

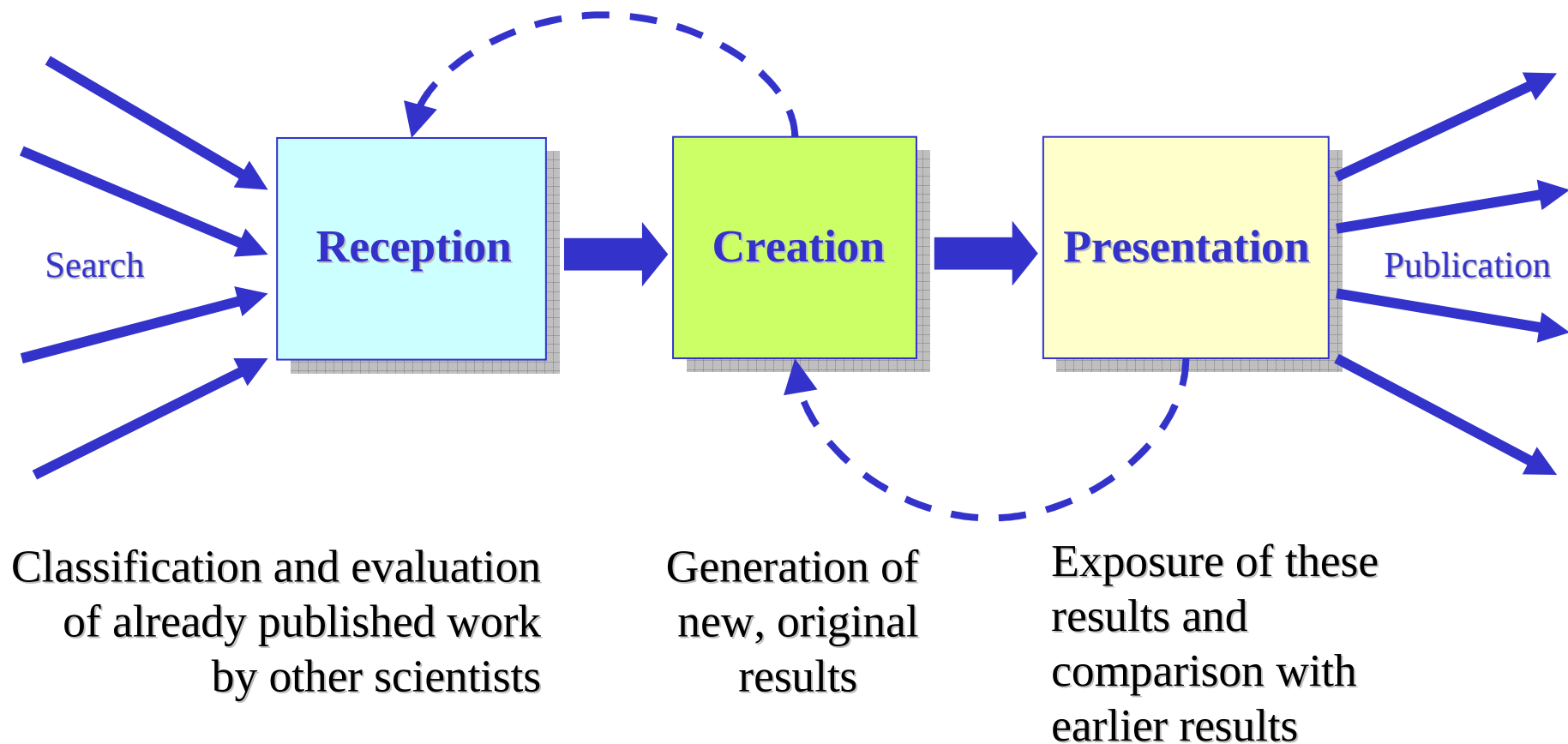
Techniques of Scientific Communication

Prof. Dr. Rainer Manthey

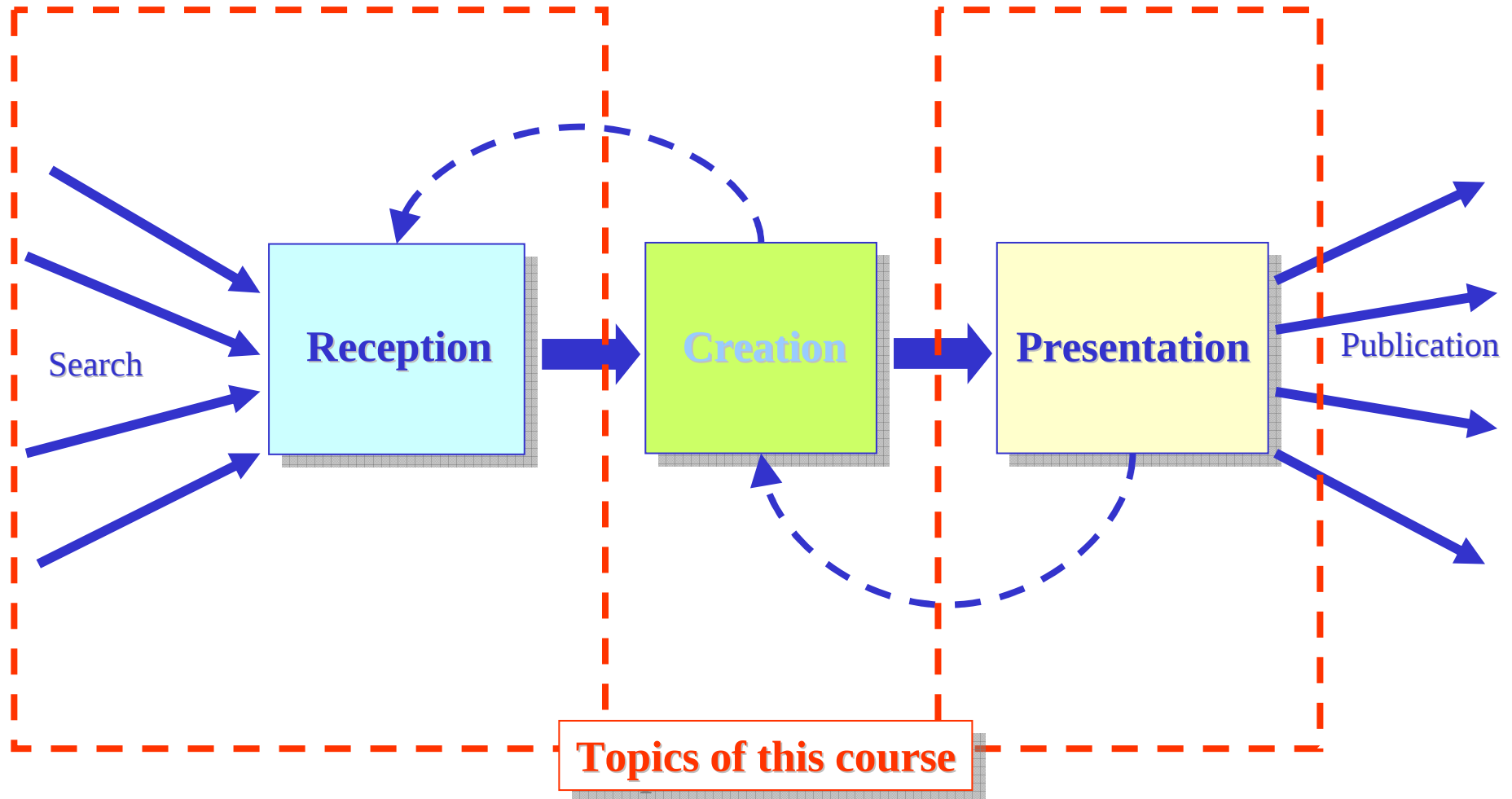


www.hetemeel.com

Scientific communication: General process and main phases

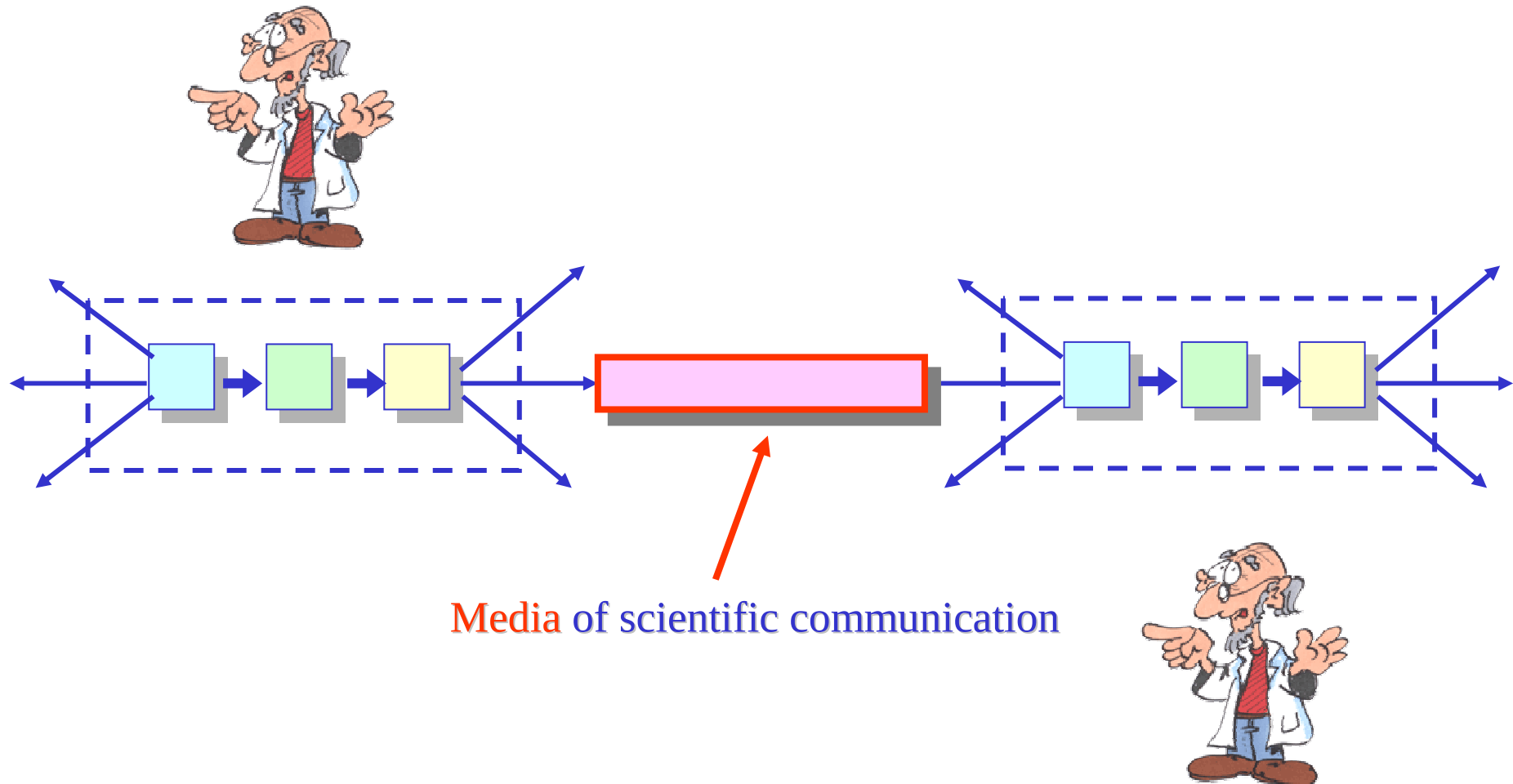


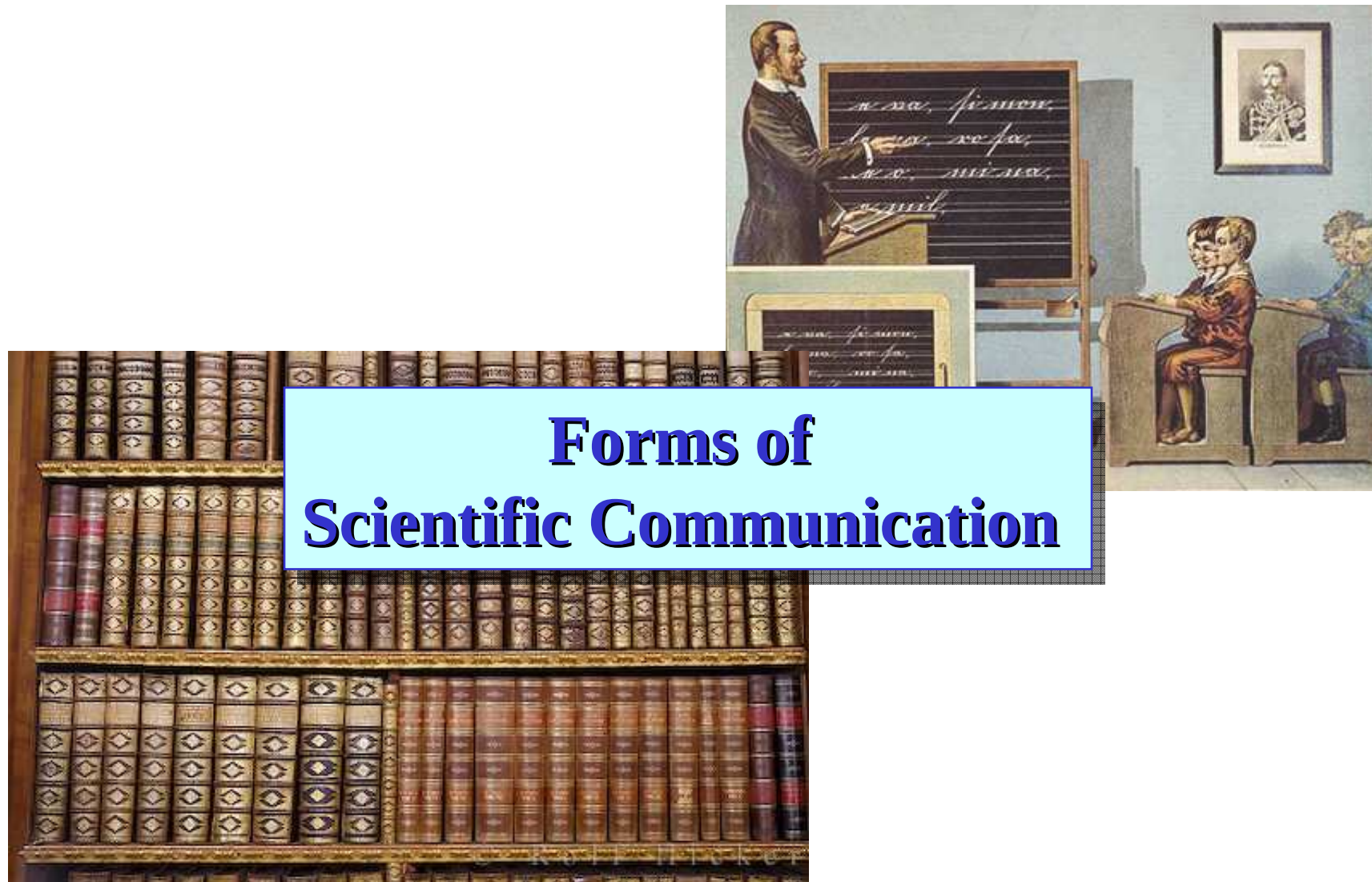
Topic of the Course (2)



Topic of the Course (3)

Main emphasis of the 1st part of the course:





Scientific Communication: Overview

- Science crucially depends on **communication** of results from one scientist to the other!
- **Academic teaching** constitutes just one special form of scientific communication, where the receiver of the communicated information is normally far less qualified than the sender.
- In **teaching**, communication takes place **orally** (lecture) or **in written form** (textbook, lecture script). Seminar presentations and exam theses belong to this category, too.
- Between qualified professional experts communication takes place in these two basic forms as well:
 - **orally**: Presentations at scientific events (such as colloquia or conferences)
 - **written**: Articles in conference proceedings or scientific journals or in monographs (books) and reports

Scientific Community (1)

The **scientific community** consists of the total body of scientists, its relationships and interactions. It is normally divided into "sub-communities" each working on a particular field within science.

en.wikipedia.org (30.8.2010)

- Scientific research takes place in public or commercial **scientific institutions**, e.g.,
 - universities and other academic schools,
 - research centres and institutes (e.g., Max Planck- and Fraunhofer-Institutes)
 - research departments in industry (e.g., Microsoft Research),
- **Scientific communication** takes mainly place in
 - scientific meetings (conferences, symposia, workshops etc.)
 - scientific journals (or magazines)
 - lecture series in scientific institutions (e.g., colloquia).

Scientific Community (2)

