

Associate Professor of Computer and Data Science

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Employment

Positions at Lyon College

<i>2023- Present</i>	Associate Professor of Computer and Data Science, Lyon College, Batesville, AR, USA
<i>2022 - 2023</i>	Associate Professor of Data Science, Lyon College, Batesville, AR, USA
<i>2021 - 2022</i>	Visiting Associate Professor of Data Science, Lyon College, Batesville AR, USA

Prior Employment

<i>2007 - 2023</i>	Professor of Business Information Systems, Berlin School of Economics and Law, Berlin, Germany [on leave of absence July 31, 2021 – July 31, 2023]
<i>2007 - 2021</i>	Affiliated Faculty, Berlin Professional School, Berlin, Germany
<i>2008 - 2020</i>	President's Commissioner for E-Learning, Berlin School of Economics and Law (HWR Berlin), Berlin, Germany
<i>2017 - 2020</i>	Scientific Head of the E-Learning Competence Centre, Berlin School of Economics and Law (HWR Berlin), Berlin, Germany
<i>2006 - 2016</i>	Senior executive coach, Rundstedt & Partner GmbH, Berlin, Germany
<i>2004 - 2006</i>	Partner, Change Partnership GmbH, Berlin, Germany
<i>2005 - 2007</i>	Lecturer, Berlin School of Economics, Berlin, Germany
<i>2003 - 2004</i>	Independent coach, consultant and speaker
<i>2002</i>	Visiting Professor of Knowledge Management, University of Auckland Business School, Department of Management Science and Information Systems, NZ
<i>1999-2001</i>	Knowledge Manager, Shell International Ltd., Shell Finance Services, London, UK
<i>1998 - 1999</i>	Senior Strategist, Shell International Ltd., Shell Services Int., London, UK
<i>1997 - 1998</i>	Senior Advisor in Corporate Information Technology, Shell Int. Ltd., London, UK
<i>1995 - 1997</i>	Director of Knowledge Management, Accenture, London, UK
<i>1995</i>	Specialist, Accenture, Centre for Professional Education, St. Charles, IL, USA
<i>1994</i>	Postdoctoral Fellow Research Associate at DESY Berlin, Germany
<i>1990 - 1993</i>	Research Associate, Institute for Theoretical Physics, Univ. of Hamburg, Germany

Research Grants Obtained

<i>2024</i>	Faculty Summer Research Grant (\$2,500): Research towards a book on "Literate Programming", to be published with CRC Press (Taylor & Francis), ca. 2025/26.
<i>2016 - 2020</i>	Project Co-Lead, German Federal Research Grant (ca. € 500,000.00): „Development of new modes of learning and teaching“ and „Development of an E-Learning Competence Centre“. In German: <i>Qualitätsoffensive Lehre an der HWR Berlin, Entwicklung neuer Lehr- und Lernformen und Entwicklung eines E-Learning Kompetenzzentrums.</i>
<i>2012 - 2016</i>	Project Co-Lead, German Federal Research Grant (ca. € 500,000.00): “Blended Learning”. In German: <i>Teilprojekt “Blended Learning” der 3. Säule Hochschulpakt/Qualitätsoffensive Lehre.</i>
<i>2010 - 2013</i>	Project Lead, German Federal Research Grant (€ 259,310.00): „Project and Knowledge Management for SMEs“. In German: <i>FHProfUnt (BMBF) Projekt “InterKomp KMU 2.0 – Internationales IT-gestütztes Projekt- und Wissensmanagement im multikulturellen Umfeld.</i>

2009 – 2012 Project Lead, European Social Fund (€ 1,483,694.00): "Skills and Knowledge Transfer Using New Media and Web 2.0 at University or on the Job". In German: *ESF Projekt "E(r)lernen: Kompetenzvermittlung zum Einsatz neuer Medien und Web 2.0 in Studium und Beruf"*.

