

# Curriculum Vitae for **Professor Dr Jon Atle Gulla**

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## Profile

**Professor Dr. Jon Atle Gulla** is director of the Norwegian Research Center for AI Innovation (NorwAI). This is a center for research-based innovation (SFI) that develops new technologies for successful and responsible exploitation of data-driven artificial intelligence in industrial innovations. NorwAI is supported by the Research Center of Norway, three universities, two research institutes and 11 companies.

Jon Atle Gulla is professor of Information Systems at the Norwegian University of Science and Technology (NTNU) in Trondheim, Norway since 2002. He received his MSc in 1988 and his PhD in 1993, both in Information Systems at the Norwegian Institute of Technology. In his PhD thesis he used linguistic theories to generate user-tailored explanations of conceptual models and their executions. Gulla also has a MSc in Linguistics from the University of Trondheim from 1995. In 2003 he completed a MSc of Management (Sloan fellow) at London Business School with a thesis on strategic modeling and simulation of fast growing software companies. Before accepting the professorship at NTNU he was the general manager of Elexir Sprachtechnologie, a Munich software company developing computational linguistics software for the search engine of Fast Search & Transfer. He was a senior consultant and project manager in Norsk Hydro in Brussels from 1997 to 2000, focusing on large-scale SAP projects. As a research scientist with GMD (later Fraunhofer) in Darmstadt from 1996 to 1997, he worked on dialog models for information retrieval.

Gulla has a multi-disciplinary research approach and works in close collaboration with industry. His research is centered around the following general themes:

- AI-driven Natural Language Processing
- Semantic Web and Linked Open Data
- Information retrieval
- Recommender systems
- Big Data
- Digital transformation and technology innovation

As part of his business activities professor Gulla has co-founded companies developing computational linguistics software, large-scale text mining tools, and business process reengineering tools for ERP-supported businesses. He has cooperated with Norwegian and international companies

in projects on the introduction of semantic technologies in industry. Currently, he is the chairman of the board of one software company and is regularly giving talks to the business community.

As a professor at NTNU Professor Gulla has taken part in numerous national and international research projects, and he has more than 150 publications in international refereed journals and conferences. He is responsible for courses on recommender systems, NLP, semantic web, digital transformation, and information systems engineering. Central to all his lectures is the importance of models and semantics in future large-scale enterprise solutions. He serves as an expert evaluator for the European Commission and several European countries.

## Education

- **Master of Science of Management (MSc)** – Sloan fellow.  
London Business School. 2003.
- **Cand.philol (MSc)** in linguistics.  
University of Trondheim. 1995.
- **Doktor ingeniør (PhD)** in information systems.  
Thesis: “Explanation Generation in Information Systems Engineering”. Norwegian Institute of Technology. 1993.
- **Non-commissioned officer.**  
Officers Candidate School, The Norwegian Signal Corps. 1989.
- **Sivilingeniør (MSc)** in information systems.  
Norwegian Institute of Technology. 1988.

## Work Experience

- 2020 – date.       **Director**  
Norwegian Research Center for AI Innovation (NorwAI), Trondheim, Norway  
  
Leading Norway’s largest and strongest applied research center on artificial intelligence
- 2010 – 2012.       **Department Head**  
Norwegian University of Science and Technology, Trondheim, Norway.  
  
Leading Norway’s largest academic ICT department, the Department of Computer and Information Science at NTNU, with around 150 staff and 800 fulltime Bachelor and Master students.
- 2009-10, 2012-13 **Deputy Department Head**  
Norwegian University of Science and Technology, Trondheim, Norway.
- 2002 – date.       **Professor of Information Systems.**  
Norwegian University of Science and Technology, Trondheim, Norway.  
  
Managing projects on Enterprise Semantic Technologies. Research on semantic information retrieval and mining, business engineering and modeling, Semantic Web and ontologies, and economics of intelligent enterprise technologies. Responsible for courses and IT project management, information systems engineering, information retrieval & mining, and Semantic Web. Supervising PhD and MSc students.
- 2000 – 2002.       **Managing Director.**  
Elexir Sprach- und Informationstechnologie, Munich, Germany.

Subsidiary of Fast Search & Transfer (FAST). Built up the German branch of Fast Search & Transfer.

Responsible for all linguistic products in Fast Search & Transfer.

- 1999 – 2001            **Adjunct Associate Professor of Information Systems**  
Norwegian University of Science and Technology, Trondheim, Norway.

Responsible for course on information retrieval & mining. Supervising PhD and MSc students.

- 2000.                    **Project leader**  
Hydro Data (Hydro IS Partner), Oslo, Norway.

*Data warehouse standardization:*

Leading corporate project on standardization of data warehouse architectures and tools in Norsk Hydro.

- 1997-1999.            **Senior consultant**  
Norsk Hydro (Hydro Data), Brussels, Belgium.

*Hydro Agri SAP Reengineering project:*

Mapping Agri's business to SAP functionality. Configuring Materials Management module in SAP. Coordinating training of all European sites in Materials Management and Plant Maintenance. Training local instructors in Materials Management. and Reporting.

*ASAP evaluation for Hydro Energy & Hydro Agri*

Leading project evaluating ASAP's suitability in Hydro Energy's implementation project and Hydro Agri's upgrade project.

*Hydro Agri upgrade project*

Responsible for Materials Management business flow analysis and test models for the upgrade of Hydro Agri's SAP installation from 3.0B to 4.5B.

- 1996.                    **Associate Professor of Information Systems**  
Norwegian University of Science and Technology, Trondheim, Norway.

Responsible for courses on information systems engineering and CSCW technology.

- 1995 – 1996.            **Research scientist**  
German National Center for Information Technology (now Fraunhofer), Darmstadt, Germany.

*MIRACLE project:*

Implementing dialog system for multimedia information retrieval system. Developing dialog model based on speech act theory.

## INDUSTRY

### Entrepreneurship

- 2016-2017            **Mito.ai/Strise**  
Co-founder of Mito.ai in Trondheim. Mito.ai develops software for large-scale real-time monitoring of news streams. The company extracts knowledge from multilingual news articles

and provides analytics support to investors about relevant companies and their activities.  
Successful exit in 2017.

- 2004-2016           **Businessscape**  
Co-founder of Businessscape in Trondheim. Businessscape develops software for analyzing SAP installations and assessing the quality of companies' SAP-supported business flows. 3 employees. Company was closed down in 2016.
- 2001-2017           **LingIT**  
Co-founder of LingIT in Trondheim. LingIT is a Norwegian software company that develops multilingual literacy support for dyslexics and others with reading and writing difficulties. The technology originated from the Department of Linguistics and the Department of Computer Science at the Norwegian University of Science and Technology in Trondheim. Successful exit in 2017, when Verdane IX in Sweden acquired 85% of the company.
- 2001-2002           **Fast Search & Transfer (Elexir Sprachtechnologie)**  
Early-stage manager of search engine startup Fast Search & Transfer. FAST's technology originated from the Department of Computer Science at the Norwegian University of Science and Technology. Gulla was the manager of the linguistic part of FAST and the FAST site manager in Germany. He was also the managing director of Elexir Sprachtechnologie, a subsidiary of FAST in Germany. FAST was acquired by Microsoft in 2008.

