Dr. Jérôme Kunegis (Complete CV)

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Education

Dr. rer. nat. 2011
University of Koblenz–Landau
Thesis: *On the Spectral Evolution of Large Networks*

Dipl.-Inform. 2006
Technical University of Berlin
Thesis: *Using Integer Linear Programming for Search Results Optimization*

Baccalauréat 1999
Lycée Français de Berlin
Série scientifique

Abitur 1999
Lycée Français de Berlin
Leistungskurse: Mathematik, Physik

Diplôme national du brevet 1996
Lycée Français de Berlin
Série collège

Positions

Postdoctoral Researcher 2011–2016
Institute for Web Science and Technologies, University of Koblenz–Landau
ROBUST (EU FP7), SocialSensor (EU FP7), Koblenz Network Collection (KONECT), Social Information Processing (DFG WGI), REVEAL (EU FP7).

Visiting Postdoctoral Researcher 2013
Networks and Operating Systems Group, University of Cambridge

Research Assistant 2010–2011
Institute for Web Science and Technologies, University of Koblenz–Landau
WeKnowIt (EU FP7), ROBUST (EU FP7), MULTIPLA (DFG).

Research Assistant 2006–2010
DAI Lab, Technical University of Berlin
Projects PIA (Personalized Information Agent), Universal Recommender (Semantic Recommendation Engine), Connected Living (Innovationszentrum "Vernetztes Leben"), Smart Senior (Intelligent Services for Elderly People), UCPM (User Centric Profile Management), WebTV (Semantic TV Recommendations), SERUM (Semantic Recommenders based on Large, Unstructured Data).

Student Research Assistant 2002–2006
DAI Lab, Technical University of Berlin
Projects Corinna und Cornelius (Speech-controlled Personal Digital Assistant), PIA (Personalized Information Agent), Synergie (Collaborative e-Science Platform).

Teaching

- Network Theory and Dynamic Systems, University of Koblenz–Landau, SS 2016.
- Advanced Topics in Network Science, University of Koblenz–Landau, SS 2016.
- Introduction to Database Systems (Grundlagen der Datenbanken, Lecturer), University of Koblenz–Landau, WS 2015/2016.
- Learning Analytics: Aspects of Machine Learning and Empirical Psychology in E-Learning, (Learning analytics: Aspekte des Machine Learnings und empirischer Psychologie beim E-Learning, Proseminar), University of Koblenz–Landau, WS 2015/2016.
- Network Theory and Dynamic Systems, University of Koblenz–Landau, SS 2015.
- Recommender Systems (Seminar), University of Koblenz–Landau, SS 2015.
- Introduction to Database Systems (Grundlagen der Datenbanken, Lecturer), University of Koblenz–Landau, WS 2014/2015.
- Distributed Scalable Network Analysis (Research Lab), University of Koblenz–Landau, WS 2014/2015.
- Advanced Topics in Network Theory (Seminar), University of Koblenz–Landau, SS 2014.
- Network Theory and Dynamic Systems, University of Koblenz–Landau, SS 2014.
- Introduction to Database Systems (Grundlagen der Datenbanken, Lecturer), University of Koblenz–Landau, WS 2013/2014.
- Network Theory and Dynamic Systems, University of Koblenz–Landau, SS 2013.
- Social Networks (Soziale Netzwerke, Proseminar), University of Koblenz–Landau, SS 2013.
- Introduction to Database Systems (Grundlagen der Datenbanken, Lecturer), University of Koblenz–Landau, WS 2012/2013.
- Social Networks (Soziale Netzwerke, Proseminar), University of Koblenz–Landau, SS 2012.
- Introduction to Database Systems (Grundlagen der Datenbanken, Assistant), University of Koblenz–Landau, WS 2011/2012.
- Introduction to Database Systems (Grundlagen der Datenbanken, Assistant), University of Koblenz–Landau, WS 2010/2011.

