



L3S @ work

Web Science – Investigating the Future of Information and Communication

Web Science and Inter-disciplinarity

New areas require new challenges: Since its beginnings about 20 years ago, when it started out as a small network with just a few hundred servers, the Web has developed into a worldwide information and communication infrastructure with a considerable influence on business, science, and society.

Most of the world's information is already available via the Web and the databases and digital libraries associated with it. The Web has also become a highly interactive medium in which users can not only access information, but also create it.

There's no doubt about it: The Web has become a "social factor" that has changed every individual's environment and potential. This transition will have far-reaching ramifications for people's future working and living habits.

To tackle these challenges, the L3S Research Center develops innovative methods and technologies that enable intelligent, seamless access to information via the Web, support and link together individuals and communities across all areas of the knowledge society – including academia and education – and connect the Internet to the real world and its institutions. In order to achieve that, the L3S works at the forefront of the new research field called Web Science.



Fig.2: LUH-President Prof. Erich Barke at the L3S

Interdisciplinary Research at the L3S

Based on the positive evaluation by the German Council of Science and Humanities (Wissenschaftsrat) in 2010, the L3S is evolving into an interdisciplinary research institution that will be able to cover all relevant aspects of Web Science from a single source. To ensure that all users are given the help they need to gain access to the knowledge and information society, research activities at the L3S include all of the technical and social aspects neces-

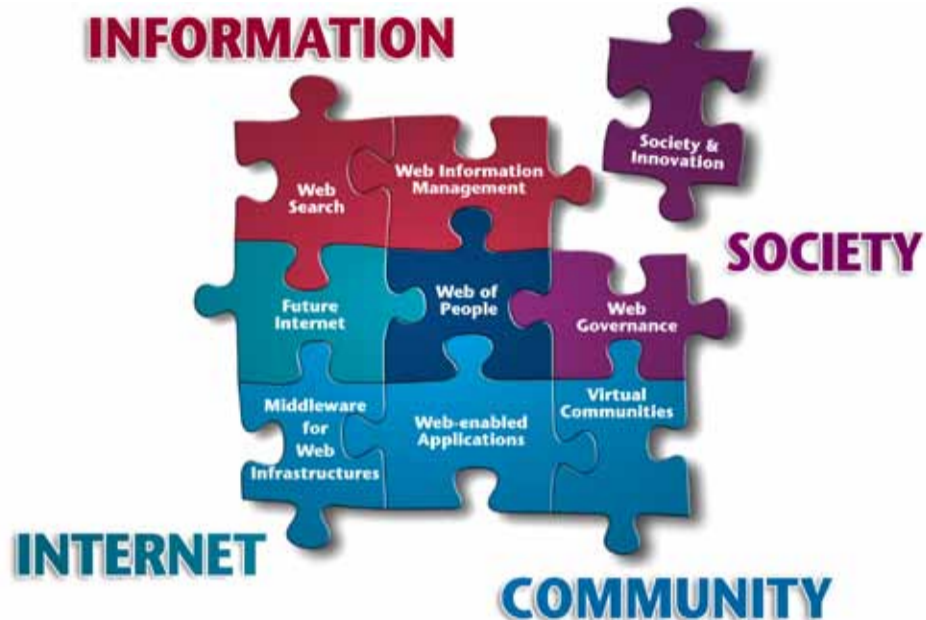


Fig.1: Web Science research fields

sary to develop and improve the Web. This obviously includes computer science as well as other disciplines, such as psychology, sociology, and economics and law.

With this in mind, the L3S plans to expand the areas in which it performs research over the next few years, moving into interdisciplinary fields that supplement existing L3S core fields in Web Science in a meaningful way and adding expertise in those fields.

Research Areas at the L3S

Besides the research center's current core fields – which involve important fundamental research in the context of Web Science, such as information retrieval, the semantic web, and data mining – the figure above also reflects new fields that expand upon the traditional L3S research areas: Web Governance, Society and Innovation, Virtual Communities, and Web-enabled Applications. Together, they aim to cover all aspects relevant to the field of Web Science, from Internet infrastructure to the effects of the Web on society.