Education

Degrees

1994 Dr. rer. nat. (PhD), Physics, University of Hamburg, Germany
 1990 Diploma (Master), Physics, University of Hamburg, Germany
 1983 Abitur (High School Diploma), Gelehrtenschule des Johanneums, Hamburg, Germany

Further Education

2023 - Understanding Artificial Intelligence, Supervised learning in R: classification, Introduction to ChatGPT / DataCamp
 2022 - Understanding Machine Learning / DataCamp
 - Introduction to Statistics / DataCamp
 2021 - PH125.2x: Data Science: Visualization / HarvardX / edX.org
 - Exploratory Data Analysis in R / DataCamp
 - Intermediate R / Cloud Computing for Everyone / DataCamp
 2020 - PH125.1x: Data Science: R Basics / HarvardX / edX.org
 - Learning to Work with Emacs, offered by Eric Simard / Udemy
 - LFS101x: Introduction to Linux, offered by LinuxFoundationX / edX.org
 - Data Science for Everyone / DataCamp
 2019 Programming 101: An Introduction to Python for Educators, Raspberry Pi Foundation and National Centre for Computing Education / Futurelearn.org
 2019 Introduction to the Shell for Data Science / DataCamp
 2018 - MIND101x: Mind of the Universe–Robots in Society/Delft University of Technology/edX
 - Philosophy and the Sciences: Introduction to the Philosophy of Physical Sciences, University of Edinburgh / Coursera.org
 2018 Introduction to Python / DataCamp
 2017 Successful Online Teaching and Facilitation of Collaboration, Berlin Centre for Higher Education, Berlin, Germany
 2006 Certificate Psychodrama Leader and Gestalt Therapist, Institute for Humanistic-Systemic Therapy, Berlin, Germany
 1999 Certificate in Creative Group-work, Southbank University, London, UK
 1998 Certificate in Counselling, Southbank University, London, UK
 1996 Rogerian Counselling, Hendon College, London, UK

Editorial Positions

2020 - Present Associate Editor, International Journal of Data Science, Inderscience Enterprises Ltd., ISSN 2053-082X / 2053-0811
 2019 - Present Editorial board member, International Journal of Big Data Management, Inderscience Enterprises Ltd., ISSN 2631-8687 / 2631-8679
 2009 – 2021 Editorial board member, International Journal of Innovation in Education, Inderscience Enterprises Ltd., ISSN 1755-1528 / 1755-151X
 2008 – Present Editorial Board Member, International Journal of Learning and Change, Inderscience Enterprises Ltd., ISSN 1740-2883 (online) / 1740-2875 (print)
 1998 – 2001 Editorial Board of *Strategy and Scenario Planning* (Ark plc)
 1997 – 2004 Editorial Board of *Business Change and Re-Engineering* (John Wiley & Sons – until 1999) and *Knowledge Management* (Ark plc)
 1993 – 1994 Editor of the Lattice Gauge Theory and C++ Sections of the Free Software Library for High Energy Physics at SLAC, Stanford, CA, USA

Advisory and Board Positions

<i>2025-Present</i>	Member, International Advisory Board of the Berlin MBA, Berlin Professional School of HWR Berlin (Berlin School of Economics and Law), Berlin, Germany
<i>2020-Present</i>	Scientific Member, d-cube institute for data science, Berlin School of Economics and Law / HWR Berlin, Berlin, Germany
<i>2019-Present</i>	Member of the Board of Advisors, Catholic Polytechnic University, Los Angeles, USA
<i>2016-2021</i>	Board member (Treasurer), Diocesan Historical Society of Berlin & Brandenburg
<i>2016-2019</i>	Advisory Board of DiKuBiS ("Digital Cultural Transformation of Berlin Industry")
<i>2015-2016</i>	Scientific Adviser to "BlendIT" (Online Business Administration Study Program)
<i>2014-2016</i>	Advisory Board of "LudoLeist" (Application of Serious Games to Mgmt. Accounting)
<i>2004 - 2005</i>	Advisory Board of the European Knowledge Management Forum
<i>2003 - 2004</i>	Board member/co-founder of a Waldorf-Kindergarten, Berlin, Germany
<i>2001 - 2004</i>	Advisory Board, Integration of Complex Social Systems, London School of Economics and Law, London, UK
<i>2000 - 2007</i>	Adviser to the 5 th and 6 th Framework Programs of the European Union in the area of Information Society and Technology
<i>2000 - 2001</i>	Member of the Global Scenario Group, Chatham House Forum, London, UK
<i>1998 - 2001</i>	Associate of the Cognoscenti Institute (France)
<i>1996 - 1998</i>	Advisor to the Globewide Network Academy, Inc., TX, USA
<i>1994 - 1995</i>	Chairman of the Board of Directors of the Globewide Network Academy, Inc., TX, USA (executive director from 1993-1996)

