

# Alexander Nolte

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## Research interest

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My research interest is on understanding and supporting the collaboration of individuals in various contexts. My work covers the design and evaluation of socio-technical systems to foster and sustain innovation and collaboration. I particularly focus on the impact and sustainability of time-bounded events such as hackathons in the context of communities, corporations, IT entrepreneurship, higher education and civic engagement. I believe in rigorous, interdisciplinary research on topics that are relevant to individuals and organizations. My research thus extends to three main intertwined areas:

**Computer supported collaboration:** Analyzing, designing and evaluating complex socio-technical systems is at the core of my research interest. To that end I combine scaffolding mechanisms, meta-design, heuristics, re-use scenarios and analytics to facilitate and guide the design, implementation and evaluation of socio-technical environments that support the collaboration of individuals over longer periods of time in hybrid collocated and distributed settings.

**Human computer interaction:** Technology is very much at the core of how people interact with each other. I thus aim to understand how people create and use technology and how it can be leveraged to support collaboration in various contexts over time and space.

**Information systems:** Socio-technical design often takes place in an organizational or entrepreneurial context. Arriving at concepts that support existing and newly created organizations to become and remain competitive is paramount. To this end the developed approaches have to intertwine both organizational and individual competences to create a climate that breeds innovative ideas and embraces change by implementing them.

## Teaching philosophy

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I perceive learning as a process during which individuals construct knowledge through their experiences and their interaction with other learners within social contexts. Teaching thus needs to be treated as a facilitation process that should create learning opportunities. In my courses, I do not solely focus on teaching facts. I rather actively engage students into discussions to foster critical thinking and creativity. If possible, I try to conduct courses in a project-oriented way where students learn to apply techniques that they are taught hands on in a practical context. In the end, the goal is not for the students to be able to replicate facts. It is rather to be able to understand and apply techniques in a real-world setting.

## Education

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2009 – 2014      University of Duisburg-Essen  
**Dr. rer. nat. (PhD in Information Systems)**  
Thesis: Flexibilisierung kollaborativer Prozessmodellierung durch den Einsatz webbasierter Modellierungswerkzeuge (German)  
The thesis is about a socio-technical approach to allow stakeholders to continuously participate in business process analysis and design. The approach intertwines co-located workshops with asynchronous annotation phases.

1999 – 2008      Technical University Dortmund  
**Dipl.-Inform. (MSc equivalent in Computer Science)**  
Thesis: Konzept und Prototyp eines Usability orientierten webbasierten Editors für semi-strukturierte Modellierung (German)  
The thesis is about the development and evaluation of one of the first, purely web-based process modeling editors. The evaluation focused on usability aspects of transferring desktop-into web applications.