The research area Web of People focuses on communication and networking of users on the Web, how users provide and use a wide range of content on the Web, plus personalization of communication and information infrastructures for individuals and groups of users. Web Information Management and Web Search functions play a crucial role when it comes to information access on the Web. This applies to both digital libraries and the Deep Web, as well as to all kinds of text-based, semi-structured or multimedia information on the Web.

Appropriate Middleware for Web Infrastructures, building on distributed services and corresponding functionalities for guaranteeing data security on the Web, is another area of focus in our research, as is the architecture of the Future Internet, which has to be able to adjust flexibly to the ever-changing requirements imposed by Web applications that rely on the Internet as their basis.

Another recently added research area, Web Governance, addresses issues of legal and political governance in areas such as data protection and privacy, along with economic aspects of the Web. We would especially like to welcome our colleague from the law department of the Leibniz Universität Hannover, Prof. jur. Nikolaus Forgó, Institute for Legal Informatics, who has been a member of the L3S since October 2011.



Fig.3: Gabriele Herrmann-Krotz, Prof. Dr. Wolfgang Nejdil and Prof. Dr. Klaus-Peter Wiedmann

Further interdisciplinary research is already under way. L3S members in the areas of Society and Innovation and Virtual Communities will add to the work conducted by L3S by performing sociological, psychological, and linguistic research on new forms of communication and cooperation, group behavior, social relationships, and new forms of production and innovation on the Web.

Finally, other possible uses of the Web, particularly in the areas of life sciences, physical science and social science, are the main focus of Web-enabled Applications.

Today, the L3S team includes over 75 doctoral candidates, postdocs and young researchers mentored by ten L3S members from different departments and universities. We are looking forward to new members and researchers joining us from all participating universities, adding excellent research and relevant topics to Web Science @ L3S.



Prof. Wolfgang Nejdil, L3S Executive Director

Web Science in Research and Teaching

Web Science embraces the study of the Web as a vast information network of people and communities. It also includes the study of people and communities using the digital records of user activity mediated by the Web. An understanding of human behavior and social interaction can contribute to our understanding of the Web, and data obtained from the Web helps us to understand human behavior and social interaction. Accordingly, Web Science involves analysis and design of Web architecture and applications, as well as studies of the people, organizations, and policies that shape and are shaped by the Web.

To address these diverse goals, the 4th ACM Web Science Conference, hosted at Northwestern University's Evanston campus, located on the shore of Lake Michigan, not far from Chicago, will again bring together an interdisciplinary community of researchers from areas as diverse as computer and information sciences, communication, linguistics, sociology, psychology, economics, law and political science.

The conference is unique in the manner in which it brings these disciplines together in creative and critical dialogue. As PC Chairs of the conference, Cornell's Michael Macy and I are already looking forward to exciting presentations, poster and discussion sessions, and panel discussions on all research topics.

Web Science is relevant to more than just research, though. Innovative study programs at universities worldwide are trying to capture the spirit of interdisciplinarity inherent in Web Science, including in their teaching activities. In our interview on page 2, my colleague Wendy Hall, of the University of Southampton, talks about the university's new Web Science doctoral program, consisting of a one-year program of instruction (MSc Web Science) followed by three years of independent research (PhD Web Science).

Investigating PhD topics such as "Principles of Governance for Open Scientific and Government Data" (law, CS, linguistics) and "Social Web, Social Behaviour & Complex Adaptive Networks" (CS, psychology), students and researchers bring together the disciplines necessary to investigate the complex questions that arise in the interdisciplinary context of Web Science. This is certainly an interesting model for other universities as well.

We hope you enjoy reading the new issue of L3S @ work. Please be in touch if you would like to discuss further collaboration and joint work!



Interview Dame Wendy Hall

Professor of Computer Science at the University of Southampton, UK,
and Dean of the Faculty of Physical and Applied Sciences

Web Science

Wolfgang Nejdl: Your article "A Framework for Web Science", which you co-authored with Tim Berners-Lee, Jim Hendler, Kieron O'Hara, Nigel Shadbolt and Daniel Weitzner, appeared in 2006. How did you get started on this idea?

Wendy Hall: Well, we were talking about how the Web evolved because we were trying to understand. This was 2005, when the big data movement was very new, and the world was talking about Semantic Web but it wasn't happening. So the discussion was about why not. Tim was pushing more on getting the data and that made a lot of sense. We were looking back on how the Web had evolved and what the tipping points were and we realized that actually you can't understand it just looking at technology. You cannot predict how the Web evolves, just by looking at technology. You have to look at what people do with it, at their behavior, in how they use it for their private life, or for their business.