Awards, Honors, and Fellowships

<i>2013</i>	International E-Learning Awards, Honourable Mention, The International E-Learning Association
<i>2012</i>	International E-Learning Awards, Honourable Mention, The International E-Learning Association
<i>2011</i>	Talent pool award WiWi Online, Germany
<i>2002</i>	'Best Paper in 2002' of the University of Auckland Business Review, by the Editorial Board, Auckland, NZ
<i>1994</i>	TRACS Fellowship for the Human Capital and Mobility Programme of the CEC, Edinburgh Parallel Computing Centre
<i>1994</i>	Awarded 'Best Educational Service' and 'Best Campus-Wide Information System' on the Web 1994, by the organising committee of the 1 st WWW conference (chair: Tim Berner-Lee and Robert Caillau), Geneva, Switzerland
<i>1985 - 1988</i>	Fellow of the Friedrich-Ebert-Stiftung
<i>1986</i>	DAAD/IAESTE Fellowship for Technical University of Delft, Delft, Netherlands

Research Interests

- **Literate Programming & Reproducible Data Science:** Developing and evaluating curricula that utilize **GNU Emacs** and **Org-mode** to enforce scientific reproducibility and narrative-driven coding. This research focuses on bridging the gap between professional "hacker tools" and novice accessibility, currently supported by a **2024 Faculty Research Grant** for a forthcoming textbook on Literate Programming (CRC Press/Taylor & Francis).
- **Physics-Informed Machine Learning:** Transferring mathematical optimization frameworks from **Theoretical Physics** (specifically **Lattice Gauge Theory**) to improve Deep Learning architectures. This work revisits and modernizes my early foundational research on **Neural Multigrid methods** to address contemporary challenges in neural network efficiency and interpretability.
- **Generative AI in Engineering & Education:** Investigating the epistemic impact of **Large Language Models (LLMs)** on the research process and software engineering workflows. Specific inquiries focus on the "**AI as Muse vs. Tool**" dichotomy and the integration of AI coding assistants into literate programming environments to maintain cognitive rigor and code quality.

Publications¹

[63] **Birkenkrahe, M.** (2025). Generative AI in Research: Tool, Muse, Or Mirror? In: Proc. 18th Annual Int. Conf. on Education, Research and Innovation (ICERI2025), 10-12 November 2025, 1339-1343; URL: <https://doi.org/10.21125/iceri.2025.0520>

[62] **Birkenkrahe, M.** (2025). Truth Matters: Generative AI as Muse or Tool in the Research Process. In: International Journal of Electrical and Computer Engineering Research 5(3), 7-14. URL: <https://doi.org/10.53375/ijecer.2025.472>

[61] Del Gobbo, C., **Birkenkrahe, M.** (2025). Generative AI Tools in Higher Education: A Case Study of Student Usage At A Small Liberal Arts College. In: Proc. 19th Int. Technology, Education and Development Conf (INTED25), 3-4 March 2025, 315-324; URL: <https://doi.org/10.21125/inted.2025.0142>

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[59] **Birkenkrahe, M.** (2024). The Role of AI Coding Assistants: Revisiting the Need for Literate Programming in Computer and Data Science Education. In: Proc. 18th Int. Technology, Education and Development Conf (INTED24), 4-6 March 2024, 127-132; URL: doi.org/10.21125/inted.2024.0071

[58] **Birkenkrahe, M.** (2023). Teaching Data Science with Literate Programming Tools. In: *Digital 2023*, 3(3), 232-250; URL: doi.org/10.3390/digital3030015

[57] Khan, A. and **Birkenkrahe, M.** (2022). Development of a Usability Testing Procedure for Process Mining Tools. In: *International Journal of Data Science* 7(2), 142-163. URL: doi.org/10.1504/IJDS.2022.126852 .