## Work experience

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2018 – present	Lecturer (Assistant professor)	University of Tartu, Estonia
	<ul style="list-style-type: none"> <li>• Developing and teaching courses on Human Computer Interaction for both undergraduate and graduate students</li> </ul>	
2018 – present	Adjunct assistant professor	Carnegie Mellon University, Pittsburgh, USA
	<ul style="list-style-type: none"> <li>• Adjunct researcher in a project funded by the Alfred P. Sloan Foundation on understanding and sustaining Hackathon outcomes in various contexts</li> </ul>	
2017 – 2018	Research associate	Carnegie Mellon University, Pittsburgh, USA
	<ul style="list-style-type: none"> <li>• Researcher in a project funded by the Alfred P. Sloan Foundation on understanding and supporting Hackathons in various contexts</li> </ul>	
2017 – 2018	Postdoctoral fellow	University of Pittsburgh, USA
	<ul style="list-style-type: none"> <li>• Development and evaluation of approaches to support sustained collaboration over time in mixed collocated and distributed settings (supported by a funding grant DFG (German federal funding agency))</li> </ul>	
2017	Adjunct faculty	University of Pittsburgh, USA
	<ul style="list-style-type: none"> <li>• Teaching a course on Information Systems Development (Advanced JAVA course)</li> </ul>	
2016 – 2017	Visiting research fellow	University of Pittsburgh, USA
	<ul style="list-style-type: none"> <li>• Development and evaluation of approaches to support sustained collaboration over time in mixed collocated and distributed settings</li> <li>• Co-authoring research proposals for DFG (German federal funding agency) and local funding bodies in Pittsburgh.</li> </ul> <p><b>Successful proposals:</b></p> <ul style="list-style-type: none"> <li>• <i>Supporting sustained collaboration over time in hybrid collocated and online settings</i> (Research fellowship, DFG, 103.249,80 €)</li> <li>• <i>We are strong! Leveraging Information Technology to Empower Marginalized Communities</i> (Joint research project, University of Pittsburgh, 28.000,00 \$)</li> </ul>	
2016 – 2017	Temporary research programmer	Carnegie Mellon University, Pittsburgh, USA
	<ul style="list-style-type: none"> <li>• Front-end development for the LASAD project (Java EE and GWT)</li> </ul>	
2016 – 2017	Online tutor	EURO-FH University of Applied Sciences, Hamburg, Germany
	<ul style="list-style-type: none"> <li>• Tutor for "Information Management" and "Business Engineering"</li> </ul>	
2014 – 2016	Postdoctoral research fellow	Ruhr-University Bochum, Germany
	<ul style="list-style-type: none"> <li>• Senior researcher in the German funded project 4C4Learn on intertwining process and competence management approaches to support organizational development</li> <li>• Co-authoring research proposals for the European Union, the German Federal Ministry of Education and Research (BMBF) as well as private funding bodies.</li> </ul> <p><b>Successful proposal:</b></p> <ul style="list-style-type: none"> <li>• <i>4C4Learn - Kompetenzorientiertes Unternehmenscoaching für ein nachhaltiges Kompetenzmanagement in KMU</i> (Joint research project, BMBF, 614.866,80 €)</li> </ul>	
2009 – 2014	Researcher	Ruhr-University Bochum, Germany
	<ul style="list-style-type: none"> <li>• Researcher in the European funded project MIRROR (IP-FP7). Evaluating a socio-technical approach to foster collaborative reflection at the work place.</li> <li>• Researcher in the German funded project VEIN. Design and evaluation of a socio-technical concept to support continuous improvement of work practice.</li> <li>• Research assistant in the German funded project service4home. Designing and evaluating service processes to support elderly people to live in their own home for as long as possible. Services were ordered using digital pens.</li> <li>• Research assistant in the project ISMS. Privacy oriented analysis of work processes in a university administration.</li> </ul>	
2013	Visiting research fellow	Queensland University of Technology, Brisbane, Australia
	<ul style="list-style-type: none"> <li>• Theoretical model and survey study on behavioral intentions of process model re-use</li> </ul>	

## Work experience

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- 2011 – present    Process management consultant and coach
- University of Missouri (School of Information Science and Learning Technologies)
  - VIACTIV (health insurance provider)
  - Heinrich Huhn GmbH & Co. KG (manufacturer of metal stampings and assemblies)
  - Ruhr-University Bochum (construction, IT services, human resources, finances)
  - Kassenärztliche Vereinigung Westfalen-Lippe (association of doctors)
- 2008 – 2009    Co-founder and front-end developer fromatob.com
- Development of an online travel platform in cooperation with RWTH Aachen University