WN: And maybe it is also important to look at what is available on the Web. Standards are one thing, but you have to think about what is actually available out there.

WH: The content you mean?

WN: Yes.

WH: Right. And how you get people to spend time and effort putting content on the Web; that's what it is about; and how to get to the next wave of the web; and how you persuade people to put their data out there when there is only a small amount for them to add. That's really what lead us to the realization that it is really not just about the technology – you have to include the social aspects, and the human behavior effect. So we started building on this idea by focusing on linking different research disciplines to study the phenomenon of the growth and evolution of the Web, and we eventually called it "Web Science" because we could not think of anything better. Social scientists sometimes think this is about technology because of the word Web in there, and computer scientists think: "Oh it's just the Web, you know, that's the easy stuff". But it's something we have to live with now because of the way it's caught on, even though the term "Web Science" is not perfect.

WN: That is an interesting point. Talking about interdisciplinarity, which aspects and disciplines are most exciting to you?

WH: Well, to me, the one I talk most about is where computer science meets social science. But you have to include many other disciplines in the mix as well such as law, economics, management, psychology, philosophy, mathematics and many others; it's not that everybody needs to know a lot about all of these disciplines, but they all impact the development of the Web. Of course policy and politics is important as well. And when for example we talk about innovation on the Web and want to understand how it works, you have to have the economist from the business world as well as the scientist. So that's why we've pushed so hard to make the Web Science Conference highly interdisciplinary.

WN: What were the most challenging aspects of setting up the Web Science conference for the first time in 2009?

WH: Well, the pragmatic ones are all to do with how you organize a conference that attracts people from all these different disciplines and research cultures: what is the location, how long is the conference, how much does it cost to attend. All these things present a major challenge for the organizers of interdisciplinary conferences. What attracts a lawyer to a conference is completely different from what attracts a social scientist, and that is again very different from what a computer scientist expects from a conference.

WN: We now have a colleague from the law department at the L3S. He does exciting work, including in cooperation with the rest of us, but of course is usually interested in attending other conferences than we are.

WH: Yes, so there is that. And there is the aspect of publishing. What motivates people to write papers is very different in different disciplines. These are major challenges to overcome to get a new interdisciplinary field established. And for the development of Web Science curriculum design was very important from the beginning as well.

WN: I noticed that you have a Web Science curriculum at different levels in Southampton.

WH: Yes, we started with a master's program, and now also have a PhD program running. And the master's program was designed to take in people with completely different disciplines and backgrounds.

WN: How is that possible?

WH: You have to be creative about it. So, people come into the program with a computer science

background, they have done some web technology and they are interested in doing more with that. And we've got to bring non-computer scientists into the same program and get them to a point where they can understand the technology of the Web in order to do their research. We've designed the program so that everybody does the same set of modules, and we use the vehicle of computational thinking for that so we don't teach the social scientist deep technology. They are not really becoming programmers. They might look at information retrieval or RDF and become familiar with the terms. It is really looking about trying to understand how people think in other disciplines, you know? And we get the computer scientist to try to explain, to be the teacher, and then we do it the other way around.

WN: Which courses are included in the program?

WH: The program starts with a module on "Foundations of Web Science", and includes modules on Hypertext, the Web, the Social Web, Computational Thinking and the Semantic Web. Modules on research methods and research design are an important part of the program, as well as interdisciplinary studies.

WN: And on the PhD level?

WH: In our program, the PhD students have to do an interdisciplinary PhD. They have to have at least two supervisors, and those two supervisors have to be from different disciplines. They can develop / choose their PhD topic from the whole raft of themes and research questions that come under the heading of Web Science.

WN: For example?

