sh. Gugushvili, V.K. Sesadze, I.S. Kucia, P.D. Jokhadze and D.G. Gigauri	Р
	Prognosis of seismic danger according to the geological and geophysical date	
Q	W. Shen	Р
_	Assessment of gold ore resources potential in the eastern part of Shandong, China by the "p100/q100" law	

# WEDNESDAY, 18th September 2002 – PS7

Time	Session C Location: Audi Max	Session M Location: SR 05	Session R Location: SR 49	Session F Location: SR 51
8.30	J. Almeida, M. Lopes and J. Santos Equivalent permeability derived from a fracturated system	<b>Y.K. Yeon, J.G. Han and K.H. Chi</b> Implementation of field geological information system (FIELDPLUS)	<b>B.J. Haupt and D. Seidov</b> Sea surface salinity as a key to the global ocean conveyor	<b>G.F. Bonham-Carter and T.J. Katsube</b> Solving nonlinear equations for a model of electrical resistance in layered mineralized rocks
8.50	<b>T.R. Fisher and A.K. Turner</b> Application of hybrid 3D modelling methods to prediction of ore grades in stratabound deposits	<b>D. Collins, J. Ross</b> Geologic map data models - standards and variants - a comparison of the North American Data Model and the Kansas data model variant.	<b>B. Birnir, T. Smith et al.</b> The Modeling and Analysis of Scaling and Stochasticity in Fluvial Landscapes	A. Schumann Hidden Markov model for lithological well log classification
9.10	J.E. Capilla, J. Rodrigo, J.J. Gómez- Hernández and C. Llopis Three dimensional stochastic modeling of conductivity fields in a fractured rock medium	<b>V.N. Mikhailov and E. Ermolin</b> The electronic atlas - A new level of integration of the spatial data in GIS	<b>Z. Khan</b> Paleo hyodrological reconstruction of ancient river system in Himalayan foredeep, northern up – A nummerical approach	<b>P. Lucio, M. Mendes</b> Modeling petrophysical parameters by indirect seismic spatial information updating
9.30	<b>M. Benito García-Morales and H. Beucher</b> Inference of the Boolean model on a non stationary case	V. Naumova, W. Nokleberg et al. Geographic Information Systems Compilation of Mineral Resources, Metallogenenic Belts, and Geodynamic Maps of Northeast Asia	<b>R. Prissang</b> 3D Variography as a tool to recognise transport processes and associated paleo- directions in limestones and limestone- hosted deposits	<b>N. Nishiwaki</b> Review and revision of the systematics in sedimentary petrology with reference to statistical and mathematical analyses of sedimentary data
9.50	C.A. Poletto, L. Menezes, F.P. Lima-Filho, G. Tavares, H. Lopes and S. Pesco Fluvial outcrops parametrization applied to object based geological modeling for reservoirs of the Potiguar Basin - Brazil	<b>R. Salvini, L. Disperati and L. Carmignani</b> Deforestation assessment and predictive modelling in the Pantanal wetlands (Mato Grosso, Brazil)		U. Zier, S. Rehder et al. Statistical Properties of Geochemical Processes
10.10				A. Cappelli The use of multivariate statistics in the commercial characterization of ornamental stones: The "Perlato" Coreno study case (Latium, Italy)

# WEDNESDAY, 18th September 2002 – PS8 & PS9

Time	Session C Location: Audi Max	Session L Location: SR 53	Session T Location: SR 05	Session N Location: SR 51
12.00	H. Saito, P. Goovaerts and S.A. McKenna Combining logistic regression with kriging for mapping the risk of occurrence of unexploded ordnance (UXO)	<b>A.V. Antsiferov and A.A. Glukhov</b> Geographical information system GeoMark	<b>C. Chung</b> Uncertainties of input data in spatial prediction models: Applications to ecological studies and landslide hazard mapping	<b>C. Smyth</b> Standards for decribing mineral deposits: Language and logic requirements
12.20	<b>S. Bonduà, R. Bruno and F. Muge</b> Geostatistical simulation of orna-mental stone images: Results analy-sis by mathematical morphology	<b>G. Caumon, C. Sword and JL. Mallet</b> Interactive editing of sealed geological 3D models	<b>A. Smolka</b> The principle of risk partnership and the role of insurance in risk mitigation	<b>B. Brodaric, E. Boisvert and A. Patera</b> A set-theoretic technique and software for managing multiple-classification in geological hierarchies
12.40	1 07	<b>D. Hekmatzada, J. Meseth and R. Klein</b> Non-photorealistic rendering of complex 3D models on mobile devices	W. Spataro, R. Rongo et al. Computer simulation of lava flows: A real case application on the july 2001 Etnean eruption for risk assessment	<b>P. Ryghaug</b> From bedrock UML-modelling and database design to internet applications using standards.