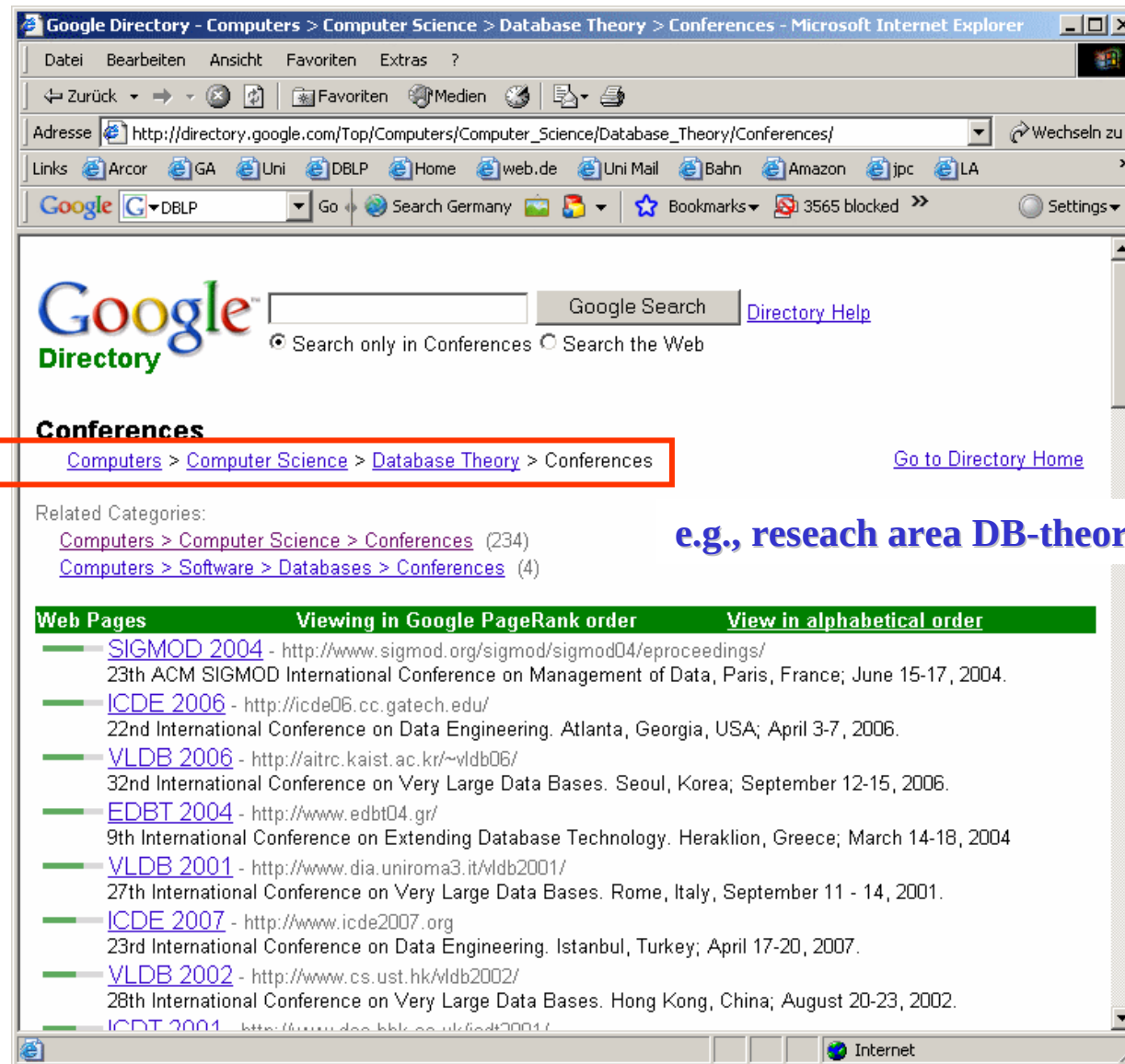
- At **conferences**, experts meet on few days at a single place delivering a large number of **talks** about one or several related areas. These talks are attended and later on discussed by other scientists.
- Each talk is normally accompanied by a written article containing the contents of the talk in extended form. The collection of all such articles appears as a book called the **proceedings** of the conference.
- **Scientific language** is – at least in computer science – nearly exclusively **English**. There is hardly any informatics literature in other languages!
- Conference contributions are submitted several months before the conference date. They are reviewed by a group of experienced scientists called the **program committee** of the respective conference.
- Quality is maintained by this form of mutual **reviewing** („**peer reviewing**“). This process characterizes scientific communication in particular.

Scientific Community (3)

- **Scientific journals** are issued by publishing houses in regular intervals (monthly, quarterly, bi-annually etc.) organized in volumes (one or more per year) and issues.
- Each issue of a journal normally contains **several articles** – less than in a volume of conference proceedings, but usually longer than conference articles.
- Articles for journals can be submitted by authors **continually**, not just on special dates or occasions. Like conference articles, they are subject to peer assessment and are selected on a competitive basis.
- Each journal has one or several **editors**, some times even a group of area editors (the editorial board) selecting the reviewers for each article submitted and taking care of maintaining certain quality standards.
- Apart from journals and proceedings, there are **other forms** of scientific publications (e.g., books and monographs, dissertations, or technical reports, which are often not reviewed at all.

Conferences

e.g., search for
a conference
via Google



e.g., reseach area DB-theory in Computer Sc.

Conferences: Example ADBIS 2009

13th East-European Conference on Advances in Databases and Information Systems (ADBIS)

Conference homepage:
<http://www.adbis2009.org/>

13th East-European Conference on
ADVANCES IN DATABASES AND
INFORMATION SYSTEMS
September 7-10, 2009
Riga, Latvia

13th conference in a
conference series
(returning once a year)

2009.09.07. 22:28
Venue
2009.09.04. 10:42

IMPORTANT DATES
Main Conference
Paper submission **closed**
Notification of paper
acceptance: **April 24,**
2009
Camera-ready papers:
May 13, 2009
Conference: September
8-10, 2009
Workshop paper
submission deadline:
Extended! May 18, 2009
Workshop session:
September 7, 2009
Doctoral Consortium
Submission deadline:
Extended! May 11, 2009
Notification of paper
acceptance: **June 15, 2009**

General information

- News
- Aims and scope
- Awards
- Topics
- Workshops
- Doctoral Consortium
- Venue
- Programme
- Organization

For authors & participants

- Important dates
- Submission

News

Slides of the keynote "Multidimensional Model: From Conceptual to Implementation Perspectives" by Prof. Dr. Elzbieta Malinowski.

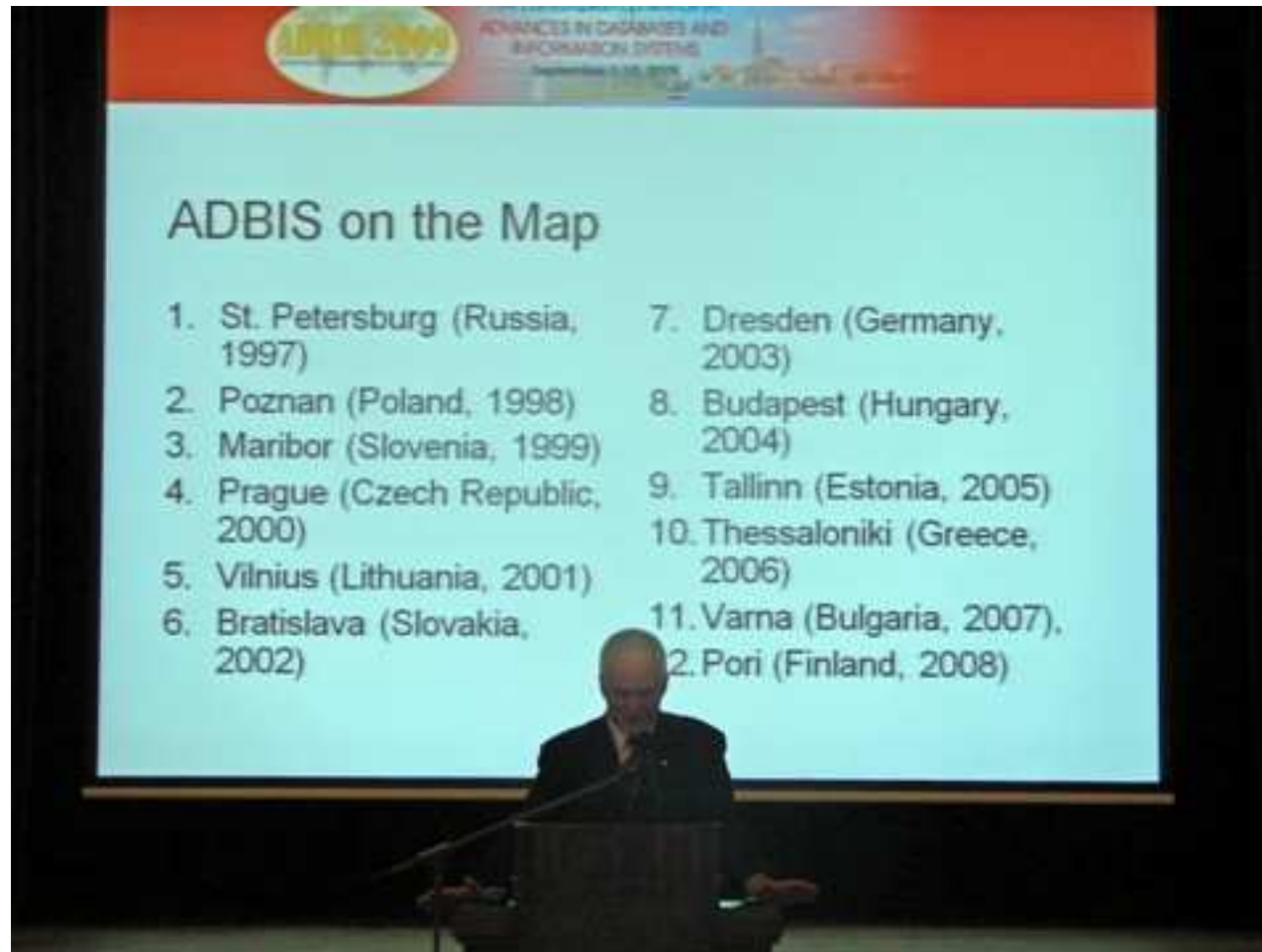
Slides of the keynote "Sausalito: An Application Server for RESTful Services in the Cloud" by Matthias Brantner.