[56] **Birkenkrahe, M.** (2022). Teaching Data Science in a Synchronous Online Introductory Course at a Business School – A Case Study. In: Guralnick, D., Auer, M.E., Proce, A. (eds) *Innovations in Learning and Technology for the Workplace and Higher Education. TLIC 2021*. Lecture Notes in Networks and Systems, vol 349. Springer, Cham. URL: doi.org/10.1504/IJDS.2022.126852

[55] **Birkenkrahe, M.** (8 April 2020). The First Webinar [In German: Das erste Online-Seminar] In: *eLerner Blog der HWR Berlin*. Online: blog.hwr-berlin.de. ISSN 2365-0338.

[54] **Birkenkrahe, M.** (27 March 2020). Preparing your first webinar [In German: Das erste Online-Seminar vorbereiten] In: *eLerner Blog der HWR Berlin*. Online: blog.hwr-berlin.de. ISSN 2365-0338.

[53] Hollmann, T., Drasdo, K., Mey, S. and **Birkenkrahe, M.** (2020). Media didactics for teaching forensic medicine in an undergraduate program for higher law enforcement – e-learning units as an additional offer of knowledge transfer [In German: Mediendidaktik im Fach Rechtsmedizin des Bachelorstudienganges Gehobener Polizeivollzugsdienst der HWR Berlin – E-Learning-Einheiten als zusätzliches Angebot der Wissensvermittlung]. *Preprint HWR Berlin, May 2020*.

[52] **Birkenkrahe, M.**, Gunnoltz, J. (2020). Students Model Start-Up Processes – An Embedded Approach to Entrepreneurship Education. In: *Digitalität@HWR. Erfahrungen mit Digitalisierung in Forschung und Lehre, HWR Berlin*, eds. Egger de Campo, M. and Resch, O., pp. 95-125 (ISBN 978-3-8487-6484-6, Nomos Verlag).

[51] **Birkenkrahe, M.** (2019). Theodor Fontane and Catholicism in the Novel "Count Petöfy". [In German: "Theodor Fontane und der Katholizismus am Beispiel des Romans "Graf Petöfy"] In: Höhle, M. (Hrsg.). *Wichmann - Jahrbuch des Diözesangeschichtsvereins Berlin*. Heilbad Heiligenstadt: Verlag F.W. Cordier. (=Neue Folge 15, 58./59. Jahrgang 2018/2019). S. 221-237.

[50] **Birkenkrahe, M.**, Hingst, A., Mey, S. (2019). "Yes, I can": How Lecturers Can Be Inspired for Digital Transformation" [In German: "Ja, ich will" – Wie können Lehrende für die digitale Transformation

¹ Name changed from Speh to Birkenkrahe in 2000.

begeistert werden?] In: *Teaching Trends 2018*, Hrsg. Robra-Bissantz, S., Bott, O.J., Kleinefeld, N., Neu, K., Zickwolf, K., in: *Digitale Medien in der Hochschullehre*, Bd. 7, Waxmann-Verlag, S. 30-36.

[49] **Birkenkrahe**, M. (2019). Playpals On A Digital Fault Line Or Participants Missing In Action? – How The Use Of Instant Messenger Apps Changed The Dynamics In My Classroom. In: Schönbohm, A. (Hrsg.). *Digitalkultur. Facetten digitaler Transformation*. Stahnsdorf, 2019, pp. 224-239.

[48] **Birkenkrahe**, M. (28 Nov 2018). How To Update a MOOC [In German: Wie aktualisiert man einen MOOC?] In: *eLerner Blog der HWR Berlin*. Online: hwr-berlin.de. ISSN 2365-0338.

[47] **Birkenkrahe**, M. (2018). Bridges Across the Digital Abyss – How To Use Messenger-Apps to Improve Communication and Collaboration in Courses [In German: Brücken über den digitalen Abgrund? – Wie man mit Messenger-Apps Kommunikation und Kollaboration in Kursen verbessern kann (aber nicht muss)]. In: E. Kraatz (Hrsg.) *Veränderungen der Kommunikationsformen und Wandel der Kommunikationskompetenzen als neue Herausforderungen für Studium und Lehre an den Fachhochschulen für den öffentlichen Dienst. Redebeiträge und Thesen des 29. Glienicker Gesprächs*, S. 85-109. Hamburg: Tredition, 2018. ISBN 978-3-7469-7845-1.

