

Gabriele Peters

photographic artist
professor for human-computer interaction



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Contact

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Career Objective

building a better world by co-creation with like-minded people

Areas of Expertise

photography, art, artificial intelligence, self-organization, teaching and distance teaching

Work Experience

since 2010	Professor for Computer Science and Chair for Human-Computer Interaction, University of Hagen, Germany (University of Hagen is Germany's State Distance-Learning University)
2007-2010	Research Professor, Founder and Head of the Visual Computing Group, University of Applied Sciences and Arts Dortmund, Germany
2004, 2005	Visiting Professor at the Computational Vision Group, California Institute of Technology, Pasadena, USA
2001-2007	Postdoctoral Scientist at the Chair of Computer Graphics, TU Dortmund University, Germany
1998, 1999	Visiting Scientist at the Institute of Information Theory and Automation, Academy of Sciences of the Czech Republic, Prague, Czech Republic
1996-2001	Doctoral Research Assistant at the Institute for Neural Computation, Ruhr-University Bochum, Germany

1991-1996	Student Assistant at the Institute for Neural Computation and at the Biopsychology group, Faculty of Psychology, Ruhr-University Bochum, Germany
1988-1991	Apprentice as Mathematical-Technical Assistant, Hoesch AG in Dortmund, Germany

Education

2022	“Film and Cut Workshop” with Gero Breloer, Berlin, Germany (theory from planning to execution of film productions, hands on training in a team, complete cut workflow on basis of Final Cut Pro X)
2017	Masterclass “Introspective Photography - In search of transcending photography” with Michael Ackerman at Eyes in Progress, Berlin, Germany (hands on work with shooting sessions, individual assignments, daily group discussions, and editing sessions)
2011	Executive Leadership Program at the SGMI Management Institut, St. Gallen, Switzerland (St. Gallen Management Model; holistic, ethical, normative issues of management)
2009	„Media Training for Scientists – Individual camera- and interview training“, Deutscher Hochschulverband
2002	Doctoral degree (Dr. rer. nat.) from the Faculty of Technology, Bielefeld University, Germany topic of thesis "A View-Based Approach to Three-Dimensional Object Perception"
1996-1999	Photographic education at the Artistic Center of Ruhr-University Bochum, Germany
1991-1996	Diploma studies of Mathematics with Psychology as minor subject, Ruhr-University Bochum, Germany Diploma in Mathematics, thesis title "Lernen lokaler Objektmerkmale mit Bananen-Wavelets"
1988-1991	Professional Education as Mathematical-Technical Assistant, Hoesch AG in Dortmund, Germany
1988	Abitur, Heinrich-von-Kleist-Gymnasium, Bochum, Germany

International Experience

- Visiting Scientist at Academy of Sciences of the Czech Republic, Prague, Czech Republic, twice
- Guest Professor at Caltech, Pasadena, USA, twice (details under "Work Experience")

- Photographic Exhibitions in USA, Spain, UK, Switzerland
(see full list of exhibitions in the attachment)
- numerous scientific talks given internationally,
e.g., in USA, Japan, Dubai, China, Europe
- proposal and chairing of the topic *Machine Consciousness* for the Japanese-German Frontiers of Science Symposium of the Alexander von Humboldt Foundation in Kyoto, Japan, 2016
- reviewing for several international Science Journals and Organizations, e.g., Deutsche Forschungsgemeinschaft (DFG), Alexander von Humboldt Foundation, Netherlands Organization for Scientific Research (NWO), Austrian Research Promotion Agency (FFG), United States-Israel Binational Science Foundation (BSF)

Selected Honors

2022	students voted the course "Introduction to Human-Computer Interaction" best computer science course of the <i>Faculty of Mathematics and Computer Science</i> of University of Hagen
2018 + 2021	nomination of the course "Introduction to Human-Computer Interaction" for the teaching award of University of Hagen by the Student Council. Subject of the teaching award, is the implementation of an exemplary teaching / learning concept. The Student Council has the right to nominate candidates.
2003	Rudolf Chaudoire-Award of TU Dortmund University for outstanding scientific achievements
last 25 years	several best paper and poster awards and nominations on international computer science conferences (for details see full publication list in the attachment)

Selected Activities

2023	Talks on Artificial Intelligence and its impact on Photography and Society at the Annual Meeting of the German Association for Coaching in Siegburg and at a regional FREELENS meeting in Dortmund (see video on YouTube channel @kifotografie)
2018	Invited Expert for Artificial Intelligence on the joint AI Summit of the Ministry of Economics and the Ministry of Science of the State of North Rhine-Westphalia
2015 + 2020	Invited Jury Member for the International SpaceTime Student Art Competition and Exhibition of SIGGRAPH, Los Angeles, USA
2015	Invited Portfolio Reviewer at Rencontres d'Arles, France