## **Board Experience**

- Gulla og Mausset fiskelag (*member of the board, secretary, from 2005*)
- Businessscape/Foursparke (*member of the board, chairman, 2004-2011*)
- AidCom (*member of the board, 2007-2009*)
- LingIT (*member of the board, 2001 – 2004*)

## **Industrial cooperation**

- Kongsberg Digital
- Trønderenergi
- Schibsted, Oslo
- NRK, Oslo
- DNV GL, Oslo
- DNB, Oslo
- Piano Software, Inc., Oslo
- Lighthouse8, Trondheim
- Hoopla, Trondheim
- Sparebanken 1 SMN, Trondheim
- Cognite, Oslo
- Retriever, Oslo
- NTB, Oslo
- Faktisk.no, Oslo
- Mentor Media, Oslo
- Dagbladet, Oslo
- Sticos, Trondheim
- NRK, Trondheim
- IBM, Oslo
- Siemens, Trondheim
- Adresseavisen. Trondheim
- Cxense, Oslo

- Sincerial, Trondheim
- NSA, Oslo
- CognIT, Oslo
- Hjemmet Mortensen, Oslo
- Interance, Oslo
- AidCom, Trondheim
- Deutsche Telekom, Berlin
- TietoEnator, Stavanger
- Selvaag Bluethink, Oslo
- Computas, Oslo
- Telenor, Trondheim
- SAP Norway, Oslo
- Felleskjøpet, Trondheim
- Det Norske Veritas, Oslo
- Kompetansesenteret for IT i helse- og sosialsektoren AS (KITH), Trondheim
- Statoil ASA, Trondheim and Stavanger
- Swiss Re, Zurich
- Fast Search & Transfer AS, Oslo
- Yahoo, Trondheim
- Mitivity, London.
- Digital Networks, London
- HMS Systemer, Trondheim

## ACADEMIA

### Research projects, centers and networks

- **Norwegian Research Center for AI Innovation (NorwAI):** 2020-2028  
This is a center for research-based innovation (SFI) with a total budget of 261 MNOK. The objective is to develop theories, methods and technologies for successful and responsible application of artificial intelligence in industrial innovations. The center includes three universities, two research institutes and 11 companies. Jon Atle Gulla is the director of NorwAI.
- **Big Data & Machine Learning Collaboration Project with DNB:** 2017-2022  
The objective is to carry out world-leading research on Big Data and machine learning for the financial sector, with a particular focus on conversational NLP and data stream analysis. Three PhD students and one post doc is funded by the project. Jon Atle Gulla is NTNU's project leader.
- **Trondheim Analytica:** 2018-2022  
Multi-disciplinary research project funded under the Digital Transformation initiative at NTNU. The objective is to investigate how political views are identified from social media and news text and develop tools for political mining. The project funds four PhD students.
- **Contextual:** 2016-2017  
FORNY project funded by the Research Council of Norway. Total budget: 3.1 MNOK. The objective is to verify and further develop technology for realtime semantic news analytics for commercial purposes.
- **Recommendation technology (RecTech):** 2015-2020  
BIA project funded by the Research Council of Norway, Adresseavisen, Polaris Media and Cxense. Total budget: NOK 40 million. The project objective is to improve current news recommender systems with semantic content analysis. One PhD student and one post doc are funded by the project. Jon Atle Gulla is the project leader.
- **Rex:** 2014-2015  
VRI project funded by VRI Trøndelag (regional funds for innovation and value creation in Trøndelag) and Adresseavisen. The objective is to investigate the potential of recommendation

technologies for the Norwegian media sector. Logs from Adresseavisen, Dagbladet, Dagen and Vårt land were investigated.

- **NXT Media: 2011-2015**  
Arena innovation network partly funded by the Research Council of Norway. Coordinated by Polaris Media with partners from the Norwegian and Swedish media sector and software industry.
- **LinkedDesign: 2011-2014**  
Linked Knowledge in Manufacturing, Engineering and Design for Next Generation Production. European research project funded under the 7<sup>th</sup> FWP in the area of Digital Factories: Manufacturing Design and Product Lifecycle Management (FoF-ICT-2011.7.4). Project reference: 284613. Total budget of 12.56 Million Euro (EU contribution of 8.06 Million Euro). LinkedDesign addresses an integrated, holistic view on data, persons and processes across the product lifecycle as a resource for competitive design of novel products and manufacturing processes. 13 European partners are involved in the project including NTNU and Aker Solutions. The project is coordinated by SAP. LinkedDesign is funding three PhD students and one post doc at NTNU.
- **Digital Oil (DOIL): 2011-2015**  
Funding two PhD students and two post docs under the VERDIKT program. Total budget of approx. NOK 10 Million. The objective is to develop and in-depth understanding of theoretical and actual risks related to sensor-based data management in the oil & gas sector. The project is a joint effort with Statoil and the Center for Integrated Operations in the Petroleum Industry at NTNU.
- **Ubiquitous service composition for all users (UbiCompForAll): 2008-2012**  
StorIKT project funded by the Research Council of Norway. Consortium led by Sintef. One PhD student and two post docs. Total budget of approx. 3.4M Euro.  
The objective is to provide technologies that enable end-users to compose service behaviors in ubiquitous service environments. The project will provide semantic graphical composition tools for end-users and service execution platforms.
- **Information Access Disruptions (iAD): 2006-2014**  
Center for research-based innovation (SFI) party financed by the Research Council of Norway and led by Fast Search & Transfer. Total budget of approx. NOK 240 million.  
The objective is to provide next generation schema agnostic indexing services by fusing structured, unstructured and multimedia content in precision, analytics and scale optimized information access services
- **SmartSearch: 2008-2009**  
Funded by Deutsche Telekom with a total budget of approx. 300K Euro. Gulla was part of the management team and coordinator for NTNU's deliverables.  
SmartSearch's objectives were to develop an ontology learning workbench for semi-structured movie-related documents and add semantic navigation to Deutsche Telekom's movie download service.
- **Records Management over Decades (LongRec): 2007-2010.**  
Funding 3 PhD students and one post doc under the VERDIKT program. Total budget of approx. 2.1M Euro. Consortium led by Det Norske Veritas.  
The primary objective of the LongRec project is the persistent, reliable and trustworthy long-term archival of digital information records with emphasis on availability and use of the information. Ontologies are used for harmonizing data as terminologies evolve over time.
- **Cooperative Mining of Independent Document Repositories (COMIDOR): 2007-2011**  
Funding two PhD students and two postdocs under the VERDIKT program. Total budget of approx. 1.1M Euro. Gulla is part of project management team and supervising one PhD student and one postdoc.  
COMIDOR's objective is to develop new approaches to complex text mining tasks that make use of documents that for various reasons cannot be merged before the analysis takes place.
- **Integrated Semantic Access in Situated Operations (IS\_A) 2007-2011**  
Funded by the Norwegian Research Council, Statoil, Selvaag Bluethink and Computas under the VERDIKT program with a total budget of NOK 3.8 million.

The main objective is to enable organizations in the petroleum and construction business to run their knowledge-intensive geographically dispersed operations more efficiently by providing a semantic integrated framework for situated multi-modal knowledge access. The project investigates ways of extending Semantic Web technologies to model the users' entire mobile work context, including his work process and spatio-temporal coordinates.

Jon Atle Gulla is the project leader and the supervisor of one PhD student and one post doc.

- **Database Support for Computational Science Applications (DASCOSA): 2007-2010**  
Funding one PhD student and one postdoc under the eVITA program of the Norwegian Research Council. Budget of approx. 400K Euro.  
This project uses the peer-to-peer paradigm to develop a Grid DBMS infrastructure for eScience solutions. Jon Atle Gulla is a member of the project management team.
- **Integrated Operations Center (IO center) 2006-2014**  
Full name: *Center for e-field and integrated operations for the petroleum industry*  
Center for research-based innovation financed by the Research Council of Norway, the petroleum industry, SINTEF; IFE, and NTNU with a total budget of NOK 40 million.  
The objective is to develop new knowledge, methods, tools and educational programs to promote a leap in next generation integrated operations solutions for the upstream petroleum activities. This shall lead to improved overall efficiency, better safety and enhanced environmental standards. The IO center shall be a key contributor to the value creation on the Norwegian Continental Shelf and to the international operations of the industrial partners. The center has separate programs for drilling and well construction, reservoir management and production optimization, operations and maintenance, and integration across disciplines. Semantic web technologies and ontologies form the core technologies for integration and interoperability issues.
- **Integrated Information Platform (IIP) 2004-2007**  
Full name: *Integrated Information Platform for Reservoir and Subsea Production Systems*  
Funded by the Norwegian Research Council (PETROMAX program). Reference no. 163457/S30. Partners: Det Norske Veritas, Statoil, Norsk Hydro, Cap Gemini, Poseidon, OLF, FMC Technologies, National Oilwell Varco, OilCamp, POSC and NTNU. Budget: NOK 24 million.  
IIP has the long-term objective of increasing petroleum production from subsea systems by making accessible high quality real-time information for decision support in operation centers onshore. It addresses the need for a common understanding of terms and structures in the subsea petroleum industry. The objective is to ease the integration of data and processes across phases and disciplines by providing a comprehensive unambiguous and well accepted terminology standard that lends itself to machine-processable interpretation and reasoning. This ontology standard is represented in OWL, and ontology-driven applications for intelligent search, rule-based notification and 3D visualization are also developed.  
Jon Atle Gulla is coordinating the semantic web research carried out at NTNU and supervising one PhD student and one post doc.
- **Deep Thought 2002-2004**  
Full name: *Hybrid Deep and Shallow Methods for Knowledge-intensive Information Extraction*  
Funded under the 5<sup>th</sup> framework program for the European Commission. Contract reference IST-2001-37836. Partners: Norwegian University of Science and Technology (NTNU), Saarland University, Stanford University, Sussex University, Cambridge University, XtraMind Technologies GmbH, CELI srl.  
Deep Thought aimed to demonstrate the potential of deep semantic processing if combined with shallow methods in the field of Information Extraction. NTNU developed a grammar for Norwegian hike descriptions and implemented a prototype that analyzed hike descriptions semantically and allowed users to search for hikes based on simple descriptions.