[46] **Birkenkrahe**, M. (2017). The Research Methods Online Pre-Course [In German: Der Research Methods-Online Kurs]. In: *Blended Learning als zukunftsweisender und integraler Bestandteil des Polizeistudiums, Fachtagung E-Learning, HWR Berlin, 21-22 September 2017*.

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[43] **Birkenkrahe**, M. (2015). Building Graduate-Level, Gamified xMOOCs In Moodle. In: *Proceedings of EADTU – The Online, Open and Flexible Higher Education Conference, Hagen 29-30 October 2015*, pp. 57-73. ISBN/EAN 978-90-79730-17-9.

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[40] **Birkenkrahe**, M., Erenli, K. (2014). QuizeRo – Recipe for a Successful QR-Code Scavenger Hunt. In: *Games for Training, Education, Health and Sports*, eds. Göbel, S. and Wiemeyer, J., *Lecture Notes in Computer Science* vol. 8395-2014, Heidelberg: Springer, pp. 190-194; *Proceedings of the 4th Int. Conf. on Serious Games, Darmstadt April 1-5, 2014*.

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[38] Gunnoltz, J., Quade, S., Habermann F. and **Birkenkrahe**, M. (2013). Free Tools for Project Management: An Organizational Learning Approach for Small and Medium-Sized Enterprises. In: *International Journal of Emerging Technologies in Learning (iJET)* Vol. 8, No. 2. DOI: 10.3991/ijet.v8i2.2485.

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[31] **Birkenkrahe**, M., Habermann, F., Quade, S. (2011). Improving Collaborative Learning and Global Project Management in Small and Medium Enterprises. In: *Proceedings of ICELW 2011 – International Conference on E-Learning in the Workplace, New York, June 2011; best recommended paper for publishing in the "International Journal of Advanced Corporate Learning (ijAC)", Vol. 4, No. 4 (2011).*

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[21] **Birkenkrahe**, M. (2004). No Wings Without Roots – What To Do When A Great Deal Fails? Managing Transactions With System Constellations. In: *The Outsourcing Project, Special Report, Montgomery Europe Research, June 2004.*

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[11] **Speh**, M. (1995). A Virtual Programming Course Using The MOO. In: *Diversity University Journal of Virtual Education*, Vol. 1, No. 1, January 1995.

[10] **Speh**, M. (1995). C++ and the World-Wide Web, 1994. In: "C++ Report", SIGS Publication, ed. Stan Lippman, January 1995.

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Talks, Outreach Presentations and Media Coverage

AI in Education. Invited talk at Kiwanis meeting, Batesville, September 2025. Text published in LinkedIn: <https://www.linkedin.com/pulse/leaving-bubble-ai-higher-education-marcus-birkenkrahe-imosc/>

Quoted in "How are instructors talking about AI in their syllabi" Chronicle of Higher Education, September 2025: <https://www.chronicle.com/article/how-are-instructors-talking-about-ai-in-their-syllabi>

Generative AI in Research: Tool, Muse, or Mirror? At: International Conference of Education, Research and Innovation, Seville, Spain, November 10-12, 2025.

Generative AI as Muse or Tool in the Research Process, at: Oklahoma University Data Science Workshop, June 27, 2025.

Artificial Intelligence: Muse or Tool, at: Faculty Colloquium, Lyon College, April 25, 2025.

Teaching data science with literate programming tools: A mighty fortress against the dangers of AI-assisted coding?, at: Oklahoma University Data Science Workshop, March 22, 2024.

Data Science for Everyone - Visualizing Solar Eclipse Data. STEMDemo workshop, at: Lyon College Discovery Day, February 24, 2024. URL: <https://github.com/birkenkrahe/org/blob/master/SolarEclipseMAC.org>.

The Role of AI Coding Assistants: Revisiting the Need for Literate Programming in Computer and Data Science Education, at: International Conference on Technology, Education and Development, Valencia, Spain March 4-6, 2024. URL: libraryiated.org/view/BIRKENKRAHE2024ROL

The Role of AI Coding Assistants: Revisiting the Need for Literate Programming in Computer and Data Science Education, at: University of Arkansas School of Medical Sciences - College of Public Health Management, February 22, 2024.