Supervised Theses

- Marcel Reif. Automatische Erkennung von exakten und Near-Duplikaten in einer Netzwerkdatenbank, *Bachelor of Science*, University of Koblenz–Landau, 2016.
- Nils Geilen. Entwicklung eines Systems zur Vorhersage von Nutzeraktivität auf den Diskussionsseiten der Wikipedia, *Bachelor of Science*, University of Koblenz–Landau, 2015.
- Jesús Cabello González. Berechnung und Approximation von Kürzeste-Pfad-Statistiken in großen Netzwerken für KONECT, *Bachelor of Science*, University of Cádiz, 2014.
- Julia Preusse. Analysis of the WebUni Online Student Community, *Dipl.-Inform.*, Otto-von-Guericke University Magdeburg, 2010.

- Stephan Spiegel. A Hybrid Approach to Recommender Systems based on Matrix Factorization, *Dipl.-Inform.*, Technical University of Berlin, 2009.
- Christian Banik. Recommending Wiki Articles using Collaborative Filtering, *Dipl.-Inform.*, Technical University of Berlin, 2009.
- Iris Breddin. Untersuchung der Klassifizierbarkeit und Klassifikation von Schweißnahtdaten, *Dipl.-Inform.*, Technical University of Berlin, 2008.

Conference Organization

- WeST Off-Campus Meeting (OCM), 2016, Chair.
- INFORMATIK, 2013, Publicity Chair.
- Web Science Conf. (WebSci), 2011, Publicity Chair.
- Special Session on Uncertainty in Network Mining (UNM) at the Int. Conf. on Information Processing and Management of Uncertainty in Knowledge-based Systems (IPMU), 2010, Technical Chair.

Program Committees

- Int. AAAI Conf. on Web and Social Media (ICWSM), 2016.
- Workshop on Social News on the Web (SNOW) at the World Wide Web Conf. (WWW), 2016.
- Workshop on SociAL Semantic Analysis (SALSA), 2016.
- #FAIL! – The Workshop Series at the Internet Research Conf. (IR), 2015.
- Web Science Track, Int. World Wide Web Conf. (WWW), 2015.
- #FAIL! – The Workshop Series at the Web Science Conf. (WebSci), 2015.
- Web Science Conf. (WebSci), 2014.
- Workshop on Social News on the Web (SNOW) at the World Wide Web Conf. (WWW), 2014.
- Workshop on Connecting Online & Offline Life (COOL) at the World Wide Web Conf. (WWW), 2014.
- Web Science Track, Int. World Wide Web Conf. (WWW), 2014.
- Int. Joint Conf. on Artificial Intelligence (IJCAI), 2013.
- Web Science Conf. (WebSci), 2013.
- Web Science Education Workshop at the Web Science Conf. (WebSci), 2013.
- Conf. on Semantic Technology and Information Retrieval (STAIR), 2013.
- Int. Workshop on Semantic Personalized Information Management (SPIM) at the Int. Conf. on Web Search and Data Mining (WSDM), 2013.
- European Conf. on Information Retrieval (ECIR), 2013.
- Workshop on Metrics, Analysis and Tools for Online Community Management (MAMA), at INFORMATIK, 2013
- Web Science Conf. (WebSci), 2012.
- European Conf. on Information Retrieval (ECIR), poster track, 2012.
- Conf. on Natural Language Processing (KONVENS), 2012.
- Workshop on Personalized Information Management: Linking Social and Semantic Web (SPIM) at the Int. Conf. on Web Engineering (ICWE), 2012.
- Conf. on Information and Knowledge Management (CIKM), 2011.
- Web Science Conf. (WebSci), 2011.
- Int. Conf. on Knowledge Discovery and Data Mining (KDD), research track, 2011.

- Challenge on Context-aware Movie Recommendation (CAMRa) at the Conf. on Recommender Systems (RecSys), 2010.
- Special Session on Uncertainty in Network Mining (UNM) at the Int. Conf. on Information Processing and Management of Uncertainty in Knowledge-based Systems (IPMU), 2010.