## Awards

- The Norwegian Research Council for Science and the Humanities (NAVF). PhD fellowship 1990-1993.
- Winner of MBL's pitching competition 2016: Mito.ai, co-founded by Jon Atle Gulla.

- Best paper award at the ACM Conference on Hypertext and Social Media (Hypertext 2018). Zhang, L., Liu, P., & Gulla, J. A. A Deep Joint Network for Session-based News Recommendations with Contextual Augmentation.
- EMEA BIGGIES award for Excellence in data-driven product development 2018. Data & AI for Media Conference, London. Award given to RecTech (Jon Atle Gulla is project leader) by World Newsmedia Network.

## **Invited Research Stays**

- Universidad Politecnica de Valencia, Pattern Recognition and Human Language Technologies Research Center, Spain. Invited by Professor Paolo Rosso. 2019. 7 months.
- Oakland University, Department of Decision & Information Sciences, Rochester, USA. Invited by Professor Vijay Sugumaran. 2008, 7 months.
- Universidad Argentina de la Empresa, Buenos Aires, Argentina. Research stay at the Modeling and Simulation Laboratory. Invited by Professor Jorge Fantin. 2007. 3 months.
- Vrije Universiteit in Amsterdam, the Netherlands. Two research stays – of two weeks – at the Computer Science Department. Invited by Professor Reind van de Riet. November 1993 and January 1994.
- University of Texas at Arlington (UTA), USA. Research stay at the Computer Science Engineering Department. Invited by Professor David C. Kung. 1992. 6 months.

## **Academic Responsibilities and Leadership**

- Expert advisor on language technologies for the Norwegian Board of Technology, 2022.
- Member of program council for study program at Department of Neuroscience, NTNU, 2022-date.
- Vice head of department at the Department of Computer and Information Science, NTNU, 2012/2013.
- Head of department at the Department of Computer and Information Science, NTNU, 2010/2012.
- Vice head of department at the Department of Computer and Information Science, NTNU, 2009/2010.
- Leader of the Section for Development and Use of IT Systems, NTNU, 2007
- Member of Integrated Operations center at NTNU
- Board member of NTNU's Language Technology program
- Member of program council for study program Engineering Science and Information and Communication Technology, NTNU. 2008-2012.

## **Organization of international conferences and workshops:**

- 10<sup>th</sup> International News Recommendation and Analysis Workshop (INRA 2022). In conjunction with SIGIR 2022, Madrid. General chair.
- 9<sup>th</sup> International News Recommendation and Analysis Workshop (INRA 2020). In conjunction with ACM Recsys, Amsterdam. General chair.
- 8<sup>th</sup> International News Recommendation and Analysis Workshop (INRA 2020). In conjunction with ECML PKDD 2020. General chair.
- 7<sup>th</sup> International News Recommendation and Analytics Workshop (INRA 2019). In conjunction with the 13<sup>th</sup> ACM Recommender Systems Conference (Recsys 2018), Copenhagen. General Chair.
- 5<sup>th</sup> Norwegian Big Data Symposium (NOBIDS 2019). In conjunction with the NxtMedia conference, Trondheim. General Chair.
- The 6<sup>th</sup> International News Recommendation and Analytics Workshop (INRA 2018). In Conjunction with [27<sup>th</sup> ACM International Conference on Information and Knowledge Management \(CIKM 2018\)](#). Turin, Italy. General Chair.



- 4<sup>th</sup> Norwegian Big Data Symposium (NOBIDS 2018). In conjunction with the NxtMedia conference, Trondheim. General Chair.
- The 5<sup>th</sup> International News Recommendation and Analytics Workshop (INRA 2017). In Conjunction with the IEEE/WIC/ACM International Conference on Web Intelligence (WI 2017), Leipzig. General Chair.
- 3<sup>rd</sup> Norwegian Big Data Symposium (NOBIDS 2017). In conjunction with the NxtMedia conference, Trondheim. General Chair.
- The 4<sup>th</sup> International News Recommendation and Analytics Workshop (INRA 2016). In Conjunction with the 24<sup>nd</sup> Conference on User Modeling, Adaptation and Personalization (UMAP 2016), Halifax. General Chair.
- 2<sup>nd</sup> Norwegian Big Data Symposium (NOBIDS 2016). In conjunction with the NxtMedia conference, Trondheim. General Chair.
- The 3<sup>rd</sup> International News Recommendation and Analytics Workshop (INRA 2015). In Conjunction with the 7<sup>th</sup> ACM Recommender Systems Conference (RecSys 2013), Vienna. General Chair.
- 1<sup>st</sup> Norwegian Big Data Symposium (NOBIDS 2015). In conjunction with the NxtMedia conference, Trondheim. General Chair.
- The 2<sup>nd</sup> International News Recommendation and Analytics Workshop (NRA 2014). In Conjunction with the 22<sup>nd</sup> Conference on User Modeling, Adaptation and Personalization (UMAP 2014), Aalborg. General Chair.
- The 1<sup>st</sup> International News Recommender Systems Workshop and Challenge (NRS 2013). In Conjunction with the 7<sup>th</sup> ACM Recommender Systems Conference (RecSys 2013), Hong Kong. General Chair.
- Semantic Days 2009, Stavanger, Chair of Session 3 Ontology tools
- CAiSE 2007, Trondheim. Workshop Chair.
- Semantics & Search. IDI/UBIS seminar. Chair. 2006.
- NLDB'1996, Amsterdam. Member of organizing committee

### **Member of the program committees of international conferences and workshops:**

- EMNLP 2022. Conference on Empirical Methods in Natural Language Processing. Abu Dhabi.
- AAAI 2021. 35<sup>th</sup> AAAI Conference on Artificial Intelligence.
- ACL 2020. 58<sup>th</sup> Annual Conference of the Association for Computational Linguistics, Seattle.
- ECIS 2019. 27<sup>th</sup> European Conference on Information Systems, Stockholm.
- SERecSys'2016. Workshop on Semantics-Enabled Recommender Systems. Barcelona.
- EKAW'2016. The 20<sup>th</sup> International Conference on Knowledge Engineering and Knowledge Management. Bologna.
- INRA'2016. The 4<sup>th</sup> International News Recommendation and Analytics Workshop, Halifax.
- CBRecSys'2016. The 3<sup>rd</sup> Workshop on New Trends in Content-Based Recommender Systems, Boston.
- NewsIR'2016. Recent Trends in News Information Retrieval, Padua.
- EKAW'2016. The 19<sup>th</sup> International Conference on Knowledge Engineering and Knowledge Management. Bologna, Italy.
- INRA'2015. The 3<sup>rd</sup> International News Recommendation and Analytics Workshop. Vienna.
- NRA'2014. The 2<sup>nd</sup> International News Recommendation and Analytics Workshop. Aalborg.
- EKAW'2014. The 19<sup>th</sup> International Conference on Knowledge Engineering and Knowledge Management. Linköping, Sweden.