## Selected publications

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- Journals
- Nolte, A.**, Pe-Than, E.P.P., Filippova, A., Bird, C., Scallen, S. & Herbsleb, J.D. (2018). You Hacked and Now What? - Exploring Outcomes of a Corporate Hackathon. *Proc. ACM Hum.-Comput. Interact.* 2, CSCW, 129:1-129:23.
- Pe-Than, E.P.P., **Nolte, A.**, Filippova, A., Bird, C., Scallen, S. & Herbsleb, J.D. (2018). Designing Corporate Hackathons With a Purpose. *IEEE Software*. (early access).
- Chounta, I.A., **Nolte, A.**, Hecking, T., Farzan, R., & Herrmann, T. (2017). When to Say "Enough is Enough!": A Study on the Evolution of Collaboratively Created Process Models. *Proc. ACM Hum.-Comput. Interact* 1, CSCW, 33:1-33:21.
- Nolte, A.**, Bernhard, E., Recker, J., Pittke, F., & Mendling, J. (2016). Repeated Use of Process Models: The Impact of Artifact, Technological and Individual Factors. *Decision Support Systems*, 88, 98–111.
- Conferences
- Sirmets, M., Milani, F., **Nolte, A.**, & Pungas, T. (forthcoming). Designing Process Diagrams – A Framework for Making Design Choices When Visualizing Process Mining Outputs. In: *Proceedings of the 26th International Conference on Cooperative Information Systems*. Springer.
- Nolte, A.**, Jahnke, I., Chounta, I.-A., & Herrmann, T. (2018). Supporting Collaboration in Small Volunteer Groups with Socio-Technical Guidelines. In: *Proceedings of 16th European Conference on Computer-Supported Cooperative Work - Exploratory Papers, Reports of the European Society for Socially Embedded Technologies* (ISSN 2510-2591).
- Lentzsch, C., Loser, K.-U., Degeling, M. & **Nolte, A.** (2017). Integrating a Practice Perspective to Privacy by Design. In: *International Conference on Human Aspects of Information Security, Privacy, and Trust* (pp. 691-702). Springer.
- Herrmann, T., **Nolte, A.**, & Prilla, M. (2016). Socio-technical Process Design—The Case of Coordinated Service Delivery for Elderly People. In *Blurring the Boundaries Through Digital Innovation* (pp. 217-229). Springer (**Special award Sandro D'Atri**).
- Book chapters
- Nolte, A.**, Brown, R., Anslow, C., Wiechers, M., Polyvyanyy, A., & Herrmann, T. (2016). Collaborative Business Process Modeling in Multi-surface Environments. In *Collaboration Meets Interactive Spaces* (pp. 259-286). Springer.
- Jakobi, T., Castelli, N., **Nolte, A.**, Schönau, N., & Stevens, G. (2016). Towards Collaborative Green Business Process Management as a Conceptual Framework. In *Advances and New Trends in Environmental and Energy Informatics* (pp. 275–293). Springer.
- Loser, K.-U., **Nolte, A.**, Prilla, M., Skrotzki, R. & Herrmann, T. (2012). A Drifting Service Development: Applying Sociotechnical Design in an Ambient Assisted Living Project. In: *Phenomenology, Organizational Politics, and IT Design: The Social Study of Information Systems* (pp. 311–323). Springer.
- Workshops
- Nolte, A.**, Pe-Than, E.P.P., Herbsleb, J.D., Filippova, A., Bird, C., & Scallen, S. (2018). You Hacked and Now What? – Exploring Outcomes of a Corporate Hackathon. In: *2nd Workshop on Hacking and Making at Time-Bounded Events: Current Trends and Next Steps in Research and Event Design*.
- Nolte, A.** (2018). Exploring Potentials of Process Reflection to Support Communities of Small Volunteer Groups. In: *1st Workshop on Subject-oriented BPM for Community Support*.
- Herrmann, T., Jahnke, I., & **Nolte, A.** (2016). Evaluating Socio-Technical Systems with Heuristics – A Feasible Approach?. In: *2nd International Workshop on Socio-Technical Perspective in IS Development (STPIS'16)*.

## Teaching experience

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### Lecturer:

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|-------------|--|--------------------------|
| 2018 – 2019 | Human Computer Interaction (graduate)  | University of Tartu      |
|             | <ul style="list-style-type: none"><li>• Introductory course on human computer interaction: Human perception, memory and processing; input and output devices and controls; user interface basics; UI and UX design and evaluation processes and methods; design thinking and prototyping</li></ul> |                          |
| 2017        | Implementation of information systems (undergraduate)  | University of Pittsburgh |
|             | <ul style="list-style-type: none"><li>• Advanced JAVA course on GUI, event handling, exception handling, common algorithms, file I/O, database programming and web application development e.g. HTML, CSS, Javascript</li></ul>  |                          |
| 2014 – 2016 | Project management (undergraduate)   | Ruhr-University Bochum   |
|             | <ul style="list-style-type: none"><li>• Project planning, controlling and agile methods of project management</li></ul>  |                          |
| 2014 – 2015 | Process management and innovation (graduate)   | Ruhr-University Bochum   |
|             | <ul style="list-style-type: none"><li>• Methods and approaches for process analysis, modeling notations (BPMN, EPC, UML), approaches for process improvement, collaborative modeling, process innovation</li></ul>   |                          |
| 2013 – 2014 | Subject-driven role-guided externalization of organizational models<br>ERASMUS summer school   | JKU Linz, Austria        |
|             | <ul style="list-style-type: none"><li>• Modeling basics, modeling notations (BPMN, EPC, UML)</li></ul>   |                          |