Time	Session P Location: Audi Max	Session L Location: SR 53	Session D Location: SR 05	Session N Location: SR 51
14.00	I. Tchijova, M. Konstantinov and R. Poliakov Computer-aided system for selection of analogs of the world gold deposits	G. Exadaktylos, E. Manutsoglu, G. Saratsis, E. Baradakis, G. Kalogeropoulos, E. Spyridonos and J. Mastoris 3D geological modelling of Kamari quarry (Greece) for exploration planning and quality control	<b>G. Jost, G.B.M. Heuvelink and V. Zlatic</b> Comparing the space-time distribution of soil water storage for two forest ecosystems using spatio-temporal kriging	<b>J. Broome, J. Rupert et al.</b> Establishing Common Ground: Canadian Geoscience Knowledge Network Standards
14.20	N. Gorelikova, N. Bortnikov and I. Tchijova Geochemical comparison models for tin deposits in different geodynamic environments	<b>G. Timcak, L. Vizi et al.</b> Geostatistical analysis of the Kisovce- Svabovce Mn deposit (Slovakia)	<b>S. Hashemi, A. Zamani</b> Application of multivariate statistical methods in tectonic regionalization of Iran	<b>E. Grunsky, J. Glynn</b> XML Initiatives in the Canadian Geoscience Knowledge Network
14.40	<b>V.B. Svalova</b> Mechanical-mathematical modelling for the earth's deep and surface structures interaction	<b>G. Gang</b> Establish a spatial reference model for modeling and simulation – Fundamentals and principles	<b>T. Albuquerque, A. Baiäo, H.G. Pereira,</b> <b>A.J. Sousa and J. Taboada</b> Estimation of the local recovery of a slate massif by merging drill hole and quarry face information	<b>P. Davenport, É. Boisvert et al.</b> Building a distributed geological map database of Canada for the Internet

# WEDNESDAY, 18th September 2002 – PS10

Time	Session N Location: SR 51	Session L Location: SR 53	Session P Location: Audi Max	Session T Location: SR 05
17.00	J. Jellema and R.J. van Leeuwen Using XML in advanced geological information systems: A case of cross-border UK-NL stratigraphy explored	<b>O. Spirina, O. Spirina et al.</b> Comparison of different methods of computer based evaluations of coal deposits – on the example of a part of the Donets Basin	<b>T. Volkova</b> System researches at the forecast ore-grade mineralization	<b>D.</b> Geneletti, D. Alkema, E. Bertoletti, F. Comelli, M. De Amicis, R. Guarino, S. Guerrato, C. Michelotti, S. Sterlacchini, A. Zanchi and A. Zucca A multi-scale approach to assess the impact of roads on biodiversity and geomorphology
17.20	A. Cappelli and L. Morandini The importance of integrating metadata into GIS: The case study of the geographic information system of the city of Khouribga (Morocco).	<b>A. Omelchenko, M. Tirkel et al.</b> Models of natural and technogenetic objects in geological GIS for the level of coal- minging company	<b>D. Zhou</b> Thermal and Rheological Structure of Lithosphere under the Mountain Belt and Foreland Basin of Taiwan - A Preliminary Study	M. Kanevski, A. Pozdnukhov, S. McKenna, L. Bolshov and E. Savelieva Transductive decision-oriented mapping of environmental data
17.40	L.C. Struik, M.B. Quat, P.H. Davenport and A.V. Okulitch Multi-hierarchical rock classification for use with thematic computer-based query systems	<b>F. Salvi, S. Sterlacchini and A. Zanchi</b> 3D Modelling with Gocad of complex geological structures in the frontal part of the Southern Alps	<b>N. Zhukov</b> The Windows - Application «An Estimation Of A Reserve Of Gas Field By A Method Of Simulation Of Random Tests»	L. Recatalá, F. Morcillo, A.G. Fabbri and J. Sánchez Desertification indicators for improving the decision-making process
18.00	<b>K. Asch</b> Developing a simple geological map data model (for the whole of Europe)	<b>S. Schmitz, A. Zipf and Hidir Aras</b> Open GML-based Mobile Geodata-Handling for PDAs	<b>V. Filatova</b> Tectonic processes dynamics under earth's crust formation of the N-E part of the Baltic Shield (mathematical simulation)	<b>T.N. Singh, A. Pandey and S. Puri</b> Development of new software for prediction of safe charge
18.20		<b>E. Laine</b> 3D structural modelling of gold deposits relative to tectonic history at Kutemajärvi and Pampalo gold deposits in Finland	<b>V. Karzhavin</b> Crystallization velocity of the magmatic melts at the intrusion reef formation	<b>K. Munier and H. Burger</b> Spatial analysis of thermal infrared satellite data in an urban environment
18.40		I. Mariolakos, E. Spyridonos, I. Fountoulis, E. Andreadakis, N. Minos Monitoring and modeling the spatio- temporal variation of air temperature and relative humidity in ancient Ma-cedonian graves in Vergina, Greece	<b>G. Mihnea</b> Contributions to the determination of resistivity of rocks.Consequences of Weber- Lipchitz formulas	<b>A. Victorov</b> Mathematical models of landscape patterns for geological interpretation of remote sensing data
19.00		<b>G. Nardi and A. Vietri</b> 3D GIS in the management of a three- dimensional geological model of Avellino (Southern Italy)		