WH: So for example here are some PhD topics our students are working on:

- Principles of Governance for Open Scientific and Government Data (law, CS, linguistics)
- Social Web, Social Behaviour & Complex Adaptive Networks (CS, psychology)
- Large Scale Data-Stream Mining of Distributed Network Systems (CS, social statistics)
- Cybercrime Target Hardening (CS, criminology)
- Intermediation within the e-Tailing 2C Supply Chain (management, CS)
- How Does the Web Grow? Analysing the Emergence Of Linked Data (sociology, CS)
- Employer Legal Liability for Employees' Use of Social Media (law, CS)
- Web Technologies Transforming Our Notions of Privacy (sociology, CS)

WH: And this is really successful. Our Web Science Doctoral Training Centre is funded with £6 million over eight years for 50 students, through the UK EPSRC Digital Economy program.

WN: Do you also have plans for an undergraduate program?

WH: Indeed, yes, we are now starting to think about an undergraduate program. To me – it's very different thinking about an undergraduate program because I think you need to give students a core discipline as well as interdisciplinary knowledge and skills. The way we are starting this at Southampton, and it might evolve, is that the students will come in and do computer science, social science, economics or law, or whatever, as a core discipline. But they will also do modules that introduce them, or give them some skills in other disciplines and study the foundation of Web Science in their second and third year modules. So they might come in and do say, a fairly standard computer science first year and then, as they move through their degree, take an increasing number of modules that expose them to the interdisciplinarity of web science and by the time they get to their third year they will be doing projects in web science.

WN: Will this still be some kind of computer science degree?

WH: No, because I will argue that they could come in as a social scientist as well. I mean what we are trying to do is enable them to come in with varying core disciplines.

WN: I'm asking that because in many countries degrees are usually very well structured and compartmentalized, and so you have to put things either in computer science or social science or another discipline.

WH: This is what we are trying to break down. We have to break that down, or you just end up teaching computer scientists a bit of social science. We are trying to create a whole new discipline here. But we don't know enough about Web Science as a discipline yet to be able to say this is a three year, four-year program on Web Science. It's the same, I think, as how – let's say – the environmental sciences have emerged. I'm not suggesting either that we need to create departments of Web Science – not yet anyway.

WN: I look forward to discussing this topic with you again, five years from now!

WH: Me too. See you at the WWW2012 and the next Web Science conference.

International Membership: L3S joins WSTNet

L3S has joined the Web Science Network of Laboratories (WSTNet), a worldwide network on Web Science, as a new member in 2011. WSTNet brings together world-class research laboratories to support the Web Science research and education program.

Prof. Wolfgang Nejdl, Executive Director of the L3S, represents the center on the WSTNet Board of Directors. WSTNet membership brings access to a vibrant network and world-class research capability; it combines some of the world's leading academic researchers in Web Science with new academic programs that will enhance the growing influence of Web Science on other disciplines. Through a number of specific agreements

and commitments with the Web Science Trust (WST), the nonprofit that manages WSTNet, member labs provide valuable support for the ongoing development of Web Science. There are ten founding WSTNet labs initiated by a group of scientists grouped around Dame Wendy Hall (see interview above) and the inventor of the WWW, Sir Tim Berners-Lee (MIT).

Contributions from WSTNet labs include the organization and hosting of summer schools, workshops and meetings, including the Web Science conference series. The labs identify new opportunities for additional events and fundraising and work together on projects.

The current set of WSTNet labs includes the following institutions: Annenberg Networks Net-

work, University of Southern California (USA); Decentralized Information Group, Massachusetts Institute of Technology (USA); Department of Computer Science, VU, Amsterdam (NL); Digital Enterprise Research Institute, NUI, Galway (IE); Institute for Web Science and Technologies (WeST), Universität Koblenz-Landau (D); Oxford Internet Institute (UK); SONIC, Northwestern University (USA); Tsinghua-Southampton Web Science Laboratory at Shenzhen, Beijing (China); Web Science Research Center, Rensselaer Polytechnic Institute (USA); Web Science Research Group, University of Southampton (UK); Korea Advanced Institute of Science and Technology (KAIST), Daejeon (KR); and the L3S Research Center, Gottfried Wilhelm Leibniz Universität Hannover (D).



The L3S is looking forward to new research collaborations and research visits, as well as to upcoming joint project proposals, towards a global research partnership.

The ongoing WSTNet webinar series provides a glimpse into each lab affiliated with the network, with an overview and scientific talks from each lab.