- EDOC'2013. The 17<sup>th</sup> IEEE International EDOC Conference. The Enterprise Computing Conference. Vancouver, Canada.
- NRS'2013. The 1<sup>st</sup> International News Recommender Systems Workshop and Challenge. Hong Kong.
- NLDB'2013. The 18<sup>th</sup> International Conference on the Application of Natural Language for Information Systems (NLDB'2013). Salford, UK.
- VarIS'2013. International Workshop on Variability Support in Information Systems, Valencia, Spain.
- BIS'2013. 16<sup>th</sup> International Conference on Business Information Systems, Poznan, Poland.
- BIS'2012. 15<sup>th</sup> International Conference on Business Information Systems, Vilnius, Lithuania.
- ESWC'2012. 9<sup>th</sup> Extended Semantic Web Conference, Heraklion, Greece.
- NLDB'2012. 17<sup>th</sup> International Conference on the Application of Natural Language for Information Systems (NLDB'2012), Groningen, Netherlands.
- NLDB'2011. 16<sup>th</sup> International Conference on the Application of Natural Language for Information Systems (NLDB'2011). Alicante, Spain.
- BIS'2011. 14<sup>th</sup> International Conference on Business Information Systems, Poznan, Poland.
- NLDB'2010. 15<sup>th</sup> International Conference on the Application of Natural Language for Information Systems (NLDB'2010), Cardiff. Wales.
- EKAW'2010. 17<sup>th</sup> Conference on Knowledge Engineering and Knowledge Management, Lisbon, Portugal.
- BIS'2010. 13<sup>th</sup> International Conference on Business Information Systems, Berlin.
- OnAV'2010. 3<sup>rd</sup> International Workshop on Ontology Alignment and Visualization.
- NLDB'2009. 14<sup>th</sup> International Conference on the Application of Natural Language for Information Systems (NLDB'2009) in Saarbrücken, Germany.
- OnAV'2009. 2<sup>nd</sup> International Workshop on Ontology Alignment and Visualization, Fukuoka, Japan.
- ODBASE'2008. 7<sup>th</sup> International Conference on Ontologies, DataBases, and Applications of Semantics in Monterrey, Mexico.
- BPI'2008. 4<sup>th</sup> International Workshop on Business Process Intelligence in Milano.
- eCOMO'2008. 7<sup>th</sup> International Workshop on Conceptual Modeling Approaches for e-Business in Klagenfurt, Austria.
- OnAV'2008. International Workshop on Ontology Alignment and Visualization, Barcelona, Spain.
- BPI'2007. 3<sup>rd</sup> International Workshop on Business Process Intelligence in Brisbane, Australia.
- NLDB'2007. 12<sup>th</sup> International Conference on the Application of Natural Language for Information Systems (NLDB'2007) in Paris, France.
- CONFENIS'2006. The IFIP International Conference on Research and Practical Issues of Enterprise Information Systems in Vienna, Austria.
- NLDB'2006. 11<sup>th</sup> International Conference on the Application of Natural Language for Information Systems (NLDB'2006) in Klagenfurt, Austria.
- NLDB'2005. 10<sup>th</sup> International Conference on the Application of Natural Language for Information Systems (NLDB'2005) in Alicante, Spain.
- NLDB'2004. 9<sup>th</sup> International Conference on the Application of Natural Language for Information Systems (NLDB'2004) in Manchester, UK.
- NLDB'2003. 8<sup>th</sup> International Conference on the Application of Natural Language for Information Systems (NLDB'2003) in Burg, Germany.

- NLDB'2002. 7th International Conference on the Application of Natural Language for Information Systems (NLDB'2002) in Stockholm, Sweden.
- NLDB'2001. 6th International Conference on the Application of Natural Language for Information Systems (NLDB'2001) in Madrid, Spain.
- NLDB'2000. 5th International Conference on the Application of Natural Language for Information Systems (NLDB'2000) in Versailles, France.
- NLDB'1996. 2nd International Conference on the Application of Natural Language for Information Systems (NLDB'96) in Amsterdam., the Netherlands

### **Editorial board of journals:**

- Information Processing & Management (Elsevier)
- Journal of Intelligent Information Systems (Springer)
- Enterprise Information Systems (EIS)
- International Journal of Business Information Systems (JBIS)

### **Reviewer for international journals:**

- Information Processing and Management (Elsevier)
- Semantic Web Journal
- AI Magazine (Association for the Advancement of Artificial Intelligence)
- Knowledge-Based Systems (Elsevier)
- Information Processing Letters (Elsevier)
- IEEE Transactions on Systems, Man, and Cybernetics – Part B: Cybernetics
- IEEE Software
- Data & Knowledge Engineering (Elsevier)
- Information Sciences
- Information and Software Technology (Elsevier)

### **Evaluator for international research programs and institutions:**

- NOKUT (The Norwegian Agency for Quality Assurance in Education), 2015-2021.
- Research Council of Norway, BIA panel, 2013.
- Physical Sciences, The Netherlands Organisation for Scientific Research, 2012.
- European Commission, FP7-ICT-2009-Call 5, Belgium, 2009.
- Oslo University College, 2009.
- Semantic systems, Austria. 2007.
- Academy of Finland. 2007.
- FWF, Austria, 2006.

### **Opponent/administrator in PhD defenses:**

- Hans Moen. "*Distributional Semantic Models for Clinical Text Applied to Health Record Summarization.*" Norwegian University of Science and Technology, 2016 (internal member of committee and administrator).
- Martin Thorsen Ranang. "*Open-Domain Word-Level Interpretation of Norwegian.*" Norwegian University of Science and Technology, 2009 (internal opponent and administrator).

- Rune Sætre. *"GeneTUC : Natural Language Understanding in Medical Text"*. Norwegian University of Science and Technology, 2006 (internal opponent and administrator) .
- Håvard Jørgensen. *"Interactive Process Models"*. Norwegian University of Science and Technology, 2004 (internal opponent)

### **Supervision of PhD students:**

- Tu My Doan. *Political mining*.
- Hassan Abedi Firouzjaei (secondary supervisor).
- Nils Barlaug. *Entity matching*.
- Itishree Mohallick. *Data Science*. (secondary supervisor)
- Yujie Xing. *Conversational AI*.
- Lemei Zhang. *"Exploring Multifaced User Modelling in Textual Data Streams."* 2021.
- Peng Liu. *"Exploiting Dynamic Latent Contexts for Social Recommendation."* 2020.
- Tarik Saleh Salem. *Recommender Systems*. (secondary supervisor)
- Audun Vennesland. *Ontology mediation*. 2020. (secondary supervisor).
- Tomasz Kusmierczyk. *"New Insights into Content Production in Social Platforms."* 2018 (secondary supervisor).
- Mahsa Mehrpoor. *"An Ontology-Driven Recommender System for Engineering Projects"*. 2018 (secondary supervisor)
- Elena Parmiggiani. *"Integration by Infrastructuring: The Case of Subsea Environmental Monitoring in Oil and Gas Offshore Operations."* 2015. (secondary supervisor)
- Lars Bungum. *"A contextual analysis of adaptive machine translation"*. Ongoing research. (secondary supervisor)
- Gkorgkas, Orestis. *"Database Content Exploration and Exploratory Analysis of User Queries"*. 2015 (secondary supervisor)
- Nafiseh Shabib. *"Group recommendation. Ongoing research"*. 2015 (secondary supervisor)
- Ali Norozi. *"The Contextual Features in Schema-Agnostic Environment"*. 2014. (secondary supervisor)
- Tore Bruland. *"Building World Event Representations from Linguistic Representations"*. 2013.
- Wei Wei. *"Mining Online Text Data for Sentiment and News Impact Analysis"*. 2013.
- Robert Neumayer. *"Semantic and Distributed Entity Search in the Web og Data"*. 2013. (secondary supervisor)
- Geir Solskinnsbakk. *"Contextual Semantic Search Navigation"*. 2012.
- João Batista da Rocha Junior. *"Efficient rocessing of Preference Queries in Distributed and Spatial Databases"*. 2012. (secondary supervisor)
- Natiya Kanhabua. *"Time-aware Approaches to Information Retrieval."* 2012. (secondary supervisor)
- Stein Tomassen. Title: *"Conceptual Ontology Enrichment for Web Information Retrieval"*. 2011.
- Jon Espen Ingvaldsen. Title: *"Semantic Process Mining of Enterprise Transaction Data"*. 2011.
- Hao Ding. Title: *"A Semantic Search Framework in Peer-to-Peer Digital Libraries"*. 2006. (secondary supervisor)
- Xiaomeng Su. *"Semantic Enrichment for Ontology Mapping"*. Norwegian University of Science and Technology, 2004. (secondary supervisor)
- Terje Brasethvik. *"Conceptual modelling for domain specific document description and retrieval"*. Norwegian University of Science and Technology, 2004. (secondary supervisor)

### **Supervision of postdoctoral fellows**

- Hatem Haddad. Machine Learning for Norwegian NLP. ERCIM. 2004.
- Terje Brasethvik. Integrated Semantic Search. IAS project. 2004-2006.
- Darijus Strasunskas. Integrated Information Platform for Reservoir and Subsea Production Systems. 2005-2007.