Photos of Tuesday September 10

freedom and time to explore own ideas!
Partner:
little interest, resources, capacity to implement our own
The ACID principle, the 4th Algorithm:
Coping with Various Data Objects in the Recovery, in Comp. Systems etc. 4, 2001
Principles of Database Systems, 4th ed., ACM Press, 1994
involvement of knowledge, expertise

Fertig

ADBIS Conference Series since 1997



ADBIS 2009: Spectrum of Topics

13th East-European Conference on Advances in Databases and Information Systems (ADBIS-2009) - Mozilla Firefox

http://www.adbis2009.org/default.asp

ADBIS 2009
Advances in Databases and Information Systems
September 7-10, 2009
Riga, Latvia

search

General information

News

Topics

Workshops

Doctoral Consortium

Venue

Programme

Organization

For authors & participants

Important dates

Topics

Original papers dealing with theory and/or applications of database technology and information systems are solicited. The areas of interest include, but are not limited to the following:

- Database theory
- Indexing and search
- Query processing and optimization
- Data modeling and database design
- Physical database design and performance evaluation
- Database systems architectures
- Advanced databases (object-relational, web-based, multimedia, temporal, spatial, active, deductive, grid, real-time, etc.)
- Advanced database applications
- Middleware for connecting databases and applications
- Heterogeneous databases interoperability and mediation, data and knowledge grids
- Replication and caching
- Native semi-structured data and XML
- Data quality
- XML and databases, web services
- Databases as services
- Data mining, data warehousing, and knowledge discovery
- Data streams
- Semantic-based knowledge systems

Fertig

Topics of interest

ADBIS 2009: Program Committee



PC headed by two
chairmen:

Program committee:
62 members
from
30 countries

adbis2009Programma_1.3.pdf - Adobe Reader
Datei Bearbeiten Anzeige Dokument Werkzeuge Fenster Hilfe

Organizers

General Chair:
Janis Grundspenkis, Riga Technical University, Latvia

Program Committee Co-Chairs:
Tadeusz Morzy, Poznan University of Technology, Poland
Gottfried Vossen, University of Münster, Germany

Program Committee

Paolo Atzeni, Italy	Rainer Manthey, Germany
Guntis Barzdins, Latvia	Joris Mihaeli, Israel
Andreas Behrend, Germany	Pavol Navrat, Slovakia
Andras Benczur, Hungary	Igor Nekrestyanov, Russia
Maria Bielikova, Slovakia	Mykola Nikitchenko, Ukraine
Bostjan Brumen, Slovenia	Kjetil Norvag, Norway
Alina Campan, USA	Boris Novikov, Russia
Albertas Caplinskas, Lithuania	Gultekin Ozsoyoglu, USA
Sharma Chakravarthy, USA	Tamer Ozsu, Canada
Alfredo Cuzzocrea, Italy	Evi Pitoura, Greece

210,0 x 297,5 mm

ADBIS 2009: Organisation of the Conference and the Series



Other
committees
for
organizing
this conference

adbis2009Programma_1.3.pdf - Adobe Reader

Datei Bearbeiten Anzeige Dokument Werkzeuge Fenster Hilfe

ADBIS Steering Committee:

Leonid Kalinichenko, Russian Academy of Science, Russia (Chair)

Andras Benczur, Hungary

Albertas Caplinskas, Lithuania

Johann Eder, Austria

Marite Kirikova, Latvia

Hele-Mai Haav, Estonia

Mirjana Ivanovic, Serbia

Mikhail Kogalovsky, Russia

Yannis Manolopoulos, Greece

Rainer Manthey, Germany

Manuk Manukyan, Armenia

Joris Mihaeli, Israel

Tadeusz Morzy, Poland

Pavol Navrat, Slovakia

Boris Novikov, Russia

Mykola Nikitchenko, Ukraine

Jaroslav Pokorny, Czech Republic

Boris Rachev, Bulgaria

Bernhard Thalheim, Germany

Tatjana Welzer, Slovenia

Viacheslav Wolfengagen, Russia

Ester Zumpano, Italy

Organizing Committee Chair:

Agris Nikitenko, Riga Technical University, Latvia

Organizing Committee Members:

Janis Eiduks, Riga Technical University, Latvia

Larisa Survilo, Riga Technical University, Latvia

Dace Apshvalka, Riga Technical University, Latvia

Marite Kirikova, Riga Technical University, Latvia

Uldis Sukovskis, Riga Technical University, Latvia

Juris Borzovs, Latvian IT Cluster, Latvia

Lilita Sparane, Latvian IT Cluster, Latvia

Responsible for the
entire series

Responsible for
the current conference

ADBIS 2009: Timetable of the Conference



pdf - Adobe Reader
Document Werkzeuge Fenster Hilfe

ADBIS conference program

Date: September 8 – September 10, 2009
Location: Kaļķu 1 (Main building of Riga Technical University)

Sessions on September 8, 2009

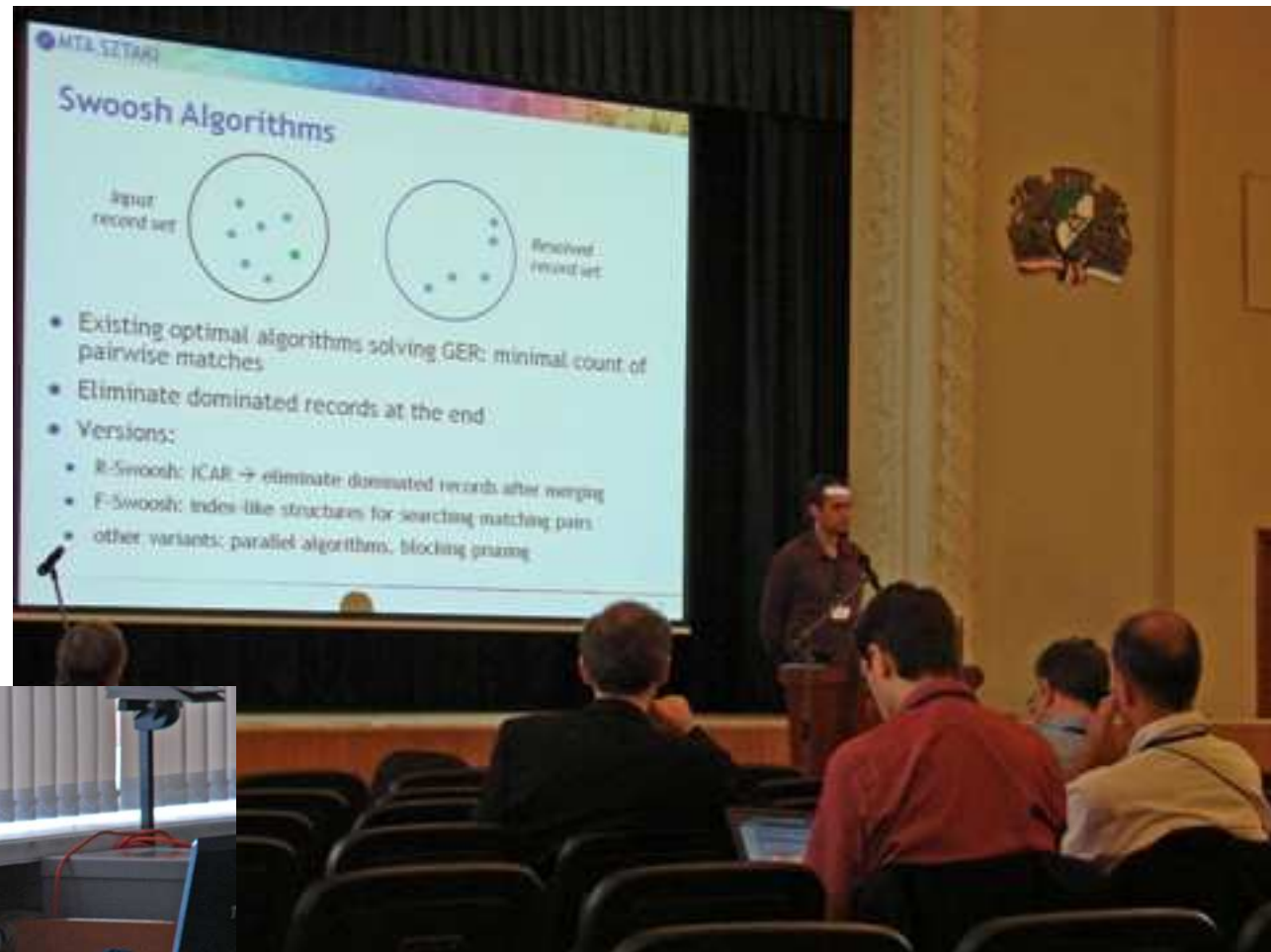
08:30 – 16:00	Registration , Anteroom of Grand Hall
09:00 – 10:30	Opening and Keynote 1 , Grand Hall Chair: G. Vossen Matthias Brantner: <i>Sausalito: An application server for RESTful services in the cloud</i>
10:30 – 11:00	Coffee break , Anteroom of Grand Hall
11:00 – 12:30	Business Processes , Grand Hall Chair: J. Grundspenkis Mohamed Amine Chaabane, Eric Andonoff, Lotfi Bouzguenda and Rafik Bouaziz: <i>Versions to address business process flexibility issue</i> Mohamed Boukhebouze, Youssef Amghar, Nabila Benharkat and Zakaria Maamar: <i>A rule-based modeling for the description of flexible and self-healing business processes</i> Janis Makna: <i>Business process aware IS change management in SMEs</i>

Sessions
(and breaks)

Session chairs

Invited presentation
(„keynote talk“)