2015 / 2016	Proposal and chairing of the topic Machine Consciousness for the Japanese-German Frontiers of Science Symposium of the Alexander von Humboldt Foundation in Kyoto, Japan, 2016
since 2017	Member of the Advisory Board of Platonite, a company dedicated to vision based on the brain's neural code
since 2016	Deputy Spokesperson of the Steering Committee of the Professor Advisory Board (GIBU) of the Gesellschaft für Informatik (GI)
since 2012	Member of the Steering Committee of the Professor Advisory Board (GIBU) of the Gesellschaft für Informatik (GI)
2011-2019	Liaison Officer of the Deutsche Forschungsgemeinschaft (DFG) for University of Hagen
since 2010	Development of one of the first comprehensive German distance teaching systems for University of Hagen with online courses and programming internships for large cohorts of students about, e.g., Human-Computer-Interaction, Computer Generated Art, and Cooperative Algorithmic Art (see Fernuniereport_2023.pdf)
2007-2010	Liaison Professor of the Gesellschaft für Informatik (GI) for the University of Applied Sciences and Arts Dortmund
2004-2009	Member of the Presidium of the Gesellschaft für Informatik

Social Engagement

2022 + 2023	Filing several lawsuits with the aim of improving people's lives, among them two against abuse of power by superiors, one against excessive bureaucracy imposed on German universities by EU regulations (see blog post Die schwarze Kali) and two against insurance companies
2021 + 2022	Engagement for open discussions and public education with regards to COVID mandates in the interdisciplinary research group <i>7 Argumente</i> , a joint cooperation of 81 scientists, mostly professors, from Germany, Austria, and Switzerland

Links:

private website: www.gabrielepeters.net

Blog: www.gabrielepeters.net/blog/

YouTube channel: www.youtube.com/@kifotografie

Twitter: www.twitter.com/gabrielepeters

scientific publications: www.fernuni-hagen.de/mci/publications/

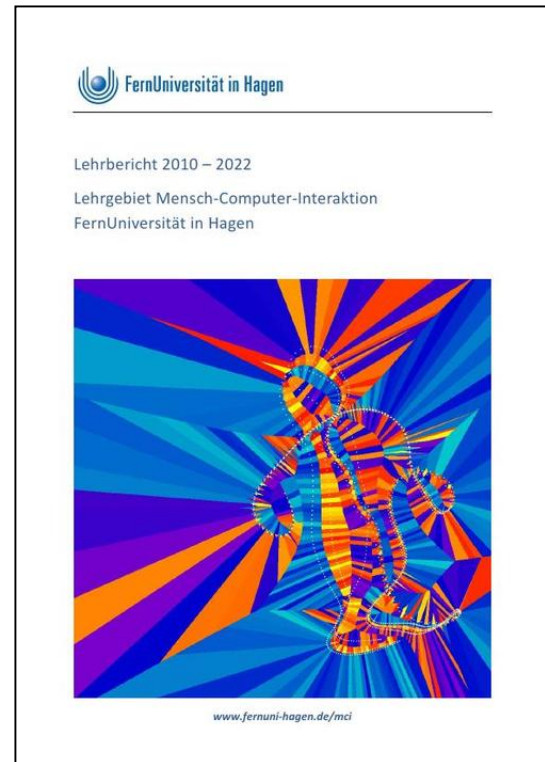
teaching report:

www.gabrielepeters.net/wp-content/uploads/2023/04/peters_lehrbericht-2010-2022_2023.pdf

Selected References

*"The good readability of the teaching letters,
the multimedia teaching offer with videos,
further literature, online self-test,
varied teaching materials,
the fun conveyed in the HCI group,
the creation of enthusiasm,
the gender-sensitive language.
The module has the best teaching letters,
I have seen so far."*

from the student evaluation of the course
"Introduction to Human-Computer Interaction",
WS 2021/22



(see also our current teaching report
www.fernuni-hagen.de/mci/download/pub/t2023_pet_fernunireport_2023.pdf)



Dark Days – New York, Art Gallery „Slow Art“, SIGGRAPH 2008, Los Angeles

"Pointing to an estranged reality and isolation fostered in a fast-paced contemporary urban environment, these photographs illustrate lone figures in a tonal and textural space that could only be accomplished by combining the analogue with the digital."

"Compelling images, aesthetic sophistication, and a strong commitment to experimentation of process and thinking are evident in this work."