Review Boards and Other Reviewing

- Network Science, 2015, 2016.
- ACM Computing Surveys, 2014, 2015.
- The J. of Web Science, 2014.
- ACM Trans. on Internet Technologies (TOIT), 2014.
- Special Issue on "Propagation Phenomenon in Complex Networks: Theory and Practice", New Generation Computing, 2014.
- Int. Semantic Web Conf. (ISWC), 2013.
- Int. Conf. on Computational Statistics (COMPSTAT), 2012.
- Int. J. of Computer and Telecommunications Networking (COMNET), 2012.
- IEEE Trans. on Neural Networks (TNN), 2011.
- J. on Autonomous Agents and Multi-agent Systems (AAMAS), Special Issue on Agent Mining, 2011.
- ACM Trans. on Knowledge Discovery from Data (TKDD), 2011.
- TV Content Analysis (TVCA), 2011.
- Workshop on Ontologies and Lexical Resources (OntoLex) at the Int. Conf. on Computational Linguistics (COLING), 2010.

Publications

[1] Continuous-time quantum walks on directed bipartite graphs. Beat Tödtli, Monika Laner, Jouri Semenov, Beatrice Paoli, Marcel Blattner, and Jérôme Kunegis. *Phys. Rev. A*, 94:052338, 2016.

[2] On the ubiquity of web tracking: Insights from a billion-page web crawl, Sebastian Schelter and Jérôme Kunegis, 2016. In review.

[3] Linguistic neighbourhoods: Explaining cultural borders on Wikipedia through multilingual co-editing activity. Anna Samoilenko, Fariba Karimi, Daniel Edler, Jérôme Kunegis, and Markus Strohmaier. *Eur. Phys. J. Data Science*, 5(9), 2016.

[4] Voting behaviour and power in online democracy: A study of LiquidFeedback in Germany's Pirate Party. Christoph Carl Kling, Jérôme Kunegis, Heinrich Hartmann, Markus Strohmaier, and Steffen Staab. In *Proc. Int. Conf. on Weblogs and Social Media*, pages 208–217, 2015.

[5] Social networking by proxy: A case study of Catster, Dogster and Hamsterster. Daniel Dünker and Jérôme Kunegis. 2015.

[6] Social networking by proxy: Analysis of Dogster, Catster and Hamsterster. Daniel Dünker and Jérôme Kunegis. In *Proc. Int. Conf. on World Wide Web Companion*, pages 361–362, 2015.

[7] Exploiting the structure of bipartite graphs for algebraic and spectral graph theory applications. Jérôme Kunegis. *Internet Math.*, 11(3):201–321, 2015.

[8] Detecting non-Gaussian geographical topics in tagged photo collections. Christoph Carl Kling, Jérôme Kunegis, Sergej Sizov, and Steffen Staab. In *Proc. Int. Conf. on Web Search and Data Mining*, pages 603–612, 2014.

[9] What is the added value of negative links in online social networks? Jérôme Kunegis, Julia Preusse, and Felix Schwagereit. In *Proc. Int. World Wide Web Conf.*, pages 727–736, 2013.

[10] Structural dynamics of knowledge networks. Julia Preusse, Jérôme Kunegis, Matthias Thimm, Thomas Gottron, and Steffen Staab. In *Proc. Int. Conf. on Weblogs and Social Media*, pages 506–515, 2013.

[11] Spectral evolution in dynamic networks. Jérôme Kunegis, Damien Fay, and Christian Bauckhage. *Knowledge and Information Systems*, 37(1):1–36, 2013.

[12] Predicting directed links using nondiagonal matrix decomposition. Jérôme Kunegis and Jörg Fliege. In *Proc. Int. Conf. on Data Mining*, pages 948–953, 2012.

[13] Bad news travels fast: A content-based analysis of interestingness on Twitter. Nasir Naveed, Thomas Gottron, Jérôme Kunegis, and Arifah Che Alhadi. In *Proc. Web Science Conf.*, 2011.

[14] Spectral analysis of signed graphs for clustering, prediction and visualization. Jérôme Kunegis, Stephan Schmidt, Andreas Lommatzsch, and Jürgen Lerner. In *Proc. SIAM Int. Conf. on Data Mining*, pages 559–570, 2010.