Teaching data and computer science with literate programming tools: A case study in mandating Emacs and Org-mode across a range of courses, at: University of Arkansas School of Medical Sciences - Department of Biomedical Informatics, December 14, 2023.

Teaching computer and data science with literate programming tools, at: EmacsConf 2023, December 2, 2023. URL: emacsconf.org/2023/talks/teaching/

The Future of AI in Education, at: Annual Conference of the Arkansas College Teachers of Business and Economics, Lyon College, September 22, 2023.

Revising the Need for Literate Programming in Data Science & Software Engineering Education, at: Southeast Symposium on Contemporary Engineering Topics, Little Rock, Arkansas, September 15, 2023.

Medical AI - How Machine Learning Can Help Your Publishing Career, at: White River Medical Center, August 8, 2023.

Game programming in Snap! STEM Demo workshop, at: Lyon College Open Day, March 4, 2023.

“...Sometimes the best you can do is to start over.” - People, Patterns & Programs along my journey from Berlin, Germany, to Batesville, Arkansas, at: APPLE-Upward Bound, Lyon College, June 14, 2022.

Teaching data science with hacker tools: literate programming didactics, at: Faculty Colloquium, Lyon College, April 8, 2022.

Creation of a Business Technology Certificate Course for Catholic Polytechnic University, at: CPU Board of Directors meeting, Los Angeles, January 27, 2021.

We Remember The Past - We Do Not Remember The Future - My Experiences With Online Teaching, at: Applied University of Public Administration and Public Service, Altenholz, Germany, May 20, 2020.

Keynote: Agile Project Management with Scrum – Prototypes, Stories and Dialog, at: Berlin School of Economics and Law, Berlin, 16th December 2019.

Can Computers Learn Language? Natural Language Processing and Linguistics, at: West Chester University, Department of Languages, 14th November 2019.

Lifelong Learning, at: Siemens Graduate Program Alumni Conference, Berlin, 5th July 2019.

The Good, The Bad and the Ugly – mastering the digital turn with business informatics, at: Open Day, Berlin School of Economics and Law, Campus Schöneberg, 31st May 2018.

E-Teaching and E-Learning, at: Potsdam Graduate School, 18th September 2017.

Keynote: How to instruct, engage and immerse students using Moodle-based MOOCs, at: 13th Internationale Tagung Wirtschaftsinformatik, St. Gallen, Schweiz, 13th February 2017.

E-Teaching and E-Learning Scenarios: Instruction, Interaction and Immersion, at: Berlin Centre of Higher Education, 26 September 2016.

Keynote: Content Co-Creation and Collaboration in the Digital Classroom, at: Ecole Hôtelière de Lausanne (EHL), Lausanne, Schweiz, 7th September 2016.

Startup Process Modeling, at: Symposium with IDC Herzliya Business School, Tel Aviv, 29th August 2016.

MOOCs with Moodle, at: 4th Research Forum of the Berlin School of Economics and Law, Berlin, 25th January 2016.

E-Teaching and E-Learning in Executive Education at the Institute of Management Berlin, at: AMBA accreditation meeting, 18th November 2015.

E-Learning Offerings at the Berlin School of Economics and Law, at: ZKI AK E-Learning, Berlin 4th November 2015.

Keynote: Conflicts: unavoidable and sometimes positive, at: Staff assembly, Berlin School of Economics and Law, 17th June 2015.

Playing with Identity in the Virtual Classroom, at: 13th Tagung des Arbeitskreises Evaluation und Qualitätssicherung Berliner und Brandenburger Hochschulen, Umweltforum Berlin, 24th May 2012.

Keynote (with Prof C Spannagel): Strengthening Student Self-Responsibility with Blended Learning, at: E(r)lernen: Zukunftskonzepte zur Lehre mit den neuen Medien, 24th September 2012.

Keynote: E-Learning and Continuing Education Tools – and What Else Is Hidden in Blended Learning, at: 22nd Glienicker Dialog, Berlin, 5th May 2011.

The Max Planck Digital Library: Dialogue and Decisions for Excellence in Science, at: symposium of the Max-Planck-Society, Munich, 27th April 2006.