"Certainly a compelling theme, and the combined [analog-digital] processes seem to have produced something really unique with both a vintage feel and yet unique effects."

from the reviews of the SIGGRAPH jury

Exhibitions

Solo Exhibitions (physical)

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|------|--|
| 2017 | <i>One Breath</i> , Bochumer Kulturrat,
Bochum, Germany |
| 2005 | <i>Einblicke</i> , Werkstatt Witten,
Witten, Germany |
| 2000 | <i>Streifzüge</i> , Musikschule Bochum,
Bochum, Germany |

Group Exhibitions (physical)

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|------|--|
| 2023 | "Panta Rhei - Alles fließt", <i>Metamorphosis</i> (co-created with AI),
galerie#23, Velbert, Germany
curated |
| 2015 | "D-ART 2015", <i>Dark Days - Venice II</i> , The University of Barcelona,
Barcelona, Spain
curated |
| 2011 | "D-ART 2011", <i>Dark Days - Prague II</i> , The Brunei Gallery, Museum Mile,
London, UK,
curated |
| 2009 | "D-ART 2009", <i>The Passage</i> , Pompeu Fabra University,
Barcelona, Spain,
curated |
| 2008 | Art Gallery "Slow Art", <i>Dark Days - New York</i> , SIGGRAPH 2008,
Los Angeles, USA
catalog, curated |
| 2008 | "D-ART 2008", <i>Dark Days - Prague</i> , London South Bank University,
London, UK
curated |
| 2007 | "D-ART 2007", <i>Dark Days - New York</i> , ETH Zürich,
Zurich, Switzerland
curated |

- 2006 / 2007 “FoMa - Die Erste, Fotomacher Witten stellen aus”, Werkstatt Witten, Witten, Germany
- 2003 “bochumerkünstler2003”, Bochumer Künstlerbund, Museum Bochum, Bochum, Germany
catalog, curated
- 2001 “Die Farbe Rot”, Musisches Zentrum, Bochum, Germany
- 2001 “Krakau – Auschwitz”, Musisches Zentrum, Bochum, Germany
- 1999 / 2000 “Zeit”, Musisches Zentrum, Bochum, Germany
- 1999 “Überblick”, Musisches Zentrum, Bochum, Germany

Group Exhibitions (virtual)

- 2023 „Digital Art Online Gallery 2023“, *One Breath, No.3*, Tampere University, Tampere, Finland
curated
- 2022 „Digital Art Online Gallery 2022“, *One Breath, No. 4*, Technische Universität Wien, Vienna, Austria
curated
- 2019 „Digital Art Online Gallery 2019“, *One Breath, No. 2*, Flinders University, Adelaide, Australia
University of Paris, Paris, France
curated
- 2018 „Digital Art Online Gallery 2018“, *One Breath, No. 1*, Università degli Studi di Salerno, Salerno, Italy
curated
- 2017 „Digital Art Online Gallery 2017“, *Dark Days - Prague III*, Cadi Ayyad University Marrakesh, Morocco
London South Bank University, London
curated
- 2016 „Digital Art Online Gallery 2016“, *Dark Days - Venice III*, University of Beni Mellal, Morocco
Universidade NOVA de Lisboa, Portugal
curated
- 2015 „Digital Art Online Gallery 2015“, *Dark Days - Venice II*, The University of Barcelona, Spain
curated

- 2014 „Digital Art Online Gallery 2014“, *Dark Days - New York II*,
University of Paris Descartes, France
Nanyang Technological University, Singapur
curated
- 2013 „Digital Art Online Gallery 2013“, *Night Walk II*,
University of London, UK
University of Macau, China
curated
- 2012 „Digital Art Online Gallery 2012“, *Night Walk*,
University Montpellier, France
National Chiao Tung University, Hsinchu, Taiwan
curated
- 2011 „Digital Art Online Gallery 2011“, *Dark Days - Prague II*,
Nanyang Technological University, Singapur
curated
- 2010 „Digital Art Online Gallery 2010“, *Dark Days - Venice*,
London South Bank University, London, UK
University of Technology, Sydney, Australia
curated
- 2009 „Digital Art Online Gallery 2009“, *The Passage*,
Tianjin University, Tianjin, China
curated
- 2008 „Digital Art Online Gallery 2008“, *Dark Days - Prague*,
Universiti Sains Malaysia, Penang, Malaysia
curated
- 2007 „Digital Art Online Gallery 2007“, *Dark Days - New York*,
University of Technology Thonburi, Bangkok, Thailand
curated