[15] Learning spectral graph transformations for link prediction. Jérôme Kunegis and Andreas Lommatzsch. In *Proc. Int. Conf. on Machine Learning*, pages 561–568, 2009.

[16] The Slashdot Zoo: Mining a social network with negative edges. Jérôme Kunegis, Andreas Lommatzsch, and Christian Bauckhage. In *Proc. Int. World Wide Web Conf.*, pages 741–750, 2009.

Keynotes and Invited Talks

- Algebraic Graph-theoric Measures of Conflict, Journée Graphes et Systèmes Sociaux (Seminar on Graphs and Social Systems), 2016.
- Measuring Conflict in Signed Social Networks, Application of Network Theory on Computational Social Science (Workshop), 2015.
- Large Network Collections: The Power of Many Datasets, Int. Workshop on Social Network Analysis (ARS), 2015.
- Network Analysis Tools for Online Communities: The Koblenz Network Collection. Keynote, Workshop on Metrics, Analysis and Tools for Online Community Management (MAMA), 2013.

Other Talks

- Generating Networks with Realistic Properties Based on a Given (Set of) Network(s), and a Short Overview of the KONECT Project. Université de Namur, 2016.
- Web Science in Practice: Web Observatories. WSTNet Web Science Summer School, 2016.
- KONECT: The Koblenz Network Collection – Towards a Broad Analysis of Complex Systems. ETH Zürich, 2015.
- Observing the Web: The Koblenz Network Collection. Bournemouth University, 2013.
- Growth and Decay: Using Machine Learning to Predict the Web's Future, Workshop on Artificial Intelligence on the Web, 2012.
- Models of Like, Dislike, Similarity and Dissimilarity using Split-complex Numbers, University College Dublin, 2012.
- Why Is Beyoncé More Popular Than Me: Fairness, Diversity and Other Measures of Network Equality. University of Freiburg, 2012.

- Fairness on the Web: Alternatives to the Power Law. Leibniz-Institut für Sozialwissenschaften, Cologne, 2012.
- On the Spectral Evolution of Large Networks. University College Cork, 2011.
- On the Spectral Evolution of Large Networks. Fraunhofer IAIS, St. Augustin, 2011.
- On the Spectral Evolution of Large Networks. Technical University of Berlin, 2011.
- The Slashdot Zoo: Mining a Social Network with Negative Edges. Data and Knowledge Engineering Research Colloquium, Otto-von-Guericke University Magdeburg, 2010.
- The Slashdot Zoo: Mining a Social Network with Negative Edges. University of Koblenz–Landau, 2010.
- The Slashdot Zoo: Mining a Social Network with Negative Edges. University of Hannover, 2010.
- PIA+COMM – an Intelligent Search Engine. Michael Hahne, Corinna Jung, Jérôme Kunegis, Andreas Lommatzsch and André Paus. Workshop on the Formation of Social Networks in Social Software Applications, INFORMATIK, 2006.

Posters without Publication

- Linguistic Neighbourhoods: Explaining Cultural Borders on Wikipedia through Multilingual Co-editing Activity. Anna Samoilenko, Fariba Karimi, Daniel Edler, Jérôme Kunegis, Markus Strohmaier, Int. School and Conf. on Network Science (NetSciX), 2016.
- Social Network Observatory. Jérôme Kunegis, Markus Strohmaier, Steffen Staab. Computational Social Science Winter Symposium, 2015.
- Quantifying Cultural Similarity through Language Co-occurrences in Wikipedia Editing Activity. Anna Samoilenko, Fariba Karimi, Daniel Edler, Jérôme Kunegis, Markus Strohmaier. Computational Social Science Winter Symposium, 2015.
- Polarisation in Voting Platforms: A Case Study of LiquidFeedback in the German Pirate Party. Manuel Mittler, Christoph Carl Kling, Jérôme Kunegis, Markus Strohmaier, Computational Social Science Winter Symposium, 2015.
- Twitter as a Political Network – Predicting the Following and Unfollowing Behavior of German Politicians. Julia Perl, Claudia Wagner, Jérôme Kunegis, Steffen Staab, Web Science Conf., 2015.
- Online Delegative Democracy: A Case Study of the German Pirate Party's Voting Platform. Christoph Carl Kling, Jérôme Kunegis, Heinrich Hartmann. Computational Social Science Winter Symposium, 2014.
- Social Networking By Proxy: A Case Study of Catster, Dogster and Hamsterster. Computational Social Science Winter Symposium, 2014.
- A Theory-Driven Approach for Link and Unlink Predictions in Directed Social Networks. Julia Perl, Claudia Wagner, Jérôme Kunegis, Steffen Staab. Computational Social Science Winter Symposium, 2014.
- KONECT – The Koblenz Network Collection. Jérôme Kunegis, Steffen Staab, Daniel Dünker. Int. School and Conf. on Network Science, 2012.
- Need Networks? KONECT – The Koblenz Network Collection. European Summer School on Information Retrieval, 2011.
- KONECT – The Koblenz Network Collection. Web Science Conf., 2011.