- Stein Tomassen, Evaluation methods in information retrieval. iAD SFI center. 2009-2011.
- Mozghan Tavakolifard. Knowledge Modeling for Manufacturing Processes. LinkedDesign EU project. 2013-2014.
- Dirk Ahlers. Knowledge Modeling for Manufacturing Processes. LinkedDesign EU project. 2014-2016.
- Jon Espen Ingvaldsen. News Recommender Systems. 2014-2016.
- Özlem Özgöbek. News Recommender Systems. ERCIM. 2015-2016.
- Özlem Özgöbek. News Recommender Systems. NTNU. 2016-2019.
- Cristina Marco. News Content Analysis. News recommendation (RCN BIA project). 2016-2019.
- Peng Liu. NorwAI Language Technologies. 2020-2023.
- Benjamin Kille. DNB collaboration project. 2021-2024.

### **Supervision of Master students (as professor):**

- Andre Javier Estevez Fernandez. *“Combining question answering models with transformer-based generative conversational agents.”* 2022.
- Mina Takle Stenaker. *“Political text categorization.”* 2022.
- Alexander Meldal Andersen. *“Sequence Input Aggregation.”* 2022.
- Daniel Nilsen & Aleksander Simmersholm. *“Leveraging Natural Language Processing in Data Synthesis for use in Entity.”* 2022.
- Leif Ulvund. *“Explaining Fake News.”* 2021.
- Theodor Lopez Holmsen. *“Understanding Organizations’ Adoption of AI Technologies: Challenges, Opportunities and Impact.”* 2021.
- Eivind Fållun, Lars Kristian Holmedal Gjelstad. *«Explainable Recommender Systems.»* 2021.
- Øyvind Samuelsen, Mikkel Benjamin Lerberg Nygard. *«Interactive industrial entity matching with machine learning.»* 2021.
- Thea Tokstad. *“Interactive industrial entity matching with machine learning.”* 2021.
- Jon Steinar Folstad. *“Transformer Pre-trained Language Model and Active Learning as a Strategy to Induce Improved Blocking Performance.”* 2021.
- Sigrid Bjørndal. *“Exploring pretrained word embeddings for multi-class text classification in Norwegian.”* 2019.
- Nina Kjekstad & Elida Karina Reknes. *«Semantic User Behaviour Prediction in Online News – Applying Topic Modeling, Community Detection, and User Modeling for News Recommendation.»* 2018.
- Eirik Nilsen Fosse & Sondre Sæterli. *“Using Domain Knowledge in Classifying Industrial Data from the Oil and Gas Sector.”* 2018.
- Sigurd Grøneng & Øyvind Bratvedt. *“Impact of Domain Knowledge in Time Series Forecasting of Oil and Gas Sensor Data.”* 2018.
- Erlend S. Stenberg & Mathias Iden. *«Sales prediction in online banking.»* 2018.
- Ole Selvig. *“Classification of Maintenance Reports – Statistical NLP meets the Oil & Gas Industry.”* 2018.
- Torstein Granskogen. *“Automatic Detection of Fake News in Social Media using Contextual Information.”* 2018.
- Erlend Emil Nøtsund Vollset & Olav Eirik Ek Folkestad. *«Automatic Classification of Bank Transaction.»* 2017.
- Mohallick Itishree. *«User Privacy in Recommender Systems.»* 2017.
- Espen Albert. *«Knowledge exploration in public linked data ontologies.»* 2017.
- Anders Lien. *“Brand sentiment analysis of the Norwegian banking sector.”* 2017.
- Anders Kolstad. *“Semantically Enriched Recommender Systems for Smart Closets.”* 2017.
- Patrick Skjennum. *«Multilingual News Article Classification.»* 2016.
- Mads Løkken Paulsen. *«Online event recommendation – Retrieving and analyzing Norwegian screening events.»* 2016.
- Manasa Vallamkondu. *“Semantics in Educational Recommender Systems.”* 2016.

- Suresh Kumar Mukhiya. *"Predicting the next click with Web log Process Mining."* 2016.
- Terje Brathlie & Patrik Fridberg Bakken. *"Sentiment Analysis in Norwegian Political News – Employing Replicated Methods and Experimental Features to Understand a Complex Domain."* 2016.
- Mahboobeh Harandi. *"Sentiment Analysis in Political News in News Recommender Systems."* 2015.
- Henning Moberg Wold & Linn Christina Vikre. *"Online News Detection on Twitter."* 2015.
- John Arne Øye. *"Sentiment Analysis of Norwegian Twitter Messages"*. 2015.
- Pål-Christian Salvesen Njølstad & Lars Smørås Høysæter. *"Sentiment Analysis for Financial Applications: Combining Machine Learning, Computational Linguistics, and Statistical Methods for Predicting Stock Price Behavior"*. 2014.
- Amir Hossein Ghoreschi & Neberd Salimi. *"Mobile Apps Mobility"*. 2014.
- Dag Einar Monsen & Patrick Romstad. *"Collaborative Filtering in the News Domain with Explicit and Implicit Feedback"*. 2014.
- John Eirik Bjørhovde Nilsen. *"Large-Scale User Click Analysis in News Recommendation"*. 2013.
- Kent Robin Haugen. *"Mobile News: Design Experiments and Recommendation"*. 2013.
- Marius Krakeli & Martin Akre Midtsund. *"Enhanced Location API"*. 2013.
- Hanne Ousdal. *"Mobile Apps Mobility: An evaluation of HTML5 for cross-platform development."* 2013.
- Henrik Nordvik. *"Sentiment Analysis"*. 2011.
- Kristian Lund. *"Extracting Keyphrases from Individual News Articles"*. 2011
- Yuan Yuan. *"State of the Art for Software Ecosystems"*. 2010.
- Bowen Sun. *"Named entity recognition: Evaluation of Existing Systems."* 2010.
- Terese Liadal. *"Representation of Business Processes with Semantic Rule Languages."* 2009.
- Maria Johnsen. *"Model based analysis of IT support in the agricultural value chain."* 2007.
- Vincent Dedeaban. *"Ontology-driven and rule-based system for management and pricing of family of product."* 2007
- Gøran Sveia Kvarv. *"Ontology Learning – Suggesting Associations from Text"*. 2007
- Øyvind Arne Evensen. *"Semantic Relations in Yahoo! News Search"*. 2007
- Wei Feng, *"Value Modeling in the Agricultural Business Sector"*. 2007
- Geir Solskinnsbakk, *"Ontology-Driven Query Reformulation in Semantic Search"*. 2007.
- Geir Øyvinn Grimnes, *"Ontologikonstruksjon for Statoil: Evaluering av metoder for konstruksjon av søkeontologier"*. 2006
- Hans Olaf Borch. *"On-Line Clustering of Web Search Results"*. 2006
- Tarjei Lægreid and Paul Christian Sandal, *"Financial news mining: Extracting useful information from continuous streams of text"*. 2006
- Jahn Arne Johnsen (secondary supervisor), 2006
- Helge Thomas Hellerud. *"Automatisk sammendragsgenerering av nyhetsartikler"* (Automatic Summarization of News Articles). 2005
- Svein Ola Løkse, *"Konseptekstraksjon fra store dokumentsamlinger."* 2005.
- Stian Junge Strand. *"Tolkning av fotballreferater"* (Interpretation of Football Articles). 2005.
- Geir Karlsen, Erlend Solberg and Ole Øyvind Skaar. *"Multiple case studies of Norwegian hi-tech start-ups"*. 2004
- Jon Espen Ingvaldsen. *"ERP Projects and Data Mining"*. 2003.
- Ole Andreas Hegle. *"Business process management"*. 2003
- Harald Kaada. *"Linguistic Workbench for Document Analysis and Text Data Mining"*. 2002.
- Lene Stray Gundersen, *"Erfaringsdatabase for ERP-prosjekter"*. 2001.