Publications

Journal Articles

- Jens Garstka, Simone Eidam, and Gabriele Peters,
A Virtual Presence System Design with Indoor Navigation Capabilities for Patients with Locked-In Syndrome, *Int. J. on Advances in Life Sciences*, Vol. 8 (3/4), pp. 175-183, 2016.
- Jochen Kerdels and Gabriele Peters,
Analysis of High-Dimensional Data Using Local Input Space Histograms, *Neurocomputing*, Vol. 169, pp. 272-280, 2015.
- Klaus Häming and Gabriele Peters,
Towards a Self-Learning Agent: Using Ranking Functions as a Belief Representation in Reinforcement Learning, *Neural Processing Letters*, Vol. 38 (2), pp. 117-129, Springer US, 2013.
- Klaus Häming and Gabriele Peters,
Iterated Revisions in Large and Noisy State Spaces Using Ranking Functions, *Int. J. of Engineering Intelligent Systems*, Vol. 20 (1/2), 2012.
- Gabriele Peters,
Criteria for the Creation of Aesthetic Images for Human-Computer Interfaces - A Survey for Computer Scientists, *Int. J. of Creative Interfaces and Computer Graphics*, Vol. 2 (1), pp. 68-98, 2011.
- Klaus Häming and Gabriele Peters, The Structure-from-Motion Reconstruction Pipeline - A Survey with Focus on Short Image Sequences, *Kybernetika*, Vol. 46 (5), pp. 926-937, 2010.
- Gabriele Peters and Klaus Häming, Fast Freehand Acquisition of 3D Objects and their Visualization, *J. of Communication and Computer*, Vol. 7 (3), 2010.
- Gabriele Peters and Martin Kluger, Adaptive Object Tracking in Dynamic Environments With User Interaction, *Transactions on Computers and Intelligent Systems*, Vol. 1 (1), pp. 1-16, 2009.
- Jyrki Joutsensalo, Timo Hämäläinen, and Gabriele Peters,
The Closed Form Algorithm for QoS Supported Scheduling, *Transactions on Communications and Networking*, Vol. 3 (1), 2009.
- Gabriele Peters,
A Vision System for Interactive Object Learning, *Transactions on Intelligent Systems*, Vol. 2(2), pp. 18-25, 2008.
- Gabriele Peters and Thomas Leopold,
Dynamic Learning of Action Patterns for Object Acquisition, *Int. J. of Intelligent Systems Technologies and Applications*, Vol. 2 (2/3), pp. 113-124, 2007.

- Gabriele Peters,
Efficient Pose Estimation Using View-Based Object Representations, *Machine Vision and Applications*, Special Issue on ICVS 2003, Vol. 16(1), pp. 59-63, 2004.
- Gabriele Peters, Barbara Zitova, and Christoph von der Malsburg,
How to Measure the Pose Robustness of Object Views, *Image and Vision Computing, Special Issue: British Machine Vision Conference 1999*, Vol. 20(5-6), pp. 341-348, 2002.
- Gabriele Peters, Barbara Zitova, and Christoph von der Malsburg,
How to Measure the Pose Robustness of Object Views, *Image and Vision Computing*, Vol. 20(4), pp. 249-256, 2002.
- Norbert Krüger and Gabriele Peters,
ORASSYL: Object Recognition with Autonomously Learned and Sparse Symbolic Representations Based on Metrically Organized Local Line Detectors, *Computer Vision and Image Understanding*, Vol. 77(1), pp. 48-77, 2000.
- Barbara Zitova, Jaroslav Kautsky, Gabriele Peters, and Jan Flusser,
Robust Detection of Significant Points in Multiframe Images, *Pattern Recognition Letters*, Vol. 20(2), pp. 199-206, 1999.

Conference Articles

- Frederik Timme, Jochen Kerdels, and Gabriele Peters,
On the Robustness of Convolutional Neural Networks Regarding Transformed Input Images, *Proceedings of the 12th International Joint Conference on Computational Intelligence - NCTA*, pp. 396-403, 2020.
- Jochen Kerdels and Gabriele Peters,
Challenging the Intuition About Memory and Computation in Theories of Cognition, *Proceedings of the 11th International Joint Conference on Computational Intelligence - NCTA (IJCCI 2019)*, pp. 522-527, 2019.
- Jochen Kerdels and Gabriele Peters,
A Grid Cell Inspired Model of Cortical Column Function, *Proc. of the 10th Int. Joint Conference on Computational Intelligence - IJCCI*, pp. 204-210, 2018.
- Jens Garstka and Gabriele Peters,
Self-Learning 3D Object Classification, *Proc. of the 7th International Conference on Pattern Recognition Applications and Methods - ICPRAM*, pp. 511-519, 2018.
► **best poster award**
- Jochen Kerdels and Gabriele Peters,
Entorhinal Grid Cells May Facilitate Pattern Separation in the Hippocampus, *Proceedings of the 9th International Joint Conference on Computational Intelligence - IJCCI*, pp. 141-148, 2017.
- Jochen Kerdels and Gabriele Peters,
Modelling the Grid-like Encoding of Visual Space in Primates, *Proc. of the 8th Int. Joint Conf. on Computational Intelligence - NCTA, (IJCCI 2016)*, pp. 42-49, 2016.
► **best paper award**

