Centar za geoinformacije i kartografiju osnovan je na 19. skupštini HATZ-a, 5. studenoga 2004. Za voditelja tog centra izabran je prof. dr. sc. Nedjeljko Frančula, redoviti član HATZ-a.

Geoinformatika ili kraće *geomatika* je znanstvena grana koja se bavi metodama opažanja, inventariziranja, modeliranja, analize, simulacije i vizualizacije prostorno-vremenskih pojavnosti i procesa iz našeg prirodnog i društveno-gospodarskog okruženja radi lakšeg upravljanja, razumijevanja, zaključivanja, prognoziranja, planiranja i donošenja odluka. Spomenute prostorno-vremenske pojavnosti i procesi po svojoj su naravi informacije vezane uz prostornu dimenziju (georeferencirane informacije) i njihova kompleksnost izdvaja geoinformatiku kao posebnu znanstvenu granu.

Kartografija je vještina, znanost i tehnologija proizvodnje i upotrebe karata. Kartografija se bavi kartama – vizualnim ili virtualnim prikazima prostora. Realne i virtualne karte različitih vrsta trebale bi omogućiti lakše razumijevanje, istraživanje, analiziranje i komuniciranje informacija o prostoru.

Centar za geoinformacije i kartografiju je dakle znanstvenoistraživačka jedinica HATZ-a osnovana za područje geoinformatike i kartografije u svrhu promicanja znanstvenih istraživanja radi njihove neposredne primjene u društvu, upravi i privredi. Posebno će se baviti tehničkim ispitivanjima i analizama, izradom znanstvenih studija, ekspertiza, recenzija, elaborata i projekata, davanjem mišljenja i zauzimanjem stajališta o pitanjima iz svoga područja djelovanja.

Pozivamo zainteresirane na razgovor i suradnju.

Adresa za kontakt

Akademija tehničkih znanosti Hrvatske
Centar za geoinformacije i kartografiju
Kačićeva 28
10000 Zagreb
e-pošta: nfrancul@geof.hr
http://www.hatz.hr

Miljenko Lapaine

31. MEĐUNARODNA KONFERENCIJA VERY LARGE DATA BASES

U Trondheimu je između 30. kolovoza i 2. rujna 2005. godine održana 31. međunarodna konferencija o velikim bazama podataka (31th International Conference on Very Large Databases). Ta konferencija, uz ACM SIGMOD/PODS (Special Interest Group on Management of Data/Principles of Databases Systems), jedna je od najznačajnijih i najvećih svjetskih konferencija iz područja baza podataka. Organizira se svake godine, a organizator je Zaklada VLDB Inc. (neprofitna organizacija iz SAD-a) radi *promoviranja i razmjene znanstvenog rada na području baza podataka na svjetskoj razini*. S obzirom na to da je riječ o znanstvenoj disciplini i tehnologiji, krucijalnoj za geoinformacijsku znanost, tehnologije i sustave, jasno je zašto bi ta i slične konferencije geodetima i geoinformatičarima trebala biti u fokusu i od posebnog interesa.

Organizator tog impozantnog skupa bilo je Norveško sveučilište znanosti i tehnologije (Norwegian University of Science and Technology), a konferencija je održana u hotelu Radisson SAS Royal Garden.

Trondheim, u čijoj strukturi stanovništva studenti sudjeluju s gotovo 20%, nazivaju "tehnološkim glavnim gradom Norveške", jer je Norveško sveučilište znanosti i tehnologije glavna nacionalna institucija u izobrazbi i istraživanjima u domeni tehnologija. Nazivaju ga i Kral-

Norveško sveučilište znanosti i tehnologije – pogled s juga

jevskim gradom, već od Haralda I-og, popularno znanoga kao Harald Hårfarge, koji je krajem IX. stoljeća ujedinio Norvešku u jedno kraljevstvo. Početkom X. stoljeća bio je i glavni grad Norveške.

Gotovo 80% norveških inženjera završilo je studij na Sveučilištu znanosti i tehnologije u Trondheimu. Poseban su znanstveni fokus tehnološke oblasti u kojima Norveška ima internacionalnu reputaciju: energija, okoliš, medicinska tehnologija, more i pomorska istraživanja, informacijske i komunikacijske tehnologije. Sa svojih sedam fakulteta, 53 odjela, 3800 djelatnika (od kojih su 548 sveučilišni profesori) i 20 000 upisanih studenata, drugo je po veličini sveučilište u Norveškoj. Unutar petog okvirnog programa EU (5th EU Frame Programme), sveučilište je uključeno u čak 85 programa, uz dodatnih 150 programa kroz suradnju s Fondacijom za znanstvena i industrijska istraživanja (SINTEF – The Foundation for Scientific and Industrial Research).