# WEDNESDAY, 18th September 2002

Time	Poster (P) and software (S) presentation	Туре
10.30	Plenary poster introduction	
11.00	Poster and software presentation	
L	<b>O. Mironov, K. Fessel et al.</b> GIS technologies in the engineering geology and environmental studies	Р
L	<b>O. Spirina</b> Overview of developments of graphic and geostatistic tools for the coal quality mapping in Donets basin	Р
L	A.V. Vesselovsky and K.G. Krasavin Managing geoinformation resources on the basis of integrational programme means and GIS technology	Р
L	Y. Xiang, D. Liu and M. Zhang Developing techniques and application for regional exploration data management and analysis system	Р
L	A. Thomsen, R. Ryabcev et al. KVB-Donbas - a small system for the assessment of layered subsurface deposits. With application examples of the Ruhr (Germany) and Donets (Ukraine) hard coal deposits.(poster)	P & S
L	<b>G.</b> Gang Establish a spatial reference model for modeling and simulation – Design and Implement	S
М	J. Belickas The concept of universal geological data model: solution for integrated management of semantic and graphic data	Р
М	<b>D.</b> Collins, J. Ross Geologic map data models - standards and variants - a comparison of the North American Data Model and the Kansas data model variant. (poster)	Р
М	E. Predescu, G. STANCALIE et al. Estimation of the land surface temperature using satellite data over Romania	Р
М	V. Raghavan, S. Masumoto, M. Shibayama and K. Shiono Implementing spatial data infrastructures using open source software tools	Р
М	V. Rapševi ius and A. Juozapavi ius The stucturing of textual data for data mining in geology	Р
Ν	C. Beer, L. Jemelin et al. Indexing and standardisation of symbols and linear elements for geological maps	Р
	Conti	nuation →

### WEDNESDAY, 18th September 2002

Time	Poster (P) and software (S) presentation	Туре
10.30	Plenary poster introduction	
11.00	Poster and software presentation	
N	M. Carter	Р
	A new Information System for the Geological Survey of Ireland	
Ν	K.H. Chi, Y.K. Teon, N.W. Park and K.W. Lee	Р
	Digital geologic infrastructure building program in Korea: The first year experiences	
Ν	H. Jong-Gyu, Y. Yeon-Kwang	Р
	Web Based Digital Geoscience Information System in Korea	
Ν	K.G. Krasavin	Р
	Forming information field of geosciences in the technological complex of a research institute	
Ν	A. Reyna, M. Alberto Sandoval et al.	Р
	The Geological Dictionary as tool for the convertion and manipulation of digital National Geological Information.	
Р	I.A. Tchijova, V.S. Tikhonov and A.G. Gorelov	Р
	Mathematical model of placer-forming particles movement in water flows	
Т	V. Alyohin, B. Voyevoda	Р
	New methods for study of ecologically dangerous zones of tectonic origin on urban terretories	
Т	D. Geneletti	Р
	Spatial indicators and multicriteria analysis for ecological impact assessment of roads	
Т	S. Marzorati, L. Luzi and M. De Amicis	Р
	Rock falls induced by earthquakes: A case study for the formulation of predictive rules for hazard zoning	
Т	P. Mewis, U. Zanke	Р
	Simulation of the spreading of dumped dredged material in coastal waters	
Т	G. Miliaresis	Р
	Segmentation and analysis of South Africa's continental escarpment from moderate resolution DEMs	
Т	N.W. Park, K.H. Chi and C.J. Chung	Р
	Effects of uncertainties of boundaries in thematic maps for spatial prediction models in landslide hazard mapping	
Т	M. Yoneda, S. Morisawa, T. Kiuchi and J. Otsuka	Р
	Search for optimal arrangement of sampling points in a survey of soil pollution under the noninformative condition	