## Courses taught:

- TDT4215 Recommender Systems

- TIØ4282 Digitalization – Threats and Opportunities
- IØ6280 Digitalization – Threats and Opportunities
- TMM4230 Technology for Integrated Operations and the Semantic Web
- TDT4215 Web Intelligence
- [TDT4290 Customer-Driven Project](#)
- [TDT44 Semantic Web](#)
- DT8109 Business Systems
- [TDT4175 Information Systems](#)
- Ling10 Computational Linguistics

## Panel Participation

- Artificial Intelligence in the media industry. Panel with Sven Størmer Thaulow and Astrid Undheim. 2021.
- “Big Data for norsk verdiskaping.” Norwegian Academy of Technological Sciences (Norges Tekniske Vitenskapsakademi), Oslo. 21 February 2018.
- “Semantic Technologies and Their Applications.” *13<sup>th</sup> International Conference on Applications of Natural Language to Information Systems (NLDB 2008)*, 25 June, London. 2008. Other panelists: Philip Cimiano, David Grimshaw and Sophia Ananiadou.
- “The Knowledge Organisation of 2020.” *INFOSAM 2020 Conference*, 19 April 2004, Trondheim. Other panelists: Torbjørn Skramstad, Torbjørn Nordgård, and Leif Martin Hokstad.

## Patents

- Electronic research system. European patent application EP2287751. Submitted 08/17/2010 to the European Patent Office. Publication date: 02/23/2011. Search systems and information retrieval methods. Inventors: Jin Liu, Jianshen Zhou, Felix Burkhardt, Fred Runge and Jon Atle Gulla. Assignee: Deutsche Telekom.

## Invited talks

- “New Language Models.” NorwAI Innovate. 21<sup>st</sup> October 2021.
- “Language Models.” Ytringsfrihetskommisjonen. 20<sup>th</sup> October 2021.
- “News Personalization with Artificial Intelligence.” NxtMedia Conference, 15 November 2019, Trondheim.
- “Recommender Systems in the Media Industry. Universitat Politècnica de Valencia. May 2019.
- «Big Data in the Media Industry.” Big Data for norsk verdiskaping. Norwegian Academy of Technological Sciences (Norges Tekniske Vitenskapsakademi), Oslo. 21 February 2018.
- «Fake news – Slik kan NTNU bidra til bekjempelsen.» *Medieleder 2017* in Trondheim, in connection with Adresseavisens 250 year anniversary. 14 June 2017.
- «Recommender Systems in the Media Sector». Guest lecture at Department of Art and Media Studies, NTNU, Trondheim, 13 October, 2016.
- «Hva er effekten av anbefalings- og personaliseringsteknologien?» Til det beste for samfunnet? Konferanse om forskningskommunikasjon i Norge. Research Council of Norway. Oslo, 25 November, 2015.
- «Recommender Systems in the Media Sector». Guest lecture at Department of Art and Media Studies, NTNU, Trondheim, 19 October, 2015.
- “Lokasjonsbasert nyhetsanbefaling “ (Location-Based News Recommendation). *NxtMedia Conference*, Trondheim, 12 November, 2014.

- “Anbefalingssystemer for personalisert brukeropplevelse” (Recommender systems for personalized user experience). *30th Betalingsformidling Conference*, The Norwegian Computer Society, Trondheim, 4-5 March, 2014.
- “NTNU and Recommender Systems”. *NxtMedia Scandinavian Seminar on recommendation technologies*, Trondheim, 8-9 October, 2013.
- “Informal vs. Formal Semantic Approaches to Document Content”. *ISO15926 and Semantic Technology Conference*, 8-9 September 2011, Sogndal.
- “Ontology Engineering in the Petroleum Business.” *Panel 3: Language Resources of Africa: a call for shared methodologies. Africa Network Norway (NAD)*, Trondheim, 2 October 2009.
- “Detecting Semantic Drift in Ontologies”. *ISO 15926 and Semantic Technologies*, Sogndal, 10 September 2009.
- “Tool-Supported Approaches to Ontology Engineering. *Semantic Days*, 22 April 2008.
- “Semantics in Search”. *Vestlandsforskning*. Sogndal, 27 August 2007.
- “Semantic Search Strategies. *OLF Conference on Integrated Operations*, Stavanger, 13 June 2007.
- “From Google Search to Semantic Exploration”. *Semantic Days*, 24 April 2007, Stavanger.
- “Bruk av semantiske teknologier for å støtte dynamisk integrerte operasjoner”. TietoEnator seminar: *Integrerte operasjoner – status og muligheter*. Stavanger, 9 November 2006.
- “Semantic Search Methods”. OLF seminar: *Common industry solutions for the oil and gas industry*. Stavanger, 28 September 2006.
- “Research at NTNU”. *IIP Workshop on Integrated Information Platform for resevoir and subsea production systems*, Stavanger, 24 August, 2006.
- “Ontologies and Search”. *Semantic Days*, 27 April 2006, Stavanger:
- “Semantic Web Research in Norway”. *Semantic Days*, 26 April 2006, Stavanger:
- “Semantic Web Applications – Capabilities and Challenges”. *Seamlessness in interfaces project seminar*, Oslo, December 2005.
- “Why Ontologies on the Web”, *Seminar on Industrial Terminology – Use of reference data*. Standard Norge and DNV, Lillehammer, March 2005.
- “Some thoughts about the Semantic Web initiative, OWL, and ontology-driven information management”, OLF seminar, Stavanger, 2004
- “The organization of human affairs/The creative human: Information Systems.” *INFOSAM 2020 Conference*, 19 April 2004, Trondheim.

## Presentations at conferences and workshops

- “Implicit User Profiling in News Recommender Systems”. *The 10<sup>th</sup> International Conference on Web Information Systems and Technologies (WEBIST 2014)*, Barcelona, 3-5 April 2014.
- “Semantic Drift in Ontologies”. *The 6<sup>th</sup> International Conference on Web Information Systems and Technologies (WEBIST 2010)*, Valencia, 7-10 April 2010.
- “Issues in Ontology Creation for Web Search.” *The 7<sup>th</sup> Workshop on e-Business (Web 2008). International Conference on Information Systems*, Paris, December 2008
- “An Ontology Creation Methodology: A Phased Approach.” *2<sup>nd</sup> International Workshop on Ontology Dynamics (IWOD 2008), International Conference on the Semantic Web*, Karlsruhe, October 2008.
- “A Hybrid Approach to Ontology Relationship Learning.” *13<sup>th</sup> International Conference on Applications of Natural Language to Information Systems (NLDB 2008)*, 25 June, London. 2008.
- “Using Association Rules to Learn Concept Relationships in Ontologies.” *10<sup>th</sup> International Conference on Enterprise Information Systems (ICEIS 2008)*, Barcelona, 14 June 2008.
- “Interoperability in the Petroleum Industry.” *10<sup>th</sup> International Conference on Enterprise Information Systems (ICEIS 2008)*, Barcelona, 14 June 2008.
- “Financial News Mining: Monitoring Continuous Streams of Text”. *2006 IEEE/WIC/ACM International Conference on Web Intelligence (WI 2006)*, Hong Kong, December 2006.