Talks



Session chair watching

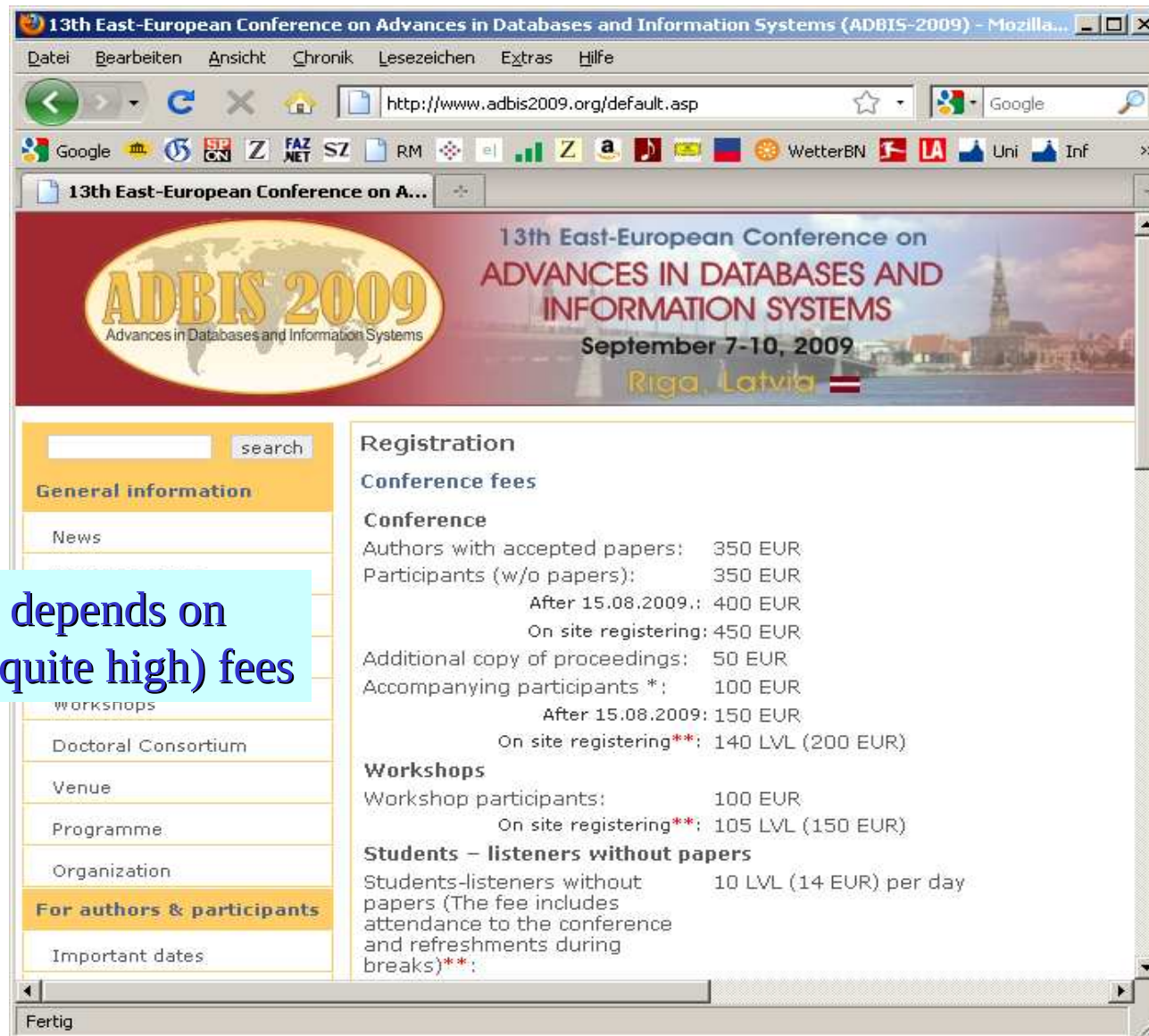
ADBIS 2009: Outside the Lecture Hall



Conferences are an important meeting place for scientists from all over the world – for discussing, for getting to know each other, for exchanging news (and gossip)



ADBIS 2009: Conference Fees



The screenshot shows the website for the 13th East-European Conference on Advances in Databases and Information Systems (ADBIS-2009). The page features a header with the conference title, dates (September 7-10, 2009), and location (Riga, Latvia). A sidebar on the left contains a search bar and a menu with links to General information, News, workshops, Doctoral Consortium, Venue, Programme, Organization, For authors & participants, and Important dates. The main content area is titled 'Registration' and 'Conference fees'. It lists the following fees:

Category	Fee
Conference	
Authors with accepted papers:	350 EUR
Participants (w/o papers):	350 EUR
After 15.08.2009.:	400 EUR
On site registering:	450 EUR
Additional copy of proceedings:	50 EUR
Accompanying participants *:	100 EUR
After 15.08.2009:	150 EUR
On site registering**:	140 LVL (200 EUR)
Workshops	
Workshop participants:	100 EUR
On site registering**:	105 LVL (150 EUR)
Students – listeners without papers	
Students-listeners without papers (The fee includes attendance to the conference and refreshments during breaks)**:	10 LVL (14 EUR) per day

The page also includes a 'Fertig' button at the bottom left.

Participation depends on payment of (quite high) fees

ADBIS 2009: Proceedings in Hardcopy



Proceedings of
the conference
in book form



ADBIS 2009: Proceedings on the Internet (1)



Advances in Databases and Information Systems - Mozilla Firefox

http://www.springer.com/computer/database+management+informatics

HOME KONTAKT

Database Management & Info Retrieval

Zeitschriften | Lehrbücher | Reihen | Deutsches Programm

Weitere Fachgebiete Zu den Fachbereichen

> Home / Informatik / Database Management & Info Retrieval

Advances in Databases and Information Systems
13th East European Conference, ADBIS 2009, Riga, Latvia, September 7-10, 2009, Proceedings
Series: Lecture Notes in Computer Science
Subseries: Information Systems and Applications, incl. Internet/Web, and HCI, Vol. 5739
Grundspenkis, Janis; Morzy, Tadeusz; Vossen, Gottfried (Eds.)
2009, XIII, 379 p., Softcover
ISBN: 978-3-642-03972-0
Online version available

Print
Recommend to others
Download Flyer

E-content
 Online Version
Click here!

All books by these editors
Grundspenkis, Janis
Morzy, Tadeusz
Vossen, Gottfried

Related subjects
Database Management & Info

57,78 €

Versandfertig innerhalb von 3 Tagen

Fertig

ADBIS 2009 Proceedings
published in the book series
„Lecture Notes in Computer Science“
of the German publisher Springer-Verlag
(Online-Version)

ADBIS 2009: Proceedings on the Internet (2)

ADBIS 2009
Advances in Databases and Information Systems

Login
Jetzt registrieren
Zugangsdaten vergessen?
Hilfe.

Mein Menü
Markierte Beiträge
Alerts
Meine Bestellungen

SpringerLink - Buch
http://www.springerlink.com/content/t81881t13563/

Advances in Databases and Information Systems
13th East European Conference, ADBIS 2009, Riga, Latvia, September 7-10, 2009.
Proceedings

Buchreihen Lecture Notes in Computer Science
Verlag Springer Berlin / Heidelberg
ISSN 0302-9743 (Print) 1611-3349 (Online)
Volume 5739/2009
DOI 10.1007/978-3-642-03973-7
Copyright 2009
ISBN 978-3-642-03972-0
Fachgebiete Informatik
SpringerLink Date Freitag, 21. August 2009

Beitrag markieren
Zu gespeicherten Artikeln hinzufügen
Diese Buch empfehlen
About This Volume

Inhaltsverzeichnis | Beitragsliste | Erweiterte Beitragsliste

26 Buchkapitel
Erste Seite | 1-10 | 11-20 | 21-26 | Nächste Seite

Front Matter
PDF (300,5 KB)

Kapitel 1
Sausalito: An Application Servers for RESTful Services in the Cloud
Matthias Brantner
PDF (38,2 KB)

Kapitel 2-14
Versions to Address Business Process Flexibility Issue
Mohamed Amine Chaâbane, Eric Andonoff, Rafik Bouaziz and Lotfi Bouzguenda
PDF (312,8 KB)

Kapitel 15-27
A Rule-Based Modeling for the Description of Flexible and Self-healing Business Processes
Mohamed Boukhebouze, Youssef Amghar, Aïcha-Nabila Benharkat and Zakaria Maamar

Ergebnisse | Erweiterte Suche
finden
im gesamten Inhalt
in dieser Buchreihen
in dieser Buch
Go

Erster (Nächster) Buchstabe
Go
a b c d e f g h i j k l
m n o p q r s t u v
w x y z Leertaste mehr

Autor
Rada Chirkova
Theo Härder
Rainer Manthey
Andreas Behrend

Online-Version of the proceedings – table of contents is freely accessible

Fertig

ADBIS 2009: Tagungsband im Internet (3)

ADBIS 2009
Advances in Databases and Information Systems

Um unsere personalisierten Angebote nutzen zu können, müssen Sie angemeldet sein.
[Login](#)
[Jetzt registrieren](#)

Zugang nur für Abonnenten

Buchreihen	Lecture Notes in Computer Science
Verlag	Springer Berlin / Heidelberg
ISSN	0302-9743 (Print) 1611-3349 (Online)
Volume	Volume 5739/2009
Buch	Advances in Databases and Information Systems
DOI	10.1007/978-3-642-03973-7
Copyright	2009
ISBN	978-3-642-03972-0
DOI	10.1007/978-3-642-03973-7_2
Seiten	2-14
Fachgebiete	Informatik
SpringerLink Date	Freitag, 21. August 2009