### Co-lecturer:

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|------|---|------------------------|
| 2015 | Software engineering (undergraduate)  | Ruhr-University Bochum |
|      | <ul style="list-style-type: none"><li>• Requirements elicitation, patterns, model driven architecture</li></ul> |                        |
| 2015 | Groupware and knowledge management (graduate)   | Ruhr-University Bochum |
|      | <ul style="list-style-type: none"><li>• Communication support, joint editing, collaborative modeling</li></ul>  |                        |
| 2010 | Hard and software ergonomics  | Ruhr-University Bochum |
|      | <ul style="list-style-type: none"><li>• Windows, icons, menus, pointers and controls</li></ul>                  |                        |

### Online tutor:

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| 2016 | Information management (graduate) | EURO-FH University of Applied Sciences |
| 2016 | Business engineering (graduate)   | EURO-FH University of Applied Sciences |

### Student supervision:

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|------|---|
| 2016 | Isabella Rüsing, MA thesis: Strategische und operative Perspektiven auf Prozesse – Eine vergleichende Analyse (German)  |
| 2016 | Malte Brokkötter, MA thesis: Analyse und Vergleich zweier qualitativer Erhebungsmethoden auf Basis vertriebsbedingter Abrechnungsprozesse am Beispiel einer Vertriebsstätte eines mittelständischen Logistikunternehmens (German) |
| 2015 | Christopher Lentzsch, BA thesis: Gestenbasierte Modellierung in SeeMe (German)  |
| 2015 | Darius Wolodzko, MA thesis: Entwicklung und Erprobung einer regelbasierten Transformation zwischen Prozessmodellierungsnotationen am Beispiel von SeeMe nach BPMN (German)  |
| 2014 | Meryem Aydogan, BA thesis: Unterstützung der Prozessmodellierung für Nutzer mit geringen Modellierungskennntnissen (German)   |
| 2012 | Stefan Abramowski, BA thesis: Wiederverwendung vorhandener Modelle durch Meta-Modellierung (German)   |
| 2012 | Sebastian Redwitz, BA thesis: Entwicklung einer Usability-orientierten Kommentarfunktion für SeeMe-Web (German)   |

## Professional services

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### Committees:

2019	27 <sup>th</sup> European Conference on Information Systems (program committee)
2019	27 <sup>th</sup> ACM Joint European Software Engineering Conference and Symposium on the Foundations of Software Engineering (registration chair)
2019	14 <sup>th</sup> International Conference on Global Software Engineering (program committee)
2018	ACM Conference on Supporting Groupwork (program committee)
2018	26 <sup>th</sup> European Conference on Information Systems (program committee)
2018	30 <sup>th</sup> International Conference on Advanced Information Systems Engineering (webmaster and social media chair)
2018	13 <sup>th</sup> International Conference on Global Software Engineering (program committee)
2018	10 <sup>th</sup> International Conference on Subject-Oriented Business Process Management (program committee)
2018	2 <sup>nd</sup> Workshop on Hacking and Making at Time-Bounded Events: Current Trends and Next Steps in Research and Event Design @ CHI (organizer)
2018	1 <sup>st</sup> Workshop on Empirical Methods in Conceptual Modeling @ ER (program committee)
2018	Workshop on Socio-Technical Perspective in IS development @ CAiSE (program committee)
2017	Track on A sociotechnical approach for 21st century problems @ ECIS (associate editor)
2017	12 <sup>th</sup> International Conference on Global Software Engineering (program committee)
2017	Workshop on Socio-Technical Perspective in IS development @ CAiSE (program committee)
2017	Workshop on The Value of Modeling @ BIR (program committee)
2017	Workshop on SocioTechnical Walkthrough – A Collaborative, Human-Centered Design & Development Method for Projects @ AECT (organizer)
2016	11 <sup>th</sup> International Conference on Global Software Engineering (publicity chair and program committee)
2015	Workshop on Collaboration Meets Interaction Surfaces @ ITS (program committee)
2013	Workshop on Models and their role in collaboration @ ECSCW (organizer)
2013	Special Issue on Collaborative usage and development of models and visualizations @ IJeC (guest editor)
2011	Workshop on Collaborative usage and development of models and visualizations @ ECSCW (organizer)
2011	ACM Workshop on Application of modern input technologies @ Informatik (program committee)
2010-2013	Workshop on Interactive displays in cooperation @ MuC (organizer)