- "Unsupervised Keyphrase Extraction for Search Ontologies". *11<sup>th</sup> International Conference on Applications of Natural Language to Information Systems (NLDB '2006)*, Klagenfurt, June 2006.
- "Semantic Interoperability in the Norwegian Petroleum Industry. *5<sup>th</sup> International Conference on Information Systems Technology and its Applications (ISTA '06)*, Klagenfurt, June 2006.
- "A Text Mining Approach to Integrating Business Process Models and Governing Documents". OnTheMove Federated Conferences and Workshops. *Workshop on Interorganizational Systems and Interoperability of Enterprise Software and Applications (MIOS+INTEROP)*, Agia Napa, October 2005.
- "Understanding Requirements in Enterprise Systems Projects." *12<sup>th</sup> IEEE International Requirements Engineering Conference (RE '04)*, Kyoto, August 2004
- "A Flexible Workbench for Document Analysis and Text Mining." *9<sup>th</sup> International Conference on Applications of Natural Language to Information Systems (NLDB '04)*, Manchester, June 2004.
- "Linguistics in Large-Scale Web Search." *7<sup>th</sup> International Conference on Applications of Natural Language to Information Systems (NLDB '2002)*, Stockholm, June 2002.
- "A Conceptual Modeling Approach to Semantic Document Retrieval." *14<sup>th</sup> International Conference on Advanced Information Systems Engineering (CaiSE '2002)*, Toronto, May 2002.
- "Model-Driven Business Management – the Linguistic Perspective." *6<sup>th</sup> International Workshop on Applications of Natural Language to Information Systems (NLDB '2001)*, Madrid, June 2001.
- "On the Challenges of Business Modeling in Large-Scale Reengineering Projects." *Forth International Conference on Requirements Engineering (ICRE'2000)*, Schaumburg, Illinois, June 2000
- "Implementing SAP R/3 in a Multi-Cultural Organization". First International Workshop on Enterprise Management and Resource Planning Systems (EMRPS'99), Venice, November 1999.
- "Retrieving Conceptual Models on the Basis of Word Semantics", *Second International Workshop on Applications of Natural Language to Information Systems (NLDB'96)*, Amsterdam, 1996.
- "Verification of Conceptual Models based on Linguistic Knowledge". *First International Workshop on Applications of Natural Language to Data Bases (NLDB'95)*, Versailles, 1995
- "Combining Functional Grammar and Rhetorical Structure Theory for discourse representation." *Conference on Functional Grammar*, York, 1994.
- "Executing, Viewing and Explaining Conceptual Models". *First International Conference on Requirement Engineering (ICRE-94)*, Colorado Springs, USA, 1994. IEEE.
- "An Integrated Environment for Validating Conceptual Models". *Sixth International Workshop on Computer-Aided Software Engineering (CASE '93)*, Singapore, July 1993.

## In the media:

- «Neste generasjons chatboter kan komme fra forskningssenteret NorwAI.» Åsmund Hunderi Stemland, Digi, 16 July 2022  
<https://www.digi.no/artikler/neste-generasjons-chatboter-kan-komme-fra-forskningssenteret-norwai/520400>
- «Kunsten å ikke forsvinne i vrimmelen.» Universitetsavisa, Tore Oksholen, Universitetsavisa, 17 November 2020.  
<https://www.universitetsavisa.no/forskning/kunsten-a-ikke-forsvinne-i-vrimmelen/101428>
- «Nytt forskningssenter for kunstig intelligens i Trondheim.» Sindre Kristiansen, MN24, 12 November 2020.  
<https://www.mn24.no/sistenytt/2020/11/12/Nytt-forskningssenter-for-kunstig-intelligens-i-Trondheim-22984712.ece>
- "Schibsted steps up research-based innovation in AI." Schibsted press release, 12 November 2020.  
<https://schibsted.com/news/schibsted-steps-up-research-based-innovation-in-ai/>
- «Dette er NorwAI – Norges nye senter for kunstig intelligens.» Digital Norway, 12 November 2020.  
<https://digitalnorway.com/dette-er-norwai-norges-nye-senter-for-kunstig-intelligens/>

- «Skal skape tyngdepunkt for kunstig intelligens i Norge.» Digital Norway, 19 June 2020.  
<https://digitalnorway.com/skal-skape-tyngdepunktet-for-kunstig-intelligens-i-norge/>
- «Nytt forskningssenter for kunstig intelligens skal skape verdier.» Bjørn Øyvind Andersen, Elektronikknett, 16 June 2020.  
[https://elektronikknett.no/Artikkelarkiv/2020/November/Nytt-forskningssenter-for-kunstig-intelligens-skal-skape-verdier?utm\\_source=dlvr.it&utm\\_medium=facebook](https://elektronikknett.no/Artikkelarkiv/2020/November/Nytt-forskningssenter-for-kunstig-intelligens-skal-skape-verdier?utm_source=dlvr.it&utm_medium=facebook)
- «Trondheimsbedrift vant datapris i London.» Adresseavisen, 2 November 2018.  
<https://www.adressa.no/nyheter/trondheim/2018/11/02/Trondheimsbedrifter-vant-datapris-i-London-17803723.ece>
- «Retriever vil analysere tekst med kunstig intelligens – nytt samarbeid med NTNU.» Gard L. Michalsen, Medier24, 11 June 2018.  
<https://www.medier24.no/artikler/retriever-vil-analysere-tekst-med-kunstig-intelligens-nytt-samarbeid-med-ntnu/439590>
- «How much does our use of social media reveal about our political views?» Steinar Brandslet & Nancy Bazilchuk, Gemini, 10 April 2018.  
<https://geminiresearchnews.com/2018/04/much-use-social-media-reveal-political-views/>
- «Lager metode som avslører fake news i sosiale medier.» Tore Oksholen, Universitetsavisa, 15 November 2017.  
<http://www.universitetsavisa.no/forskning/2017/11/15/Lager-metode-som-avsl%C3%B8rer-fake-news-i-sosiale-medier-70523.ece>
- «Forskning på algoritmer kan avsløre falske nyheter.» Tore Oksholen, Universitetsavisa, 6 October 2017.  
<http://www.universitetsavisa.no/forskning/2017/10/06/Forskning-p%C3%A5-algoritmer-kan-avsl%C3%B8re-falske-nyheter-69417.ece>
- «Oppkjøpsfondet Verdane blir opp over 60 millioner for stavekontroll som forstår dyslektikere.» Markus Tobiassen, Dagens næringsliv, 10 April 2017.  
<https://www.dn.no/grunder/2017/04/10/1220/Teknologi/oppkjopsfondet-verdane-blir-opp-over-60-mill-for-stavekontroll-som-forstar-dyslektikere>
- «Milliardfond blir største eier i trøndersk IT-selskap.» Adresseavisen, 10 April 2017.  
<http://adressa.alda.no/bestillpluss?3&artRefId=14579729&aviskode=ADR&targetUrl=http%253A%252F%252Fwww.adressa.no%252F%253Fservice%253DpaywallRedirect%2526articleUrl%253Dhttp%253A%252F%252Fwww.adressa.no%252Fpluss%252Fokonomi%252Farticle14579729.ece>
- “Verdane IX acquires dyslexia aid software company.” Verdane capital, 10 April 2017.  
<http://www.verdanecapital.com/article/2339>
- «Trondheimsfirma vil koble finansnyheter med aksjesalg.» Journalisten.no, 17 November 2016.  
<https://journalisten.no/mediebedriftenes-landsforening-finansnyheter-contextual/trondheimsfirma-vil-koble-finansnyheter-med-aksjesalg/288937>
- «Personaliserte nyheter: NTNU og Adressa vil ta Facebook og Google.» Albert Collett, Universitetsavisa, 2 March 2015. <http://www.universitetsavisa.no/forskning/article48285.ece>
- «Skal dele på 40 forskningsmillioner.» Universitetsavisa, 2 February 2015.  
<http://www.universitetsavisa.no/forskning/article47191.ece>
- «40 forskningsmillioner til Adresseavisen og NTNU.» Børge Sved, Adresseavisen, 1 February 2015. <http://www.adressa.no/nyheter/trondheim/article10600133.ece>
- «NTNU-ere utvikler verktøy som vet hva du liker.» Børge, Sved, Universitetsavisa, 12 November 2014. <http://www.universitetsavisa.no/nyheter/2014/11/12/ntnu-ere-utvikler-verktoy-som-vet-hva-du-liket>
- “Endelig kan søkemotoren forstå deg.” Kristian Mendoza, 27 June 2011, Teknofil.no.  
[http://www.teknofil.no/artikler/endelig\\_kan\\_sokemotoren\\_forstaa\\_deg/99573](http://www.teknofil.no/artikler/endelig_kan_sokemotoren_forstaa_deg/99573)
- ”Søk som skjønner deg.” Geir Aas, 26 June 2011. Forskning.no.  
<http://www.forskning.no/artikler/2011/juni/291919>