Zugang nur für Abonnenten

Klicken Sie den „Kaufen“ Button, um den Beitrag in den Warenkorb zu legen

Beschreibung	Preis
Individual Book Chapter (Electronic Only)	25,00 \$ Kaufen

Anmeldung für registrierte Nutzer

Benutzername

Passwort

Login

Fertig

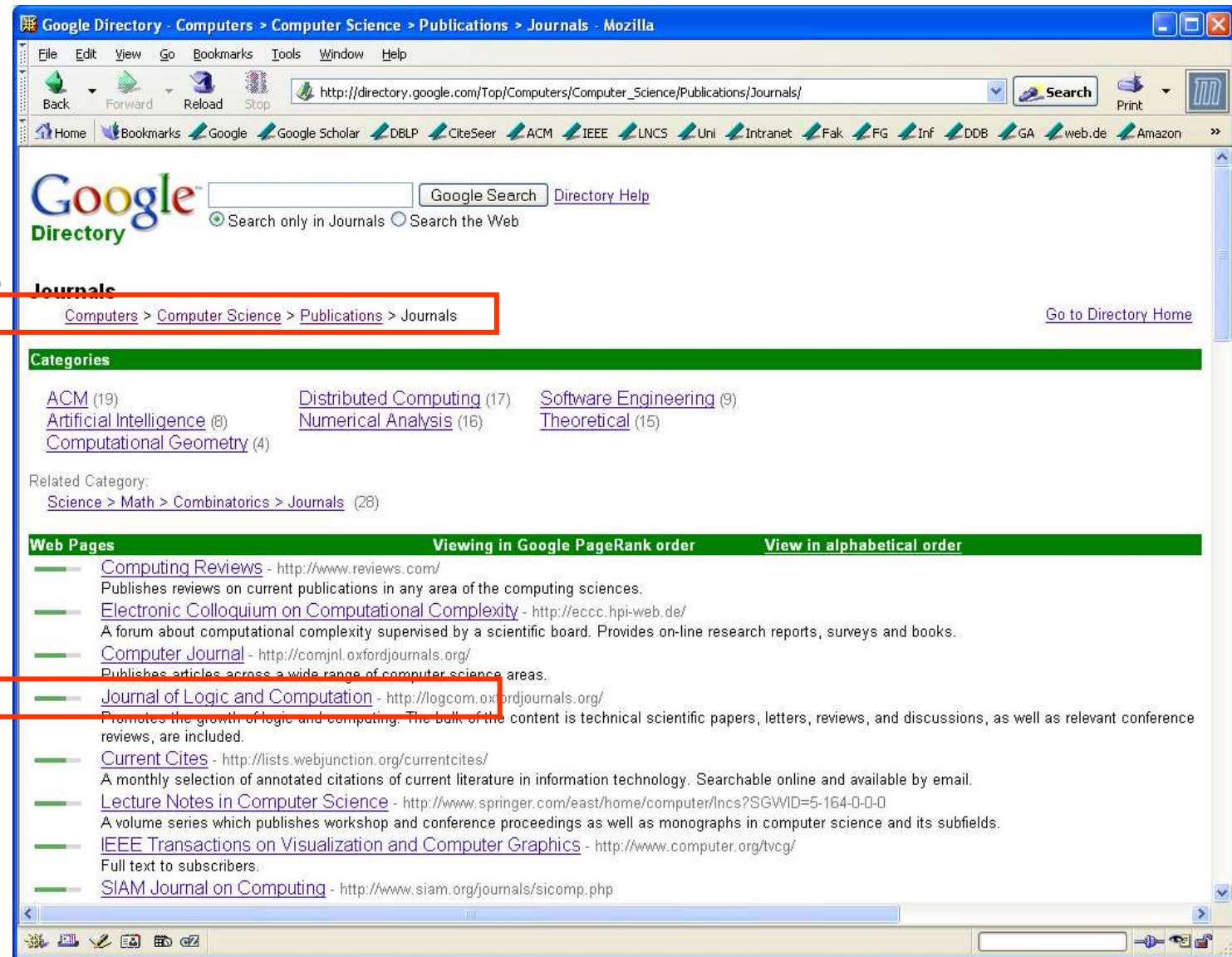
Ergebnisse finden **Erweiterte Suche**

(m gesamten Inhalt)

Journals

e.g., search for
computer science
journals
via Google

e.g., Journal of
Logic and
Computation



Journals: Example Journal of Logic and Computation

Oxford Journals | Mathematics & Physical Sciences | Journal of Logic and Computation - Mozilla Firefox

http://logcom.oxfordjournals.org/

Oxford Journals | Mathematics & Ph...

OXFORD JOURNALS

Journal of
Logic and Computation

ABOUT THIS JOURNAL CONTACT THIS JOURNAL SUBSCRIPTIONS CURRENT

Oxford Journals > Mathematics & Physical Sciences > Journal of Logic and Computation

READ THIS JOURNAL

[View Current Issue \(Volume 19 Issue 5 October 2009\)](#)

[Advance Access](#)

[Browse the Archive](#)

The *Journal of Logic and Computation* aims to promote the growth of logic and computing, including, among others, the following areas of interest: Logical Systems, such as classical and non-classical logic, constructive logic, categorical logic, modal logic, type theory, feasible maths.... Logical issues in logic programming, knowledge-based systems and automated reasoning; logical issues in knowledge representation, such as non-monotonic reasoning and systems of knowledge and belief; logics and semantics of programming; specification and verification of programs and systems; applications of logic in hardware and VLSI, natural language, concurrent computation, planning, and databases. The bulk of the content is technical scientific papers, although letters, reviews, and discussions, as well as relevant conference reviews, are included.

SEARCH THIS JOURNAL > [Advanced search](#)

Fertig

Impact factor: 0.536

Editor-in-Chief
D M Gabbay
> [View full editorial board](#)

FOR AUTHORS

> [Instructions to authors](#)
> [Self archiving policy](#)

JLC Homepage:

- Publisher: Oxford Journals
- Editor-in-Chief:
Dov Gabbay
- Current volume:
Volume 19
- Current issue:
Issue 5 (Okt. 09)

JLC: Archive of all Issues

JLC Archive:
19 volumes
at 6 issues
each

The screenshot shows a Mozilla Firefox browser window displaying the 'J Logic Computation -- Archive of Issues by Date' page. The address bar shows the URL <http://logcom.oxfordjournals.org/archive/>. The page features the Oxford Journals logo and the title 'Journal of Logic and Computation'. A navigation bar includes links for 'CONTACT US', 'MY BASKET', and 'MY ACCOUNT'. Below the title, there are links for 'ABOUT THIS JOURNAL', 'CONTACT THIS JOURNAL', 'SUBSCRIPTIONS', 'CURRENT ISSUE', 'ARCHIVE', and 'SEARCH'. The breadcrumb trail reads: 'Oxford Journals > Mathematics & Physical Sciences > Journal of Logic and Computation > Issue Archive'. A banner for 'QUALITY BULK ARTICLE REPRINTS AVAILABLE' is visible. The main heading is 'Archive of All Online Issues: July 1990 - October 2009'. Below this, there are two sections: 'Current Issue:' and 'Recent Issues:'. The 'Current Issue:' section shows the cover of the 'October 2009' issue, Vol. 19, Num. 5. The 'Recent Issues:' section shows the covers of the 'August 2009' (Vol. 19, Num. 4), 'June 2009' (Vol. 19, Num. 3), and 'April 2009' (Vol. 19, Num. 2) issues. The page footer includes the word 'Fertig'.

**Publisher of the journal:
OUP – a well-established
science publisher**

Oxford University Press: History

About Us | Contact Us | Jobs | For Authors | Press Room

OXFORD
UNIVERSITY PRESS

Oxford University Press is a department of the University of Oxford. It furthers the University's objective of excellence in research, scholarship, and education by publishing worldwide.

History

Oxford University Press had its origins in the information technology revolution of the late fifteenth century, which began with the invention of printing from movable type. The first book was printed in Oxford in 1478, only two years after Caxton set up the first printing press in England.

Despite this early start, the printing industry in Oxford developed in a somewhat haphazard fashion over the next century. It consisted of a number of short-lived private businesses, some patronized by the University. But in 1586 the University itself obtained a decree from the Star Chamber confirming its privilege to print books. This was further enhanced in the Great Charter secured by Archbishop Laud from King Charles I, which entitled the University to print 'all manner of books'.

Timeline

1478	First book printed in Oxford
1586	Decree of Star Chamber grants the University one printer and printing press
1669	Printing begins in the Sheldonian Theatre
1713	The Press moves to the Clarendon Building

JLC: Editorial Board and Goals

The screenshot displays the Oxford Journals website for the Journal of Logic and Computation. The left sidebar contains the Editorial Board and Journal Administrator information, while the main content area shows the 'About the Journal' section and a table of Impact Factor and Ranking.

EDITOR-IN-CHIEF:

D M Gabbay
Department of Computer Science
Kings College London
Strand
London
WC2R 2LS
UK

JOURNAL ADMINISTRATOR:

J Spurr
UK

[Publishers: Sending books for review](#)

EDITORIAL BOARD:

S Abramsky
UK

K R Apt
Netherlands

H Barendregt
Netherlands

H Barringer
UK

J van Benthem
Netherlands

H D Ehrich
Germany

ABOUT THE JOURNAL

Logic has found application in virtually all aspects of Information Technology, from software engineering and hardware to programming and artificial intelligence. Indeed, logic, artificial intelligence and theoretical computing are influencing each other to the extent that a new interdisciplinary area of Logic and Computation is emerging.