- Jochen Kerdels and Gabriele Peters,
Noise Resilience of an RGNG-based Grid Cell Model, *Proceedings of the 8th International Joint Conference on Computational Intelligence - NCTA, (IJCCI 2016)*, pp. 33-41, 2016.
► **nominated for best paper award**
- Jochen Kerdels and Gabriele Peters,
A Sparse Representation of High-Dimensional Input Spaces Based on an Augmented Growing Neural Gas, *2nd Global Conference on Artificial Intelligence (GCAI 2016)*, pp. 303–313, 2016.
- Jens Garstka and Gabriele Peters,
Evaluation of Local 3-D Point Cloud Descriptors in Terms of Suitability for Object Classification, *Proceedings of the 13th International Conference on Informatics in Control, Automation and Robotics - Volume 2: ICINCO*, pp. 540-547, 2016.
- Simone Eidam, Jens Garstka, and Gabriele Peters,
Towards Regaining Mobility Through Virtual Presence for Patients with Locked-in Syndrome, *8th International Conference on Advanced Cognitive Technologies and Applications (COGNITIVE 2016)*, pp. 120-123, 2016.
► **best paper award**
- Jochen Kerdels and Gabriele Peters,
A New View on Grid Cells Beyond the Cognitive Map Hypothesis, *Proceedings of the 8th Conference on Artificial General Intelligence (AGI 2015)*, pp. 283-292, Berlin, Germany, July 22-25, 2015.
- Jens Garstka and Gabriele Peters,
Fast and Robust Keypoint Detection in Unstructured 3-D Point Clouds, *Proceedings of the 12th International Conference on Informatics in Control, Automation and Robotics - Volume 2: ICINCO*, pp. 131-140, 2015.
► **best paper award**
- Jens Garstka and Gabriele Peters,
Adaptive 3-D Object Classification with Reinforcement Learning, *Proc. of the 12th International Conference on Informatics in Control, Automation and Robotics - Volume 2: ICINCO*, pp. 381-385, 2015.
- Jochen Kerdels and Gabriele Peters,
Supporting GNG-based Clustering with Local Input Space Histograms, *Proc. of the 22nd European Symposium on Artificial Neural Networks, Computational Intelligence and Machine Learning (ESANN 2014)*, pp. 559-564, 2014.
- Jens Garstka and Gabriele Peters,
Learning Strategies to Select Point Cloud Descriptors for 3D Object Classification: A Proposal, *35th Annual Conference of the European Association for Computer Graphics (Eurographics 2014)*, pp. 11-12, 2014.
- Jochen Kerdels and Gabriele Peters,
A Computational Model of Grid Cells based on Dendritic Self-Organized Learning, *Proceedings of the 5th International Joint Conference on Computational Intelligence - NCTA, (IJCCI 2013)*, pp. 420-429, 2013.
► **nominated for best paper award**

- Jochen Kerdels and Gabriele Peters,
Exploratory Modeling of Complex Information Processing Systems, *Proceedings of the 10th International Conference on Informatics in Control, Automation and Robotics - Volume 2: ICINCO*, 2013.
- Klaus Häming and Gabriele Peters,
Making a Reinforcement Learning Agent Belief, *22nd International Conference on Artificial Neural Networks (ICANN 2012)*, pp. 435-442, 2012.
- Gabriele Peters, Kerstin Bunte, Marc Strickert, Michael Biehl, and Thomas Villmann,
Visualization of Processes in Self-Learning Systems, *10th Annual International Conference on Privacy, Security and Trust (PST 2012)*, pp. 244-249, 2012.
- Gabriele Peters,
Six Necessary Qualities of Self-Learning Systems - A Short Brainstorming, *Proceedings of the International Conference on Neural Computation Theory and Applications - NCTA, (IJCCI 2011)*, pp. 358-364, 2011.
- Klaus Häming and Gabriele Peters,
Improved Revision of Ranking Functions for the Generalization of Belief in the Context of Unobserved Variables, *Proc. of the International Conference on Neural Computation Theory and Applications - NCTA, (IJCCI 2011)*, pp. 118-123, 2011.
- Klaus Häming and Gabriele Peters,
Ranking Functions in Large State Spaces, *Proceedings of the 7th International Conference on Artificial Intelligence Applications and Innovations (AIAI 2011)*, pp. 219-228, 2011.
- Jens Garstka and Gabriele Peters,
View-dependent 3D Projection using Depth-Image-based Head Tracking, *Proceedings of the 8th IEEE International Workshop on Projector-Camera Systems (PROCAMS 2011) in conjunction with IEEE Conference on Computer Vision and Pattern Recognition (CVPR 2011)*, 2011.
- Klaus Häming and Gabriele Peters,
A Hybrid Learning System for Object Recognition, *Proceedings of the 8th International Conference on Informatics in Control, Automation, and Robotics-Volume 1: ICINCO*, pp. 329-332, 2011.
- Klaus Häming and Gabriele Peters,
An Alternative Approach to the Revision of Ordinal Conditional Functions in the Context of Multi-Valued Logic, *20th International Conference on Artificial Neural Networks (ICANN 2010)*, pp. 200-203, 2010.
- Klaus Häming and Gabriele Peters,
Learning Scan Paths for Object Recognition with Relational Reinforcement Learning, *7th International Conference on Signal Processing, Pattern Recognition and Applications (SPPRA 2010)*, 2010.
- Klaus Häming and Gabriele Peters,
Relational Reinforcement Learning Applied to Appearance-Based Object Recognition, *11th International Conference on Engineering Applications of Neural Networks (EANN 2009)*, pp. 301-312, 2009.