### Reviews:

Journals	Business Information Systems Engineering (BISE) Group Decision and Negotiation Journal of Systems and Software
Conferences	ACM Conference on Human Factors in Computing Systems (CHI) ACM Nordic Conference on Human-Computer Interaction (NordiCHI) ACM SIGCHI Conference on Designing Interactive Systems (DIS) ACM International Conference on Interactive Surfaces and Spaces (ISS) ACM Conference on Computer-Supported Cooperative Work (CSCW) ACM International Conference on Supporting Group Work (Group) IEEE International Conference on Global Software Engineering (ICGSE) International Conference on the Design of Cooperative Systems (COOP) International Conference on Information Systems (ICIS) European Conference on Information Systems (ECIS) International Conference on Subject-Oriented Business Process Management (S-BPM-ONE) International Symposium on End-User Development (IS-EUD) Participatory Design Conference (PDC) World Wide Web Conference (WWW)

## Invited talks

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|------|---|
| 2018 | Designing hackathons with a purpose<br>IEEE Estonia Section Summer Seminar 2018, Jäneda, Estonia                                      |
| 2016 | Supporting sustained collaboration over time – A socio-technical approach<br>University of Missouri, Columbia, Missouri, USA          |
| 2015 | Collaboration on and interaction with models of socio-technical processes<br>Middlesex University, London, UK                         |
| 2015 | Socio-technical Process Design – SeeMe and the Socio-technical Walkthrough<br>HAN University of Applied Sciences, Arnhem, Netherlands |

## Grants, scholarships and awards

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|------|---|
| 2017 | Volkswagen Foundation<br>Grant for participation in the symposium Design Trade-Offs for Quality of Life: Exploring Grand Challenges for the Digital Age, Hannover, Germany (1.500€)   |
| 2017 | Deutsche Forschungsgemeinschaft (DFG)<br>Research fellowship for the project <i>Supporting sustained collaboration over time in hybrid collocated and online settings</i> at the University of Pittsburgh, PA, USA (103.249,80 €) |
| 2014 | University of Liechtenstein<br>Grant for participation in the European BPM Round Table, Vaduz, Liechtenstein (500 €)  |
| 2013 | German Academic Exchange Service (DAAD)<br>Scholarship for a short term research visit, Queensland University of Technology, Brisbane, Australia (5.256 €)  |
| 2008 | German Federal Ministry for Economic Affairs and Energy (BMWi)<br>eXist Business Start-up Grant, RWTH Aachen University, Germany (11.600 €)   |

## Technical and other skills

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|-----------|---|
| Research  | My main focus is on conducting field studies which included ethnographic methods, interviews, observations and workshops, I also conducted controlled lab studies and surveys. For analysis purposes I used MaxQDA, ELAN, Python (esp. pandas), SPSS and R. |
| Technical | Java, Java EE, PHP, HTML, CSS, JavaScript, GWT, MySQL, Eclipse, Linux (Ubuntu), Apache, Glassfish, MySQL, SVN   |

## Languages

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- German – native language  
English – speak fluently and read/write with high proficiency