Is leadership culture-dependent? - Leadership culture in England and Germany, at: Forum Repräsentanz, Deutsche Gesellschaft für Personalführung e.V. (DGFP), Berlin, 28 March 2006.

The Inner CEO – Making Multitasking Work For You, at: UNESCO, Paris, 9th December 2005.

Guest lecture: *Change Management Practice*, in: "Strategic Management", at: ESCP-EAP (European Economic University), Berlin 2 November 2005.

Keynote: *Executive Coaching and Organisational Constellations*, at: Leaders Forum of the Academy of Chief Executives, David Salomon's Estate, Southborough, Kent, May 10, 2005.

Keynote: *CHANGE - The Only Constant in Life*, at: Old Table, International Club Berlin, April 4, 2005.

Keynote: *No Wings Without Roots – Managing organisational knowledge using constellations*, at: KM UK, London, June 15, and Masterclass: *Managing by Systemic Constellations*, June 16, 2004.

Introduction to Organisational Constellations, at: Final meeting of the European Knowledge Management Forum, KM Europe 2003, Amsterdam, Netherlands, November 12, 2003.

Keynote: *How Large Multi-Nationals Manage Their Knowledge*, The Auckland Club, Auckland, New Zealand, September 26, 2002.

Keynote: *Knowledge Management for the New Millennium*, at: International Conference on XXI Century Organisations, Bizcaia, Spain, 1 October 2001.

Keynote: *Knowledge Management And Financial Services – Why Does The Marriage Fail?*, at: Knowledge Management in the Financial Services Industry, London, 18 September 2001.

Keynote: *The Future of Knowledge Management in the New Economy*, at: Strategic HR for Competitive Knowledge Management, London, 27 March 2001.

Keynote: *'Turtles all the way down and all the way up' – The future of knowledge management in the new economy*, at: KM Europe, Brussels, 20 November 2000.

Keynote: *Knowledge Management and Competitive Intelligence – New Tools for the Oil Industry*, at: 30th Anniversary of the Instituto Mexicano del Petroleo, Mexico City, 31 August, 2000.

Keynote: *Knowledge Management and Competitive Intelligence – Future Perspectives*, at: SCIP 2000 (Society for Competitive Intelligence), Atlanta, 30 March 2000.

Managing M&A Knowledge Globally and 'The Art of M&A' – How Shell Is Building A Bridge Between These Two, at: Meeting of the Institute of Knowledge Management, Dublin, 12 June, 2001.

Views on Scenario Building as a Strategy Tool, at: Chatham House Forum Annual Review, London, 11 July 2000.

Some Thoughts On The Situation Of Very Large Multinationals In The New Economy, at: Oil and Money '99, 17 November 1999.

Knowledge Management for Shell Finance Services, at: Online Information for the City, London, 14 October 1999.

Knowledge Management and New Ways of Working at Shell, at: European Round Table Knowledge Management Meeting, Adastral Park, 8 October 1999.

Strategic Knowledge Management – How to win with the competencies you already have, at: CORPLAN 1999, London, 20 September 1999.

Deep Impact – Finance Services in the Knowledge Economy, at: Managing Knowledge and Measuring Intellectual Capital, 7 September 1999.

The Zero Effect – Strategic Sourcing in the Knowledge Economy, at: Managing the Value of IT, London, 20 April 1999.

Planning and Implementing Knowledge Management at Shell, at: United Nation Development Programme (UNDP), New York, 11 December 1998.

Competitive Intelligence in Shell, at: GlaxoWellcome Global Competitive Intelligence Meeting, London, 9 November 1998.

Leveraging Strategic Knowledge To Help Your Business Win, at: CORPLAN 1998, London, 30 September, 1998.

A Knowledge Management Strategy for Shell, at: Strategic Planning Society, London, 3 July 1998.

