## Dr. Jérôme Kunegis

Université de Namur Rempart de la Vierge 8 5000 Namur Belgique

## 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

## Abitur

1999

Lycée Français de Berlin

## Diplôme national du brevet

1996

Lycée Français de Berlin

#### **Positions**

### Postdoctoral Researcher

2017-present

Namur Center for Complex Systems, University of Namur

#### Postdoctoral Researcher

2011-2016

Institute for Web Science and Technologies, University of Koblenz-Landau

## 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

## Research Assistant

2006 - 2010

DAI Lab, Technical University of Berlin

#### Student Research Assistant

2002 - 2006

DAI Lab, Technical University of Berlin

## 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. Workshop on Complex Networks and Their Applications, 2016.
- 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.

## Ten Selected 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.

## 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