- Gabriele Peters and Klaus Häming,
Take Three Snapshots - An Intuitive Tool for Fast Freehand Acquisition of 3D Objects and their Visualization, *12th IFIP TC13 Conference on Human-Computer Interaction (INTERACT 2009)*, 2009.
- Gabriele Peters,
Parallels and Crossings, *submitted to: 36th International Conference and Exhibition on Computer Graphics and Interactive Techniques (SIGGRAPH 2009)*, 2009.
- Thomas Leopold, Gabriele Kern-Isberner, and Gabriele Peters,
Combining Reinforcement Learning and Belief Revision Interactive Object Recognition, *18th European Conference on Artificial Intelligence (ECAI 2008)*, pp. 65-69, 2008.
- Gabriele Peters and Matthias Petke,
Content-Based Selection of Methods for Image Segmentation, *10th International Conference on Signal and Image Processing (SIP 2008)*, pp. 76-81, 2008.
- Gabriele Peters,
Dark Days – New York, *35th International Conference and Exhibition on Computer Graphics and Interactive Techniques (SIGGRAPH 2008)*, p. 72, 2008.
- Thomas Leopold, Gabriele Kern-Isberner, and Gabriele Peters,
Belief Revision with Reinforcement Learning for Interactive Object Recognition, *18th European Conference on Artificial Intelligence (ECAI 2008)*, pp. 65-69, 2008.
- Jochen Kerdels and Gabriele Peters,
A Topology-Independent Similarity Feature for High-Dimensional Feature Spaces, *Int. Conf. on Artificial Neural Networks (ICANN 2007)*, pp. 331-340, 2007.
- Gabriele Peters and Jochen Kerdels,
Image Segmentation Based on Height Maps, *12th Int. Conf. on Computer Analysis of Images and Patterns (CAIP 2007)*, pp. 612-619, 2007.
- Gabriele Peters,
Aesthetic Primitives of Images for Visualization, *11th Int. Conf. on Information Visualisation (iV 2007)*, pp. 275-279, 2007.
- Klaus Häming and Gabriele Peters,
Extension of the Generalized Image Rectification - Catching the Infinity Cases, *4th Int. Conf. on Informatics in Control, Automation, and Robotics (ICINCO 2007)*, pp. 275-279, 2007.
- Lars Heyden, Rolf Würtz, and Gabriele Peters,
Supplementing Bundle Adjustment with Evolutionary Algorithms, *Int. Conf. on Visual Information Engineering (VIE 2006)*, pp. 533-536, 2006.
- Klaus Häming and Gabriele Peters,
An Object Acquisition Library for Uncalibrated Cameras in C++, *Fifth International WorkShop on Information Optics (WIO 2006)*, pp. 520-526, 2006.
- Gabriele Peters,
A Vision System for Interactive Object Learning, *IEEE Int. Conf. on Computer Vision Systems (ICVS 2006)*, 2006.

- Lihi Zelnik-Manor, Gabriele Peters, and Pietro Perona, Squaring the Circle in Panoramas, *10th IEEE Int. Conf. on Computer Vision (ICCV 2005)*, pp. 1292-1299, 2005.
- Gabriele Peters and Thomas Leopold, Dynamic Learning of Action Patterns for Object Acquisition, *Int. Workshop on Automatic Learning and Real-Time (ALaRT 2005)*, pp. 15-22, 2005.
- Gabriele Peters, Thomas Leopold, Claus-Peter Alberts, Markus Brieße, Sebastian Entian, Christian Gabriel, Zhiqiang Gao, Alexander Klandt, Jan Schultze, Jeremias Spiegel, Jürgen Thyen, Martina Vaupel, Peter Voß, and Qing Zhu, Adaptive Object Acquisition, *Workshop Self Organization and Emergence, 18th Int. Conf. on Architecture of Computing Systems (ARCS 2005)*, pp. 117-121, 2005.
- Gabriele Peters, Object Structure from Noisy Images, *5th Int. Conf. on Signal and Image Processing (SIP 2003)*, pp. 411-416, 2003.
- Gabriele Peters, Efficient Pose Estimation Using View-Based Object Representations, *3rd Int. Conf. on Computer Vision Systems (ICVS 2003)*, edited by J. L. Crowley, J. H. Piater, M. Vincze, L. Paletta, pp. 12-21, 2003.
- Gabriele Peters and Christoph von der Malsburg, Learning Sparse Representations of Three-Dimensional Objects, *10th European Symp. on Artificial Neural Networks (ESANN 2002)*, pp. 245-250, 2002.
- Gabriele Peters and Christoph von der Malsburg, View Reconstruction by Linear Combination of Sample Views, *12th British Machine Vision Conf. (BMVC 2001)*, edited by T. Cootes and C. Taylor, pp. 223-232, 2001.
- Gabriele Peters and Christoph von der Malsburg, Interpolation of Novel Object Views from Sample Views, *Int. Congr. on Engineering of Natural and Artificial Intelligent Systems (ENAIIS 2001)*, pp. 800-805, 2001.
- Barbara Zitova, Jan Flusser, Jaroslav Kautsky, and Gabriele Peters, Feature Point Detection in Multiframe Images, *Czech Pattern Recognition Workshop 2000*, pp. 117-122, 2000.
- Gabriele Peters, Barbara Zitova, and Christoph von der Malsburg, Two Methods for Comparing Different Views of the Same Object, *10th British Machine Vision Conf. (BMVC 1999)*, pp. 493-502, 1999.
- Christoph von der Malsburg, Kurt Reiser, Gabriele Peters, Jan Wieghardt, and Kazunori Okada, 3D Object Representation by 2D Views, *6th ATR Symp. on Face and Object Recognition 1999*, pp. 11-12, 1999.
- Jaroslav Kautsky, Barbara Zitova, Jan Flusser, and Gabriele Peters, Feature Point Detection in Blurred Images, *Image & Vision Comp. (IVCNZ)*, 1998.
► **3rd award for best poster**
- Gabriele Peters, Christian Eckes, and Christoph von der Malsburg, Tracking of Rotating Objects, *7th Int. Workshop on Structural and Syntactic Pattern Recognition, (SSPR 1998)*, pp. 390-396, 1998.