Usmjerenje (istraživačka grupa) za geomatiku nalazi se unutar Odjela građevinarstva i prometa, Fakulteta inženjerskih znanosti i tehnologija, dok je *Odjel računarskih i informacijskih znanosti* unutar Fakulteta informacijskih tehnologija, matematike i elektrotehnike.

Program konferencije VLDB 2005 tematski je podijeljen na pet komplementarnih dijelova:
* Temeljna tehnologija baza podataka (Core Database Technology) – 53 rada
* Infrastruktura za informacijske sustave (Infrastructure for Information Systems) – 32 rada
* Industrijske aplikacije i iskustva (Industrial Applications and Experiences) – 21 rad
* Demonstracijski radovi (Demonstration papers) – 30 radova
* Tutorski satovi (Tutorials) – 6 radova
* Panel diskusija (Panel) – 1 rad

Program je uključivao jedno pozvano predavanje, prezentaciju najboljeg rada u posljednjih 10 godina, 85 radova prezentiranih u 28 istraživačkih sesija, 19 prezentacija u 7 industrijskih sesija, 1 panel sesiju, 6 tutorskih satova u 15 sesija i 29 demonstracija u 9 sesija. Kao i nekoliko prethodnih konferencija, polustrukturirani model, odnosno XML upitni jezik, i ovaj put su bili u istraživačkom fokusu znanstvenika. Iz oblasti prostorno-vremenskih baza podataka prihvaćeno je 6 radova, prezentiranih u dvije istraživačke sesije: *Spatio-Temporal Query Processing*, odnosno *Spatial and Temporal Databases*.

Zbornik radova (ISBN 1-59593-154-6), koji je izdao Morgan Kaufmann Publishers, u tiskanom obliku sadrži 1372 stranice, a urednici su mu: Klemens Böhm (Universität Karlsruhe TH, Njemačka), Christian C. Jensen (Aalborg University, Danska), Laura M. Hass (IBM

Almaden Research Center, SAD), Martin L. Kersten (CWI, Nizozemska), Per Åke Larson (Microsoft Research, SAD) i Beng Chin Ooi (National University of Singapore, Singapur).

Prethodne konferencije održane su ovim redom: Framingham (1975), Bruxelles (1976), Tokyo (1977), Berlin (1978), Rio de Janeiro (1979), Montreal (1980), Cannes (1981), Mexico City (1982), Florence (1983), Singapore (1984), Stockholm (1985), Kyoto (1986), Brighton (1987), Los Angeles (1988), Amsterdam (1989), Brisbane (1990), Barcelona (1991), Vancouver (1992), Dublin (1993), Santiago de Chile (1994), Zürich (1995), Mumbai (1996), Atena (1997), New York (1998), Edinburgh (1999), Kairo (2000), Rim (2001), Hong Kong (2002), Berlin (2003) i Toronto (2004).

Iduća, 32. po redu konferencija održat će se sljedeće godine u Seulu (http://aitrc.kaist.ac.kr/~vldb06/).

U nastavku je dan pregled programa konferencije bez autora radova. Detaljan program konferencije može se vidjeti na internetskoj stranici http://www.vldb2005.org/program/full_program.php

Keynote
- Why Search Engines are Used Increasingly to Offload Queries from Databases
  Bjørn Olstad (CTO, FAST Search & Transfer, Norway)

Ten-Year Best Paper Award
- Database-Inspired Search
  David Konopnicki (IBM Haifa Research Laboratory, Israel), Oded Shmueli (Technion, Haifa, Israel)

Research Sessions

Streams and Stream-based Processing
- Sketching Streams Through the Net: Distributed Approximate Query Tracking
- Summarizing and Mining Inverse Distributions on Data Streams via Dynamic Inverse Sampling
- Adaptive Stream Filters for Entity-based Queries with Non-Value Tolerance

Data Base Architecture for New Hardware
- Improving Database Performance on Simultaneous Multithreading Processors
- Parallel Querying with Non-Dedicated Computers
- Optimistic Intra-Transaction Parallelism on Chip Multiprocessors

Integration and Mapping
- Information Preserving XML Schema Embedding
- Light-weight Domain-based Form Assistant: Querying Web Databases On the Fly
- Designing Information-Preserving Mapping Schemes for XML

XML Queries Processing #1
- Rewriting XPath Queries Using Materialized View
- Benefits of Path Summaries in an XML Query Optimizer Supporting Multiple Access Methods
- Efficient Processing of XML Path Queries Using the Disk-based F&B Index

Streams
- Customizable Parallel Execution of Scientific Stream Queries
- Using Association Rules for Fraud Detection in Web Advertising Networks
- Parameter Free Bursty Events Detection in Text Streams