- Uncovering Multi-modal Spread Modes using Joint Diagonalization in Dynamic Human Contact Networks. Damien Fay, Jérôme Kunegis, Eiko Yoneki. Interdisciplinary Workshop on Information and Decision in Social Networks, 2011.
- On the Spectral Evolution of Large Networks. Postersession für Nachwuchswissenschaftler/innen, University of Koblenz–Landau, 2011.
- On the Spectral Evolution of Large Networks. SIAM Conf. on Data Mining Doctoral Forum, 2010.

Demonstrations and Presentations

- Institute for Web Science and Technologies, conference booth. INFORMATIK 2013.
- Schülerinformationstage, Institute for Web Science and Technologies, University of Koblenz–Landau, 2011, 2013, 2015, 2016.
- LiveTweet: Monitoring and Predicting Interesting Microblog Posts, European Conference on Information Retrieval (ECIR), 2012.
- Time-aware Centrality in Contact Network Analysis. Eiko Yoneki, Damien Fay, Jérôme Kunegis. European Conference on Complex Systems (ECCS), 2011.
- PIA, Spree, CeBIT, 2010.
- PIA+COMM, CeBIT, 2007.
- PIA, Lange Nacht der Wissenschaften Berlin/Potsdam, 2006.

Mentions in Media

- Die Abstimmungssoftware LiquidFeedback in der Piratenpartei: wegweisend für Demokratie 2.0?, www.piratenpartei.de, May 2015.
- Come ha funzionato davvero la democrazia liquida dei Pirati tedeschi, Wired Italia, April 2015.

Awards and Nominations

- First Prize, Int. Conf. on Web and Social Media (ICWSM) Science Slam, 2016.
- Best Poster Award, Int. School and Conf. on Network Science (NetSciX), 2016.
- Best Paper Honorable Mention, Int. Conf. on Web and Social Media (ICWSM), 2015.
- Ted Nelson Newcomer Award Nominee, Conf. on Hypertext and Social Media (HT), 2012.
- Student Travel Award, Int. Conf. on Information and Knowledge Management (CIKM), 2010.
- Student Travel Fellowship Award, SIAM Conf. on Data Mining (SDM), 2010.
- Best Paper Nominee, Industrial Conf. on Data Mining (IndCDM), 2007.
- Premier Prix (First Prize), Rallye mathématique d'Alsace, Terminale (Alsace Mathematical Rally), 1999.

Main Software Authorship

- Stu, build automation (C++11)
- SynGraphy, graph generator (Matlab)
- KONECT Toolbox, network analysis toolbox (Matlab, C99)
- Polcovar, software for counting patterns in random graphs (Matlab)
- Universal Recommender, recommendation library (Java)
- BabyChess, chess engine (C++98)
- *More: see* `github.com/kunegis`

Miscellaneous

- Birthday: March 27
- Languages: French (first language), German (first language), English (advanced)
- Programming languages and technologies I use extensively: Bourne shell, C, C++, Java, Latex, Make, Matlab, sed
- Other programming languages and technologies I have used: BASIC, HTML, JavaScript, Logo, Perl, PHP, Turbo Pascal