The *Journal of Logic and Computation* aims to promote the growth of logic and computing, including, among others, the following areas of interest: Logical Systems, such as classical and non-classical logic, constructive logic, categorical logic, modal logic, type theory, feasible maths.... Logical issues in logic programming, knowledge-based systems and automated reasoning; logical issues in knowledge representation, such as non-monotonic reasoning and systems of knowledge and belief; logics and semantics of programming; specification and verification of programs and systems; applications of logic in hardware and VLSI, natural language, concurrent computation, planning, and databases. The bulk of the content is technical scientific papers, although letters, reviews, and discussions, as well as relevant conference reviews, are included.

IMPACT FACTOR AND RANKING

Year	Impact Factor	Si: Computer Science, Theory & Methods
2008	0.536	70 out of 85
2007	0.821	39 out of 79

JLC: Contents of the Current Issue

J Logic Computation -- Table of Contents (October 2009, 19 [5]) - Mozilla Firefox

Datei Bearbeiten Ansicht Chronik Lesezeichen Extras Hilfe

http://logcom.oxfordjournals.org/content/vol19/i

Google SP ON Z FAZ NET SZ RM el Z a WetterBN LA Uni

J Logic Computation -- Table of Cont...

Original Articles ■

- ☐ Márcio M. Ribeiro and Renata Wassermann
Base Revision for Ontology Debugging
Journal of Logic and Computation Advance Access published on September 5, 2008
J Logic Computation 2009 19: 721-743; doi:10.1093/logcom/exn048
[\[Abstract\]](#) [\[PDF\]](#) [\[References\]](#) [\[Request Permissions\]](#)
- ☐ Giuseppe De Giacomo, Maurizio Lenzerini, Antonella Poggi, and Riccardo Rosati
On Instance-level Update and Erasure in Description Logic Ontologies
Journal of Logic and Computation Advance Access published on August 6, 2008
J Logic Computation 2009 19: 745-770; doi:10.1093/logcom/exn051
[\[Abstract\]](#) [\[PDF\]](#) [\[References\]](#) [\[Request Permissions\]](#)
- ☐ Jennifer Golbeck and Christian Halaschek-Wiener
Trust-based Revision for Expressive Web Syndication
Journal of Logic and Computation Advance Access published on September 30, 2008
J Logic Computation 2009 19: 771-790; doi:10.1093/logcom/exn045
[\[Abstract\]](#) [\[PDF\]](#) [\[References\]](#) [\[Request Permissions\]](#)

Geldart and William Song
Category-based Equational Reasoning: An Approach to Ontology Integration
Journal of Logic and Computation Advance Access published on August 22, 2008
J Logic Computation 2009 19: 791-806; doi:10.1093/logcom/exn044
[\[Abstract\]](#) [\[PDF\]](#) [\[References\]](#) [\[Request Permissions\]](#)

Fertig

JLC Volume 19, Issue 5:

Table of Contents

JLC: Abstract of a Particular Article

On Instance-level Update and Erasure in Description Logic Ontologies

Giuseppe De Giacomo, Maurizio Lenzerini, Antonella Poggi and Riccardo Rosati

Dipartimento di Informatica e Sistemistica "Antonio Ruberti", Sapienza Università di Roma, Via Ariosto 25, 00185 Roma, Italy.
E-mail: lastname@dis.uniroma1.it

Received 11 November 2007.

Abstract

A Description Logic (DL) ontology is constituted by two components, a TBox that expresses general knowledge about the concepts and their relationships, and an ABox that describes the properties of individuals that are instances of concepts. We address the problem of how to deal with changes to a DL ontology, when these changes affect only the ABox, i.e. when the TBox is considered invariant. We consider two basic changes, namely instance-level update and instance-level erasure, roughly corresponding to the addition and the deletion of a set of facts involving individuals. We characterize the semantics of instance-level update and erasure on the basis of the approaches proposed by Winslett and by Katsuno and Mendelzon. Interestingly, DLs are typically not closed with respect to instance-level update and erasure, in the sense that the set of models corresponding to the application of any of these operations to a knowledge base in a DL $\mathcal{L}$ may not be expressible by ABoxes in $\mathcal{L}$. In particular, we show that this is true for $DL-Lite_F$, a tractable DL that is oriented towards data-intensive applications. To deal with this problem, we first introduce $DL-Lite_{FS}$, a DL that minimally extends $DL-Lite_F$ and is closed with respect to instance-level update, and present a polynomial algorithm for computing instance-level update in this logic. Then, we provide a principled notion of best approximation with respect to a fixed language $\mathcal{L}$ of instance-level update and erasure, and exploit the algorithm for instance-level update for $DL-Lite_{FS}$ to get polynomial algorithms for approximated instance-level update and erasure for $DL-Lite_F$. These results confirm the nice computational properties of $DL-Lite_F$ for data intensive applications, even where information about instances is not only read, but also written.

Keywords: Description Logic; ontologies; update; erasure

JLC Volume 19, Issue 5:

Abstract (short version)
of the 2nd article

JLC: Fulltext Subject to Charge

JLC Volume 19, Issue 5:

Fulltext – normally only
at charge or on subscription !!

J Logic Computation -- Sign In Page - Mozilla Firefox

http://logcom.oxfordjournals.org/c

Journal of Logic and Computation

requires a subscription* to Journal of Logic and Computation Online.

articles prior to 1996 are not normally available via a current subscription. In order to view time, access to the Oxford Journals [digital archive](#) is required. If you would like to purchase short-term access you must have a personal account. Please sign in below with your personal user name and password or [register](#) to obtain a user name and password for free.

PDF
On Instance-level Update and Erasure in Description Logic Ontologies
De Giacomo et al. *J Logic Computation*.2009; 19: 745-770

To view this item, select one of the options below:

► Sign In

User Name

Password

☐ Remember my user name & password.

[Forgot your user name or password?](#)

► Purchase Short-Term Access

* Pay per View - If you would like to purchase short-term access you must have a personal account. Please sign in with your personal user name and password or [register](#) to obtain a user name and password for free. You may access this article for 1 day for US\$36.00.

This Article

- Abstract
- References
- Alert me when this article is cited
- Alert me if a correction is posted

Services

- Email this article to a friend
- Similar articles in this journal
- Alert me to new issues of the journal
- Add to My Personal Archive
- Download to citation manager
- Request Permissions

Google Scholar

- Articles by De Giacomo, G.
- Articles by Rosati, R.

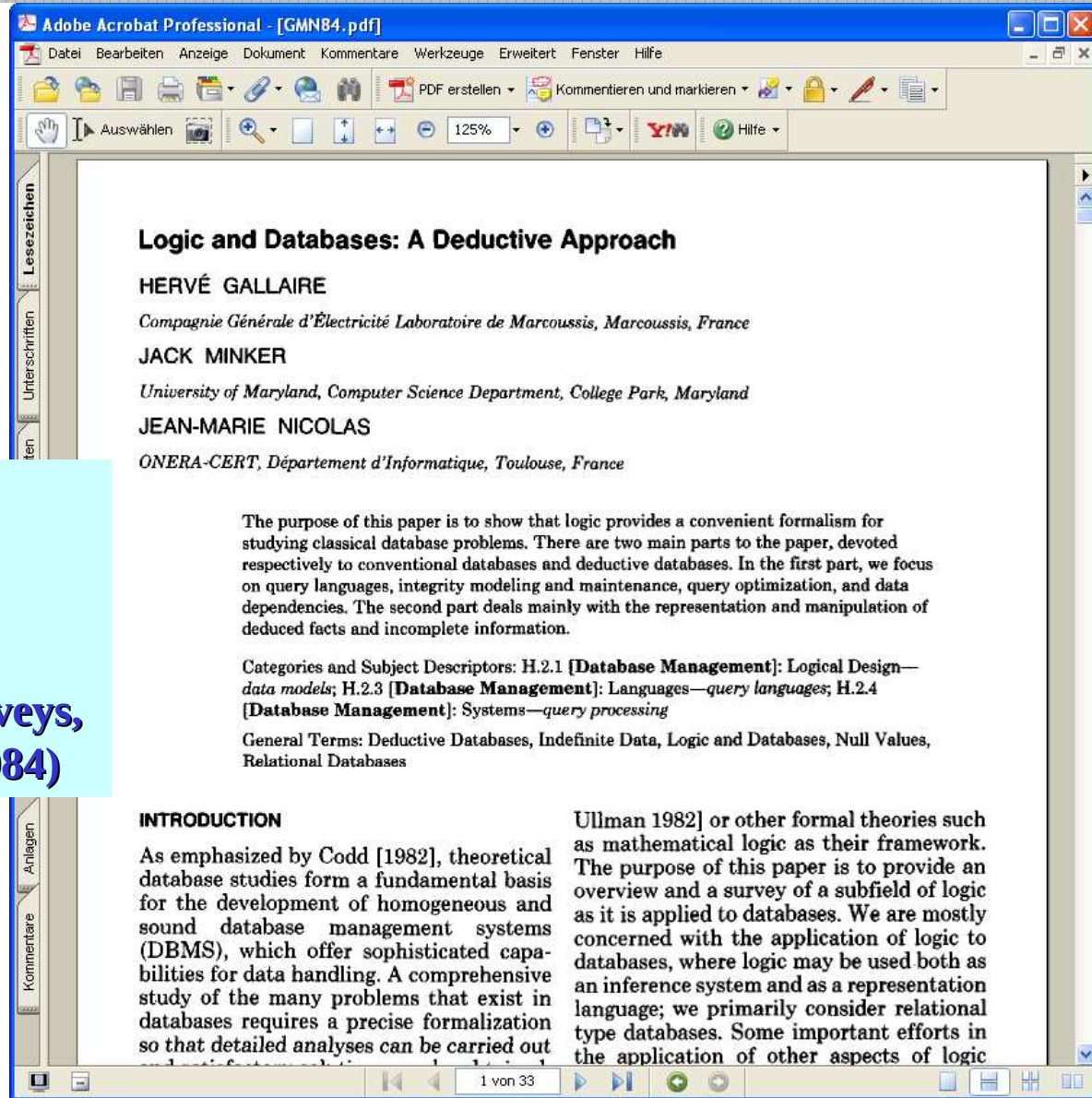
Social Bookmarking

Who's this?