- “Søk som skjønner deg.” Geir Aas, 15 May 2011.  
<http://www.forskningsradet.no/servlet/Satellite?c=Nyhet&pagename=verdict%2FHovedsidemal&cid=1253966372725&p=1226993814948>
- «Tar språkproblemene ut i verden.» Adresseavisen, 15 March 2007.  
<https://www.adressa.no/forbruker/digital/cebit/article828450.ece>
- “Towards a Semantic Information Platform for Subsea Petroleum Processes”. ERCIM News, No. 66. ([http://www.ercim.org/publication/Ercim\\_News/enw66/gulla.html](http://www.ercim.org/publication/Ercim_News/enw66/gulla.html) ).
- ”NTNU-forskere arbeider med å forbedre søk og presentasjon av data”. The Norwegian Oil Industry Association (OLF), 30 September 2005. (<http://www.olf.no/io/kunnskapsind/>).
- “Hva om vi ikke har en felles forståelse av hva vi legger i begrepene?”. Knut Lindelien. Standard Norge. March 2005. (<http://www.standard.no/imaker.exe?id=9680>)
- “Unge gründere med brukerfokus”. Forskning.no, 2 September 2004.  
(<http://forskning.no/naeringsliv/Artikler/2004/september/1094111121.79>).
- ”Unge gründere med brukerfokus”. Teknisk Ukeblad, 26 August 2004.  
(<http://www.tu.no/nyheter/arbeidsliv/article29221.ece>).
- «Data gjøres forståelig.» Tore Oksholen, Universitetsavisa, October 1993.
- «Doktor i data-behandling.» Einar Kvande, Driva, October 1993.

## CULTURE

### Awards

- Måldiplom from Surnadal Heimbygdlag, 2010, for the book “*Portvin og laks på Gulla Gaard.*”

### Languages

- Norwegian, mother tongue
- English, fluent
- German, working knowledge
- French, Spanish, basic knowledge

### Skiing competitions

- Fossavatnsgangan, Iceland 2022 (50 km, time: 4:05:19.8, 59 of 201 in total)
- Marchialonga, Italy 2020 (70 km, time: 5:46:52, 2693 of 5329 in total, 758 of 1400 in Men 50-59)
- Marxa Beret, Spain 2017 (42 km, time: 3:05:14, 45 of 121 in total, 40 of 112 in Men overall)
- Kaiser Maximilian Lauf, Seefeld, Austria 2016 (22 km, time: 1:31:40, 100 of 253 in Men overall)
- Bieg Piastów, Poland 2015 (51 km, time: 3:32:07, 329 of 1492, 62 of 352 in Men 50)
- Marka Rundt 2015 (39 km, time: 2:50:58, 34 of 42 in Men 46-50)
- Toblach-Cortina, Italy 2014(25 km, time: 1:38:19,1, 353 of 650 in Men overall)
- Flyktningerennet 2013 (44 km, time: 2:44:36.0, 79 of 361 in HMS)
- Jizerská, Czech Republic 2013 (50 km, time: 4:07:29, 1722 of 4318)
- Flyktningerennet 2012 (28 km, time: 1:56:26.4, 154 of 433 in HMS)
- Marka Rundt 2012 (40 km, time: 3:05:09, 54 of 74 in Men 41-45)
- Flyktningerennet 2011 (44 km, time: 3:07:47, 195 of 484 in HMS)
- Flyktningerennet 2009 (44 km, time: 3:10:50, 200 of 444 in HMS)
- Rensfjellrennet 2005 (56 km, time: 4:51:35, 86 of 116 in M35-39)
- Flyktningerennet 2004 (44 km, time: 3:29:32, 220 of 352 in HDM)
- Birkebeinerrennet 2001 (54 km, time: 5:08:16, 740 of 965 in Men 35-39)

### Gulla Gaard

Owner of a traditional summer hotel in Surnadal. The hotel is located by the river Surna, one of the finest salmon rivers in Norway. Includes a large English garden, a ducks pond, a tennis court and buildings of the local architecture. The hotel closed down in 1964 and is now under complete restoration.

Sources about Gulla Gaard:

- Nanna Ranes. «Ny husfrue på Gulla gård.» *Driva*, 31. oktober 2019. <https://www.driva.no/nyheter/2019/10/31/Ny-husfrue-p%C3%A5-Gulla-g%C3%A5rd-20295390.ece>
- Sigrid Skjølsvold. «Folksomt på lanseringsfest for Sigrid Lunde på Gulla gård. Trollheimsporten, 25. oktober 2019. <https://www.trollheimsporten.no/folksomt-paa-lanseringsfest-for-sigrid-lunde-paa-gulla-gaard.6257575-137312.html>
- Eva Rønning. «Åpner for historisk samarbeid på Gulla,» *Trollheimsporten*, 11. mai 2018. <https://www.trollheimsporten.no/cpage.6146407-137312.html>
- Tor Helge Solli. «Intim avslutning av Vårsøghelga.» *Tidens krav*, 28. mai 2017. <https://www.tk.no/kultur/surnadal/varsoghelga/intim-avslutning-av-varsoghelga/s/5-51-315240>
- Bævre, Ann Iren. «Portvinskongens laksegård.» *Adresseavisen*, 29. juni 2012. <http://www.adressa.no/incoming/article3232139.ece>.
- *Driva*. "Ministerbesøk til Vårsøghelga." 17. juni 2011. s. 4.
- Lillegård, Magne. "Sandeman tilbake på Gulla Gaard". *Driva – Vårsøghelga*, 8. juni, 2011, s. 10-11.
- Solli, Tor Helge. "Gjenreiser gammel storhet ved elva." *Tidens krav*, 21. mai 2011, s. 8-9.
- Harangen, Morten. "Hekta på sjørret." *Fluefiske 2010*, pp. 94-98, 2010.
- Lillegård, Magne. "Gjenskarer portvinskongen sitt rike." *Driva*, 20. november 2009, pp. 12-14.
- Gulla, Jon Atle. "Portvin og laks på Gulla Gaard." ISBN 978-82-303-1223-0. 2009.
- Harangen, Morten. "Port and Salmon." *Flyfishers Journal*, Vol. 89, No. 326, Winter 2008, pp. 18-21.
- Harangen, Morten. "Mannen som vil skape Gulla av gråstein." *Fluefiske 2008*, pp. 55-59, 2008.
- Aarvåg, Steinar J. "Ærverdige Gulla Gaard". *Driva*, 17. august 2007, s. 14-15.
- Bryn, Thor (red.). *Norske fiskeeventyr: Med engelske sportsfiskere gjennom Norge i gamle dager*. Cappelen. 2004.
- Haranger, Morten. "En laksegårds fall". *Landliv*, nr. 5, pp. 20-27, 2003.
- Svensli, Rolf Ivar. "Bare tennisbanen igjen...". *Driva*, 30. juli 1993.
- Holten, Ola J. "I lakselordenes fotspor: Portvinkongen på Gulla Gård". *Sportsfisker'n*, pp. 10-16. Årbok 1986.
- *Adresseavisen*. "26,5 kilo rekord". 19. juli 1984.
- Meringdal, Odd. "Engelsktida i Surna – del 2". *Driva*, 13. januar 1976, s. 4.
- Nordvik, Ola. "Storfisk og storfiskarar". *Du mitt Nordmøre 1972*. s. 19-29.
- *Tidens krav*. "Laksefiske i gamle dager". 25. juni 1962.
- *Tidens krav*. "Ryfylking innførte skisporten i Sveits". 28. februar 1962.
- Headlam, Maurice. *A Holiday Fisherman*. Robert Hale. 1949.
- *Norwegian Anglings*. Nr 4309, p. 95. Lumley & Dowell, Lumley House. 1912.
- *Surnadølen*. "Opmars til Gulla". Nr II, 19. september 1899.
- Chapman, Abel. *Wild Norway: with chapters on Spitsbergen, Denmark, etc.* London: Edward Arnold. 1897.
- Sandeman, Fraser. *Angling Travels in Norway*. Chapman & Hall, Ltd. 1895.