- Norbert Krüger, Gabriele Peters, and J. Schwemer, Artificial Object Recognition with Autonomously Learned Representations, *Association for Research in Vision and Ophthalmology Annual Meeting, (ARVO 1998)*, Vol. 39(4), p. 853, 1998.
- Gabriele Peters and Norbert Krüger, Learning Object Representations by Clustering Banana Wavelet Responses, *Int. Workshop on Statistical Techniques in Pattern Recognition (STIPR 1997)*, pp. 113-118, 1997.
► **best poster award**
- Norbert Krüger and Gabriele Peters, Object Recognition with Banana Wavelets, *5th European Symp. on Artificial Neural Networks (ESANN 1997)*, pp. 61-66, 1997.

Books And Book Chapters

- Jochen Kerdels and Gabriele Peters, Efficient Approximation of a Recursive Growing Neural Gas, in: *Computational Intelligence: International Joint Conference, IJCCI 2018, Revised Selected Papers, Studies in Computational Intelligence*, Vol. 893. Springer, pp. 109-127, 2021.
- Jochen Kerdels and Gabriele Peters, A Noise Compensation Mechanism for an RGNG-based Grid Cell Model, in: *Computational Intelligence: International Joint Conference, IJCCI 2016, Revised Selected Papers, Studies in Computational Intelligence*, Vol. 792, Springer, pp. 263-276, 2019.
- Jochen Kerdels and Gabriele Peters, A Possible Encoding of 3D Visual Space in Primates, in: *Computational Intelligence: International Joint Conference, IJCCI 2016, Revised Selected Papers, Studies in Computational Intelligence*, Vol. 792, Springer, pp. 277-295, 2019.
- Jens Garstka and Gabriele Peters, Highly Parallelizable Algorithm for Keypoint Detection in 3-D Point Clouds, in: *Informatics in Control, Automation and Robotics 12th International Conference (ICINCO 2015), Revised Selected Papers, Lecture Notes in Electrical Engineering*, Vol. 383, pp. 267-285, Springer, 2016.
- Gabriele Peters, *A View-Based Approach to Three-Dimensional Object Perception*, Dissertation, University Bielefeld, Shaker Verlag, Aachen, Germany, 2002.
- Gabriele Peters, The Interpolation Between Unsimilar Views of a 3-D Object Increases the Similarity and Decreases the Significance of Local Phase, in: *Vision: The Approach of Biophysics and Neurosciences*, pp. 456-460, 2001.
- Gabriele Peters, Theories of Three-Dimensional Object Perception - A Survey, in: *Recent Research Developments in Pattern Recognition*, pp. 79-197, 2000.

- Norbert Krüger, Michael Pöttsch, and Gabriele Peters, Principles of Cortical Processing Applied to and Motivated by Artificial Object Recognition, in: *Information Theory and the Brain*, edited by R. Baddeley, P. Hancock, and P. Földiak, Cambridge University Press, pp. 164-179, 2000.