XML Query Processing #2
- From Region Encoding To Extended Dewey: On Efficient Processing of XML Twig Pattern Matching
- Tree-Pattern Queries on a Lightweight XML Processor
- FiST: Scalable XML Document Filtering by Sequencing Twig Patterns

Skyline Quering
- Maximal Vector Computation in Large Data Sets
- Efficient Computation of the Skyline Cube
- Catching the Best Views of Skyline: A Semantic Approach Based on Decisive Subspaces

XML Query Processing #3
- Efficient Evaluation of XQuery over Streaming Data
- Semantic Query Optimization for XQuery over XML Streams
- Statistical Learning Techniques for Costing XML Queries

Text Data Management
- Approximate Matching of Hierarchical Data Using pq-Grams
- The TEXTURE Benchmark: Measuring Performance of Text Queries on a Relational DBMS
- n-Gram/2L: A Space and Time Efficient Two-Level n-Gram Inverted Index Structure

XML Query Processing #4
- Query Translation from XPath to SQL in the Presence of Recursive DTDs
- Pattern Tree Algebras: Sets or Sequences?
- Structure and Content Scoring for XML

Query Optimization #1
- Consistently Estimating the Selectivity of Conjuncts of Predicates
- Efficiently Processing Queries on Interval-and-Value Tuples in Relational Databases
- Selectivity Estimation for Fuzzy String Predicates in Large Data Sets

Summarization
- Space Efficiency in Synopsis Construction Algorithms
- One-Pass Wavelet Synopses for Maximum-Error Metrics
- MDL Summarization with Holes

Views and Cache Management
- View Matching for Outer-Join Views
- Caching with "Good Enough" Currency, Consistency, and Completeness
- Query Caching and View Selection for XML Databases

Query Optimization #2
- Optimizing Nested Queries with Parameter Sort Orders
- Stack-based Algorithms for Pattern Matching on DAGs
- Bidirectional Expansion For Keyword Search on Graph Databases

New Applications
- Link Spam Alliances
- The SphereSearch Engine for Unified Ranked Retrieval of Heterogeneous XML and Web Documents
- Hubble: An Advanced Dynamic Folder Technology for XML

Architectural Issues
- C-Store: A Column-oriented DBMS
- Fine-Grained Replication and Scheduling with Freshness and Correctness Guarantees
- Cache-conscious Frequent Pattern Mining on a Modern Processor

Correctness and Performance
- Parallel Execution of Test Runs for Database Application Systems
- Query Execution Assurance for Outsourced Databases
- Automatic Composition of Transition-based Semantic Web Services with Messaging

DB and IR #1
- An Efficient and Versatile Query Engine for TopX Search
- KLEE: A Framework for Distributed Top-k Query Algorithms
- Scaling and Time Warping in Time Series Querying

Peer-to-Peer and Distributed Computing
- BATON: A Balanced Tree Structure for Peer-to-Peer Networks
- Client Assignment in Content Dissemination Networks for Dynamic Dana
- Indexing Data-oriented Overlay Networks

Data Mining
- Streaming Pattern Discovery in Multiple Time-Series
- Mining Compressed Frequent-Pattern Sets
- Discovering Large Dense Subgraphs in Massive Graphs

Query Optimization and Summarization
- General Purpose Database Summarization
- Online Estimation For Subset-Based SQL Queries
- Content-Based Routing: Different Plans for Different Data
- REED: Robust, Efficient Filtering and Event Detection in Sensor Networks

DB and IR #2
- Shuffling a Stacked Deck: The Case for Partially Randomized Ranking of Search Engine Results
- Indexing Mixed Types for Approximate Retrieval
- Answering Queries from Statistics and Probabilistic Views

DB Algorithms
- Inspector Joins
- Revisiting Pipelined Parallelism in Multi-Join Query Processing
- Early Hash Join: A Configurable Algorithm for the Efficient and Early Production of Join Results

Spatio-Temporal Query Processing
- On Map-Matching Vehicle Tracking Data
- An Efficient and Scalable Approach to CNN Queries in a Road Network
- Complex Spatio-Temporal Pattern Queries

Privacy
- Distributed Privacy Preserving Information Sharing
- On k-Anonymity and the Curse of Dimensionality
- Checking for k-Anonymity Violation by Views

Spatial and Temporal Databases
- Indexing Multi-Dimensional Uncertain Data with Arbitrary Probability Density Functions
- A Trajectory Splitting Model for Efficient Spatio-Temporal Indexing
- On Computing Top-t Most Influential Spatial Sites

OLAP
- Efficient Implementation of Large-Scale Multi-Structural Databases
- OLAP Over Uncertain and Imprecise Data
- Prediction Cubes

Integration and Mapping
- Tuning Schema Matching Software using Synthetic Scenarios
- Semantic Adaptation of Schema Mappings when Schemas Evolve
- Mapping Maintenance for Data Integration Systems