Web Science Projects

The L3S Research Center focuses on fundamental and application-oriented research in four key enabling units for the European Information Society, namely Intelligent Access to Information (IAI), Next Generation Internet (NGI), E-Science

(ESC), and Web Governance (WG). The projects outlined here provide insight into these areas by describing the impetus behind them and some of the specific challenges we focus on in these projects:



INTELLIGENT ACCESS TO INFORMATION – IAI

ARCOMEM – Leveraging the Wisdom of the Crowds for Intelligent Preservation

The EU-funded project ARCOMEM deals with repositories of memory, such as archives, museums and libraries, in the era of the Social Web. Social media are becoming more and more pervasive in all areas of life. ARCOMEM aims to help transform archives into collective memories that are more tightly integrated with their community of users and to exploit Web 2.0 and the wisdom of the crowd to make Web archiving a more selective and meaning-based process.

ARCOMEM aims to achieve its goals by creating innovative models and tools for Social Web-driven content appraisal and selection as well as intelligent content acquisition. Out of the vast content on the Web, the Social Web can help us determine which knowledge is worth archiving for the future. Within the scope of the project, novel methods will be investigated with an eye to Social Web analysis, Web crawling and mining as well as event and topic detection and consolidation. This, coupled with multimedia content mining, will support the creation of more valuable archives and reduce the risk of losing irreplaceable ephemeral Web information.

URL: <http://www.arcomem.eu>
Dr. Thomas Risse, risse@L3S.de

INTELLIGENT ACCESS TO INFORMATION – IAI

EveryAware – Enhance Environmental Awareness through Social Information Technologies

There is now overwhelming evidence that the current organization of our economies and societies is seriously damaging biological ecosystems and human living conditions in the very short term, with potentially catastrophic effects in the long term. A grassroots approach can help enact novel policies, with a key contribution from information and communication technologies. Nowadays, low-cost sensing technologies allow citizens to directly assess the state of the environment, and social networking tools allow effective data and opinion collection and real-time information dissemination processes.

The project develops a unified framework by creating a new technological platform that combines sensing technologies, networking applications and data processing tools; the Internet and existing mobile communication networks will provide the infrastructure. Case studies involving different numbers of participants will test the scalability of the platform, aiming to involve as many citizens as possible while leveraging the low cost and high usability of the sensing devices. The integration of participatory sensing with monitoring of subjective opinions is novel and crucial, as it exposes the mechanisms by which the local perception of an environmental issue, corroborated by quantitative data, evolves into socially shared opinions, eventually driving behavioral changes. Critically, enabling this level of transparency allows for effective communication of desirable environmental strategies to the general public and to institutional agencies.

URL: <http://www.everyaware.eu>
Prof. Dr. Andreas Hotho, hotho@L3S.de
Prof. Dr. Gerd Stumme, stumme@L3S.de



NEXT GENERATION INTERNET – NGI

EGI-Inspire: Holistic Accounting for Sustainable Grid Operation

Scientific research is increasingly taking place beyond the boundaries of research institutes and resource providers; researchers work together in virtual research communities, the large-scale analysis of data is no longer possible on-site, and temporary demand for computation and storage resources is increasingly being met by cloud resource providers. EGI.eu is the successor to the series of EGEE projects enabling access to large-scale resources for European researchers from all fields of science, from high-energy physics to the humanities.

Researchers at the L3S Research Center are taking part in the EGI-InSPIRE project, which aims to establish a sustainable European grid infrastructure. In this project, L3S will be contributing its expertise in the field of accounting, which will play a key role in ensuring sustainability within the infrastructure. The activities will focus on the operation of the national grid accounting infrastructure and the development of new accounting metrics to establish holistic records of a user's resource consumption. A sustainable operation of an infrastructure will only be feasible

if a complete accounting record can be utilized as the basis for usage-based billing.

URL: <http://www.egi.eu>
Prof. Dr. Gabriele von Voigt, vonoigt@L3S.de

NEXT GENERATION INTERNET – NGI

C-PMSE

Dynamic frequency allocation is one of the most important concepts for the future use of the radio spectrum, representing significant scientific and technical challenges. A promising approach to meet these challenges is to expand the existing wireless communication systems by adding cognitive capabilities. The L3S is working closely with partners from industry and academia on the C-PMSE project, which aims to develop a solution for efficient frequency coordination, particularly in the context of Program Making and Special Events (PMSE) systems. The major goal of the project is to enhance PMSE operational reliability and assure coexistence with wireless standards (e.g. DVB-T, LTE, ECMA 392 etc.). The key contribution of the L3S to the project lies in developing and evaluating cognitive techniques for efficient radio resource management and radio environment interpretation. A prototype of the testing platform will also be developed and set up on the Messe Berlin trade fair grounds to verify the concepts and demonstrate the project's research results under realistic conditions.