Journal: Typical Journal Article

Example of another journal article

(Source:
ACM Computing Surveys,
Vol. 16, No. 2, June 1984)



Scientific Genealogy: Publications

Each scientific publication has a list of references containing information about the „scientific predecessors“ of the respective article:

Logic and Databases: A Deductive Approach

HERVÉ GALLAIRE
Compagnie Générale d'Électricité Laboratoire de Marcoussis, Marcoussis, France

JACK MINKER
University of Maryland, Computer Science Department, College Park, Maryland

JEAN-MARIE NICOLAS
ONERA-CERT, Département d'Informatique, Toulouse, France

References:

- REITER, R. 1981. On the integrity of first-order databases. In *Advances in Data Base Theory*, vol. 1, H. Gallaire, J. Minker, and J.-M. Nicolas, Eds. New York, pp. 137-158.
- ULLMAN, J. D. 1982. Circumscription implies predicate logic (sometimes). In *Proceedings of the 1982 Conference on Artificial Intelligence* (Pittsburgh, Pa., Aug.). AAAI, Menlo Park, pp. 418-420.
- ULLMAN, J. D. 1983. A sound and sometimes complete evaluation algorithm for relational data with null values. Tech. Rep. 83-11, Computer Science Dept., University of British Columbia (June).
- ULLMAN, J. D. 1984. Towards a logical reconstruction of relational database theory. In *On Conceptual Modeling*, M. Brodie, J. Mylopoulos, and J. W. Thatcher, Eds. Springer-Verlag, Berlin and New York, pp. 1-12.
- ULLMAN, J. D. 1980. A complete axiomatization for a large class of dependencies in relational databases. In *Proceedings of the 17th Annual ACM-SIGACT Symposium on Theory of Computing*. ACM, New York, pp. 117-122.
- SADRI, F., AND ULLMAN, J. D. 1982. Template dependencies: A large class of dependencies in relational databases and its complete axiomatization. *J. ACM* 29, 2 (Apr.), 363-372.
- SAGIV, Y. 1980. An algorithm for inferring multivalued dependencies with an application to propositional logic. *J. ACM* 27, 2 (Apr.), 250-262.
- SAGIV, Y., AND FAGIN, R. 1979. An equivalence between relational database dependencies and a subset of propositional logic. Res. Rep. RJ2500, IBM Research Division, Yorktown Heights, New York.
- STONEBRAKER, M. R., WONG, E., AND KEEPS, P. 1976. The design and implementation of INGRES. *ACM Trans. Database Syst.* 1, 3 (Sept.), 189-222.
- ULLMAN, J. D. 1980. *Principles of Database Systems*. Computer Science Press, Potomac, Md.
- ULLMAN, J. D. 1982. *Principles of Database Systems*, 2nd ed. Computer Science Press, Potomac, Md.
- VAN EMDEN, M. H. 1978. Computation and deductive information retrieval. In *Formal Description of Programming Concepts*, E. J. Neuhold, Ed. Elsevier North-Holland, New York, pp. 421-440.
- VAN EMDEN, M. H., AND KOWALSKI, R. A. 1976. The semantics of predicate logic as a programming language. *J. ACM* 23, 4 (Oct.), 733-742.
- VARDI, M. Y. 1981. The decision problem for database dependencies. *Inf. Process. Lett.* 12, 5 (Oct.), 251-254.
- VASSILOU, Y. 1979. Null values in data base management—A denotational semantics approach. In *Proceedings of the ACM-SIGMOD International Conference on the Management of Data* (Boston, May 30-June 1). ACM, New York, pp. 162-169.
- VASSILOU, Y. 1980. Functional dependencies and incomplete information. In *Proceedings of the 6th International Conference on Very Large Data Bases* (Montreal, Oct. 1-3). IEEE, New York, pp. 260-269.
- VELOSO, P. A. S., DE CASTILHO, J. M. V., AND FURTADO, A. L. 1981. Systematic derivation of complementary specifications. In *Proceedings of the 7th International Conference on Very Large Data Bases* (Cannes, France, Sept. 9-11). IEEE, New York, pp. 409-421.
- WARREN, D. H. D. 1981. Efficient processing of interactive relational database queries expressed in logic. In *Proceedings of the 7th International Conference on Very Large Data Bases* (Cannes, France, Sept. 9-11). IEEE, New York, pp. 272-281.
- WOODS, W. A. 1987. Semantics for queries on

Thus, each publication has its own „scientific family tree“ of all previous work, directly or indirectly influencing the new paper!

Scientific Genealogy: Research Areas

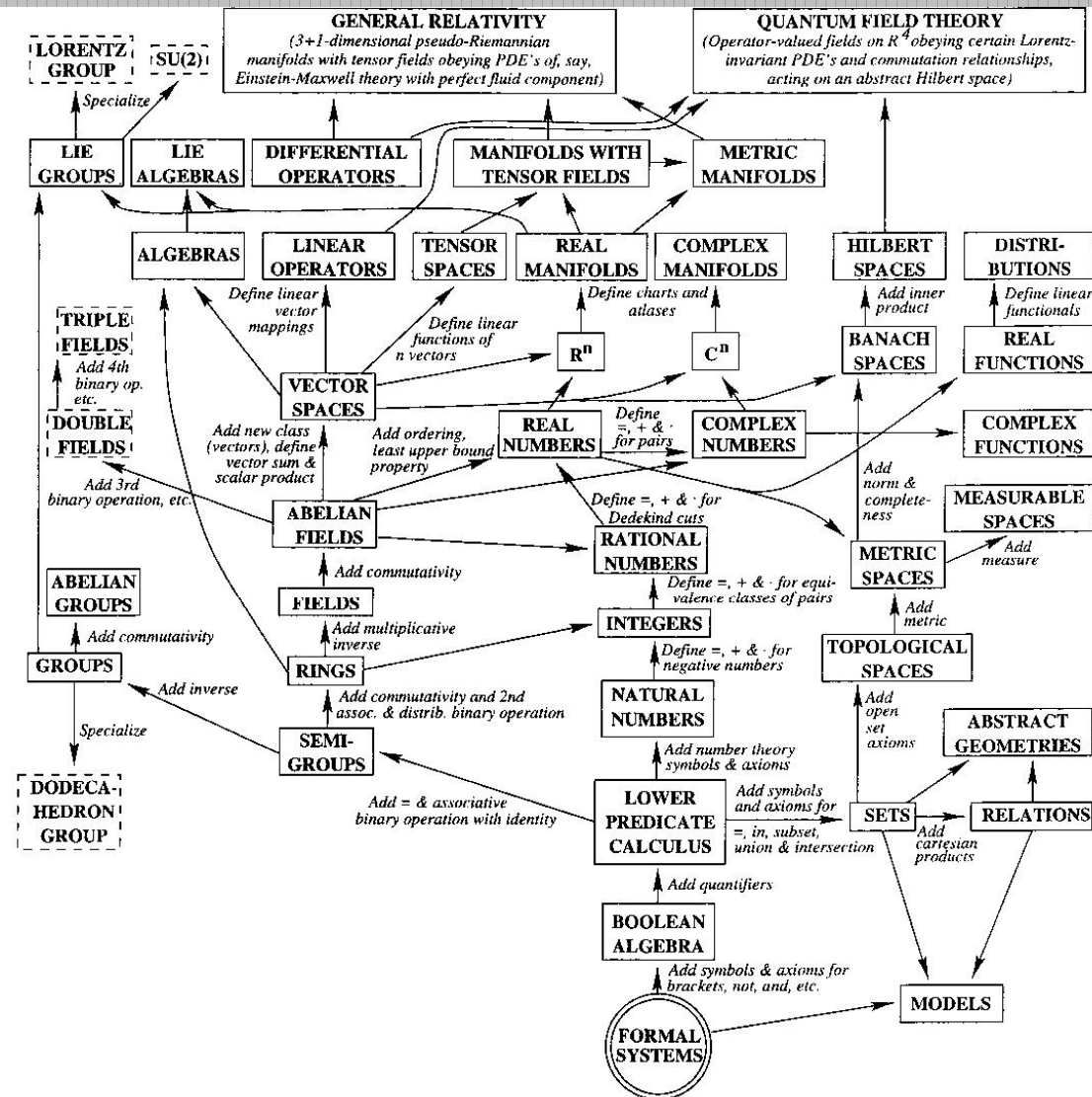


FIG. 1. Relationships between various basic mathematical structures. The arrows generally indicate addition of new symbols and/or axioms. Arrows that meet indicate the combination of structures — for instance, an algebra is a vector space that is also a ring, and a Lie group is a group that is also a manifold.

Scientific Genealogy: Scientists