Teaching

Undergraduate Courses:

- COR 100/Year 1: Snap! Programming Playground / Game Programming with Python
- CSC 100/109: Introduction to Programming in C++ / Python
- CSC 105: Digital humanities (Natural Language Processing)
- DSC 101: Data science tools and methods
- DSC 105: Introduction to data science (with R and Python)
- DSC 205: Advanced introduction to data science (with R/Python)
- CSC 255: Computer Architecture
- DSC 302: Data visualisation (with R/Python/Power BI)
- DSC 305: Machine learning (with R/Python)
- CSC 330: Database theory & applications (with SQL/SQLite)
- CSC 410: Data Communication and Networks
- CSC 420: Operating systems (with Linux/Raspberry Pi)
- DSC 482.01: Artificial Intelligence
- DSC 482.02: Data modelling / Modeling and Simulation with Python
- DSC 482.03/MTH 445: Applied maths for data science
- DSC 482.04: Coding in an AI World - Coding becomes Conversation
- 209003: Digital transformation research methods
- 290841: Introduction to Higher Education Studies
- 315001: Principles of Business Informatics
- 315002: Business Information Systems
- 315003: Database Management Systems
- 316101: Enterprise Modelling
- 400792: Business Applications
- 401591: Supervision Internship
- 454101: Business Process and Information Management

Graduate Courses:

- 504092: Machine Learning (MA Accounting & Controlling)
- 589901: Research Methodology (MSc Business Intelligence)
- 800124: Problem-Solving and Decision-Making Techniques (MBA)
- 840106: Consulting and Project Management (MBA, MA Int. Bus. Mgmt.)
- 810003: Business Applications (MBA)
- 810001: Business Information Systems and Data Analytics (MBA)

Summer School:

- Cross-Cultural Management (European Business and Economics Programme)

- Introduction to Programming in C/C++

Online Courses:

- Business Information Systems (8 weeks) – Master level
- Research Methodology (8 weeks) - Master level

Coordination:

- SAP ERP Users Group (SAP University Alliance)
- Research Colloquium (Bachelor, Master, PhD students)
- Business Brown Bag Lunch Seminars (current research projects)

Selected Thesis Topics (2016-2020)²:

- “Healthcare Process Analysis with Process Mining” MBA (Huang, 2020)
- “Agile Product Development Teams in a distributed work environment” MBA (Loktionov, 2020)
- “Business models that enable the monetization of Distributed Ledger / Blockchain Technologies.” MBA (Roßbander, 2020)
- “How can Robotic Process Automation support the digital transformation of the customer onboarding process in European commercial banks?” MBA (Vagni, 2020)
- “Is Artificial Intelligence possible? How could it emerge and what are the parallels to human and biological intelligence?” B.Sc. (Sotke, 2020)
- “Comparing Gamification In Selected Language-Learning Apps” B.Sc. (Özmen, 2019)
- “Opportunities and Threats of deploying machine learning in E-Commerce” B.Sc. (Düzel, 2019)
- “Potential Impact of machine learning applications for banking services” MBA (Fröhlich, 2019)
- “Digitalization and Strategy in Health Care Providers” MBA (Herbert, 2019)
- “Self Service Business Intelligence as a Corporate Application System” MBA (Adam, 2019)
- “Dashboards in Agile Software Development” B.Sc. (Nürnberg, 2019)
- “Process Mining as a Diagnosis Tool for Business Processes” MBA (Decker, 2019)
- “Concept of a course on business information systems as a Multiplayer Classroom” B.Sc. (Fischer, 2018)
- “Successful Implementation of Open Source Software in Public Administration” B.Sc. (Schneider, 2018)
- “Real-world Detection of Personal Attributes in Ethereum Blockchain Smart B.Sc. Contracts” (Fuchs, 2018)
- “Realising Design-Thinking Projects in regionally differentiated Remote Teams using a Project of Siemens Real Estate to Increase Customer Satisfaction” B.A. (Kirchner, 2018)
- “The Impact of Invisible User Interfaces on User Experience Design for IoT Products B.Sc. (Hoang, 2017)
- „Agile business process modelling with BPMN for prescription delivery in a Pharmacy“ B.A. (Tran, 2016)
- “Technical Process Mining for the Evaluation of M2M Communication in Vehicle Production” B.Sc. (Yüre, 2016)

Miscellaneous

LinkedIn:	linkedin.com/in/birkenkrahe/
Twitter/X:	twitter.com/birkenkrahe
GitHub:	github.com/birkenkrahe/
Wikipedia:	en.wikipedia.org/wiki/Marcus_Birkenkrahe

² Some thesis titles translated from German. All titles available via the Library of the Berlin School of Economics and Law, Berlin, Germany.