Link www.L3S.de/cpmse
Prof. Dr.-Ing. Markus Fidler, fidler@L3S.de



E-SCIENCE – ESC

DeLiVerMath – Document indexing and retrieval of library services in virtual research environments in mathematics

The ever-growing flood of available information makes effective and individual approaches to the information retrieval process extremely difficult for users. At the same time, detailed subject-specific indexing of various publications is more difficult and complex for specialized information centers and libraries. With these developments in mind, this project will investigate automated processes for content indexing based on appropriate taxonomies and contextual information. The resulting indexing workflow for the field of

mathematics will be a first step in the development of broader virtual research environments.

The construction of digital mathematical libraries here includes both the construction of a controlled vocabulary and taxonomy of fine-grained topics, as well as the development of methods for automated content analysis (Content analysis, semantic enrichment) and allocation of documents.

URL: <http://www.L3S.de/delivermath>
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WEB GOVERNANCE – WG

Linked2Safety

The vision of the Linked2Safety project is to advance clinical practice and to accelerate medical research, to improve the quality of healthcare and public health and to enhance patients' safety by providing healthcare professionals, pharmaceutical companies and patients with an innovative semantically interoperable framework, a sustainable business model and a scalable technical infrastructure & platform for legally and ethically compliant data exchange. The project will support efficient, homogenized access to and the effective, viable utilization of medical information contained in Electronic Health Records (EHRs) deployed and maintained at the regional and/or national level across Europe by dynamically interconnecting distributed data. Data protection is, of course, crucial in such a project, and the project will fully respect patients' anonymity (where applicable) as well as European and national legislation and ethical rules. The new legal team at L3S will lead the legal and ethical work package in this project.

Based on an analysis of the existing European and national legislation on data security, privacy and protection, the Linked2Safety consortium will define and document the legal, ethical and security requirements for publication, sharing, reuse and processing of patients' personal data and medical information. These requirements will have a significant impact on the design and implementation of the Linked-2Safety platform. The L3S plans to examine privacy/confidentiality settings and the procedures that will be implemented for data collection, storage, access, sharing, retention and deletion and will provide detailed information and guidance on these issues.

URL: <http://www.L3S.de/linked2safety>
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EXIST – Start up business grant at L3S



As of September 2011, the L3S is the temporary home of the Exist start-up "Tutao GmbH". Three young entrepreneurs are developing Tutanota, the "first absolutely secure, flexible and easy-to-use webmail system in the world." With their computer science and economics background, Matthias Pfau, Thomas Gutsche and Arne Möhle, are a perfect addition to the L3S team and certainly help to prompt more researchers to investigate further innovative business ideas at the research center.

The Exist start-up is supported by a one-year grant from the Federal Ministry of Economics and Technology (BMWi), which aims to improve the entrepreneurial environment at universities and research institutions and increase the number of technology and knowledge-based business start-ups. The EXIST program is part of the German government's "High-tech Strategy for Germany" and is also receiving financing from the European Social Fund (ESF).

For more information: www.tutanota.com

PhD Defenses in 2011



The L3S prides itself on the large number of successful defenses performed up to the end of 2011:

Dr. rer. nat. Christian Kohlschütter (Nejdl): Exploiting Links and Text Structure on the Web: A Quantitative Approach to Improving Search Quality.

Dr. rer. nat. Christoph Lofi (Nejdl): Choosing the Right Thing: Cooperative Trade-off Enhanced Skyline Queries.

Dr. rer. nat. Gianluca Demartini (Nejdl): From People to Entities: Typed Search in the Enterprise and the Web.

Dr. rer. nat. Mohammad Al-Rifai (Nejdl): Service Selection and Transactional Management for Web Service Composition.

Dr. rer. nat. Ekaterini Ioannou (Nejdl): Entity Linkage for Heterogeneous, Uncertain and Volatile Data.