Industrial Sessions

Data Warehousing and Data Mining
- Bridging the Gap between OLAP and SQL
- Optimizing Refresh of a Set of Materialized Views
- Large Scale Data Warehouses on Grid: Oracle Database 10g and HP ProLiant Systems

Applications
- The Integrated Microbial Genomes (IMG) System: A Case Study in Biological Data Management
- A Heartbeat Mechanism and Its Application in Gigascope
- Using a Fuzzy Classification Query Language for Customer Relationship Management

Potpourri
- Flexible Database Generators
- Recovery Principles in MySQL Cluster 5.1
- Getting Priorities Straight: Improving Linux Support for Database I/O

New Data Types and Applications
- Temporal Management of RFID Data
- Supporting RFID-based Item Tracking Applications in Oracle DBMS Using a Bitmap Datatype
- SVM in Oracle Database 10g: Removing the Barriers to Widespread Adoption of Support Vector Machines

XML Support in Relational Systems
- Native XML Support in DB2 Universal Database
- XQuery Implementation in a Relational Database System
- CXHist : An On-line Classification-Based Histogram for XML String Selectivity Estimation

Web Services and Databases (Invited)
- Consistency for Web Services Applications

Query Processing and Optimization
- Query by Excel
- An Efficient SQL-based RDF Querying Scheme
- Analyzing Plan Diagrams of Database Query Optimizers

Panel
- Database Publications

Demo Sessions

Data Fusion
- PrediCalc: A Logical Spreadsheet Management System
- Automatic Data Fusion with HumMer
- Querying Business Processes with BP-QL

P2P Based Systems
- StreamGlobe: Processing and Sharing Data Streams in Grid-Based P2P Infrastructures
- MINERVA: Collaborative P2P Search
- HePToX: Marrying XML and Heterogeneity in Your P2P Databases

Change Management and Data Dissemination
- U-DBMS: A Database System for Managing Constantly-Evolving Data
- Database Change Notifications: Primitives for Efficient Database Query Result Caching
- CMS-ToPSS: Efficient Dissemination of RSS Documents

Data Sharing
- Interactive Schema Translation with Instance-Level Mappings
- AReNA: Adaptive Distributed Catalog Infrastructure Based On Relevance Networks
- Data Sharing in the Hyperion Peer Database System

Stream Processing
- NILE-PDT: A Phenomenon Detection and Tracking Framework for Data Stream Management Systems
- Robust Real-time Query Processing with QStream
- Loadstar: Load Shedding in Data Stream Mining

Information Extraction
* iMeMex: Escapes from the Personal Information Jungle
* Personalizing XML Text Search in PimenT
* WISE-Integrator: A System for Extracting and Integrating Complex Web Search Interfaces of the Deep Web

XML Data Management
* WmXML: A System for Watermarking XML Data
* Pathfinder: XQuery – The Relational Way
* MIX: A Meta-data Indexing System for XML
* ULoad: Choosing the Right Storage for Your XML Application

Advanced Applications
* A Faceted Query Engine Applied to Archaeology
* A Dynamically Adaptive Distributed System for Processing Complex Continuous Queries
* RankSQL: Supporting Ranking Queries in Relational Database Management Systems
* PSYCHO: A Prototype System for Pattern Management

Querying Databases with Uncertainties
* Answering Imprecise Queries over Web Databases
* ConQuer: A System for Efficient Querying Over Inconsistent Databases
* QoS-based Data Access and Placement for Federated Information Systems

Tutorials
* Approximate Joins: Concepts and Techniques
* Offline and Data Stream Algorithms for Efficient Computation of Synopsis Structures
* Personalized Systems: Models and Methods from an IR and DB Perspective
* Contextual Insight in Search: Enabling Technologies and Applications
* Semantic Overlay Networks
* XML Full-Text Search: Challenges and Opportunities

Prije (28 – 29 kolovoz) i poslije (02 – 03 rujan) konferencije, održane su radionice:
* DBPL'05
  The 10th International Symposium on Database Programming Languages
* XSym'05
  Third International XML Database Symposium
* DBISP2P'05
  Third International Workshop On Databases, Information Systems and Peer-to-Peer Computing
* DIDDR'05
  Workshop on Design, Implementation, and Deployment of Database Replication
* TEAA'05
  VLDB Workshop on Trends in Enterprise Application Architecture
* DMSN'05
  2nd International VLDB Workshop on Data Management for Sensor Networks
* PhD'05 Workshop
* TES'05
  6th VLDB Workshop on Technologies for E-Services
* DMG'05
  1st International Workshop on Data Management in Grids
* ODBIS'05
  VLDB Workshop on Ontologies-based techniques for Data Bases and Information Systems
* SDM'05
  2nd Workshop on Secure Data Management

Zdravko Galić