Dr. rer. nat. Odysseas Papapetrou (Nejdl): Approximate Algorithms for Efficient Indexing, Clustering and Classification in Peer-to-peer Networks.

Dr. rer. nat. Fabian Abel (Nejdl): Contextualization, User Modeling and Personalization in the Social Web.

Dr.-Ing. Daniel Krause (Henze): A Semantic Web Service-based Framework for Generic Personalization and User Modeling.

Dr. rer. nat. Robert Jäschke (Stumme): Formal Concept Analysis and Tag Recommendations in Collaborative Tagging Systems.

Dr.-Ing. Ralf Gröper (Smith): Attributbasierte Autorisierung im Grid Computing: Vertrauenswürdige Architekturen und sichere Implementierung.

Dr.-Ing. Enrico Minack (Nejdl): On Construction, Performance, and Diversification for Structured Queries on the Semantic Desktop.

Dr.-Ing. Christopher Kunz (Smith): Ein Konzept zur Überwachung und Missbrauchserkennung bei Grid-Proxy-Credentials.

More than 60 Researchers at the L3S Research Workshop 2011 in Drübeck



From September 14 to 16, 2011, L3S successfully held its fifth Research Workshop. After exciting events in Goslar, Wernigerode, and Quedlinburg, the latest workshop was again held in the scenic Harz region, this time at the historic monastery of Drübeck. This year's workshop was held on the general topic of interdisciplinary work in the area of Web Science. Computer scientists from the L3S were joined by researchers from different areas, including sociology, linguistics, and law.

With a creative group of more than 60 participants – including PhD students, postdocs and professors – the L3S Research Workshop once again successfully explored new research challenges.

The L3S workshop series aims specifically to reinforce the underlying research structures and strengthen the network between L3S researchers.

It provides a platform for the informal exchange of new ideas and a forum for planning joint projects with fellow researchers from different disciplines.

New L3S-Members

L3S is pleased to announce its participation in *Linked2Safety*, a project that has recently been awarded funding under the EU's Seventh Framework Programme. In the project, the L3S addresses important issues related to e-health,



data protection and privacy. **Prof. Dr. Nikolaus Forgó** joins the L3S as a member and supervises the new research area, called Web Governance at the L3S. Prof. Nejdl welcomes his colleague to the L3S Board and is looking forward to fruitful interdisciplinary cooperation with him on all aspects related to legal issues at L3S, in this and future projects.

Prof. Forgó was born in Vienna and studied law in Vienna and Paris. In 1997 he received his Dr. iur. (dissertation in legal theory).

Since 2000, he has been a full professor of Legal Informatics and IT Law at Leibniz Universität Hannover, and since 2007 he has also been the co-Chair of the Institute for Legal Informatics.

We would also like to welcome **Prof. Panagiotis Papadimitriou**, who has been appointed a new member of the L3S in the research group Next Generation Internet (NGI). He is working in the area of the Future Internet; his research interests



include next-generation Internet architectures, network virtualization, cloud networking, in-network processing, and data center networks.

Papadimitriou is currently leading the LAVINET (Enabling Large-Scale Network Virtualization) research project, which is hosted at L3S. The project is investigating multi-domain virtual network provisioning with limited resource information disclosure. Papadimitriou is an assistant professor at the Communications Technology Institute of Leibniz Universität Hannover, a position he has held since January 2011. He received his PhD in Electrical and Computer Engineering at the Democritus University of Thrace in Xanthi, Greece.

L3S Attends PHD Workshop in Beijing

"Research in Germany – Land of Ideas": The L3S joined the German delegation at the PhD Workshop China 2011, in November 2011. To facilitate contact between Chinese PhD candidates and German professors and university representatives, L3S was among the 32-member delegation from over 20 German universities and research institutes at the PhD Workshop China.

Deutschland Land der Ideen



Over 1,500 Chinese doctoral candidates from various institutions and disciplines attended the event to meet with representatives of foreign institutes and universities, to hold interviews and apply directly for doctoral openings. The career event was organized by the Chinese Education Association for International Exchange (CEAIE) and the Association of Chinese Graduate Schools (CSA), in cooperation with the German Academic Exchange Service (DAAD) for the German group.