Technical Reports, arXiv, and other Publications

- Gabriele Peters, One Breath, No. 3, *Online Exhibition at 23th International Symposium on Digital Art and Gallery (D-ART 2023), 27th International Conference Information Visualisation (iV 2023)*, Tampere, Finland, July 25-28, 2023.
- Gabriele Peters, One Breath, No. 3, *23th International Symposium on Digital Art (D-ART 2023), 20th International Conference on Computer Graphics, Imaging and Visualization (CGIV 2023)*, Tampere, Finland, July 25-28, 2023.
- Gabriele Peters, Lehrbericht 2010-2022, Lehrgebiet Mensch-Computer-Interaktion, FernUniversität in Hagen, *Research Report, FernUniversität in Hagen*, Hagen, Germany, 2023.
- Patrick Levi, Patrick Gelhausen, and Gabriele Peters, Capacity Studies for a Differential Growing Neural Gas, in: *arXiv:2212.12319 [cs.NE] (Computer Science, Neural and Evolutionary Computing)*, 2022.
- Gabriele Peters, One Breath, No. 4, *Online Exhibition at 22th International Symposium on Digital Art and Gallery (D-ART 2022), 26th International Conference Information Visualisation (iV 2022)*, Vienna, Austria, July 19-22, 2022.
- Gabriele Peters, One Breath, No. 4, *22th International Symposium on Digital Art (D-ART 2022), 19th International Conference on Computer Graphics, Imaging and Visualization (CGIV 2022)*, 2022.
- Patrick Gelhausen, Matthias Fischer, and Gabriele Peters, Affordance Extraction with an External Knowledge Database for Text-Based Simulated Environments, in: *arXiv:2207.00265 [cs.CL] (Computer Science, Computation and Language)*, 2022.
- Gabriele Peters, One Breath, No. 2, *Online Exhibition at 19th International Symposium on Digital Art and Gallery (D-ART 2019), 23th International Conference Information Visualisation (iV 2019)*, Paris, France, July 2-5, 2019.
- Gabriele Peters, One Breath, No. 2, *19th International Symposium on Digital Art (D-ART 2019), 16th International Conference on Computer Graphics, Imaging and Visualization (CGIV 2019)*, 2019.

- Jochen Kerdels and Gabriele Peters,
A Survey of Entorhinal Grid Cell Properties, in: *arXiv:1810.07429 [q-bio.NC]* (*Quantitative Biology, Neurons and Cognition*), 2018.
- Jochen Kerdels and Gabriele Peters,
Simulation von Gitterzellen als Spezialfall eines allgemeinen neuronalen Verarbeitungsprinzips, *Informatik Spektrum*, Springer, Vol. 41(6), cover art, p. 451-452, 2018.
- Gabriele Peters,
One Breath, No. 1, *Online Exhibition at 18th International Symposium on Digital Art and Gallery (D-ART 2018), 22th International Conference Information Visualisation (iV 2018)*, Salerno, Italy, July 10-13, 2018.
- Gabriele Peters,
One Breath, No. 1, *18th International Symposium on Digital Art (D-ART 2018), 15th International Conference on Computer Graphics, Imaging and Visualization (CGIV 2018)*, 2018.
- Gabriele Peters,
Dark Days - Prague III, *Online Exhibition at 17th International Symposium on Digital Art and Gallery (D-ART 2017), 21th International Conference Information Visualisation (iV 2017)*, London, UK, July 11-14, 2017.
- Gabriele Peters,
Dark Days - Prague III, *17th International Symposium on Digital Art (D-ART 2017), 14th International Conference on Computer Graphics, Imaging and Visualization (CGIV 2017)*, 2017.
- Gabriele Peters,
Dark Days - Venice III, *Online Exhibition at 16th International Symposium on Digital Art and Gallery (D-ART 2016), 20th International Conference Information Visualisation (iV 2016)*, Lisbon, Portugal, July 19-22, 2016.
- Gabriele Peters,
Dark Days - Venice III, *16th International Symposium on Digital Art (D-ART 2016), 13th International Conference on Computer Graphics, Imaging and Visualization (CGIV 2016)*, 2016.
- Jochen Kerdels and Gabriele Peters,
Clustering hochdimensionaler Daten, *Informatik Spektrum*, Springer, Vol. 38(4), cover art, p. 335, 2015.
- Gabriele Peters,
Dark Days - Venice II, *Proceedings of the 19th International Conference on Information Visualisation (iV 2015), Conference Publishing Services (CPS)*, pp. 572-573, 2015.
- Gabriele Peters,
Dark Days - Venice II, *Online Exhibition and Physical Exhibition at 15th International Symposium on Digital Art and Gallery (D-ART 2015), 12th International Conference on Computer Graphics, Imaging and Visualization (CGIV 2015)*, Barcelona, Spain, July 21-24, 2015.

- Gabriele Peters,
Dark Days - New York II, *14th International Symposium on Digital Art (D-ART 2014)*, *11th International Conference on Computer Graphics, Imaging and Visualization (CGIV 2014)*, 2014.
- Gabriele Peters,
Dark Days - New York II, *Online Exhibition at 14th International Symposium on Digital Art and Gallery (D-ART 2014)*, *18th International Conference Information Visualisation (iV 2014)*, Paris, France, July 15-18, 2014.
- Gabriele Peters,
Research Report 2010-2013, Human-Computer Interaction, FernUniversität in Hagen, *Research Report 3/2014, FernUniversität in Hagen*, Hagen, Germany, 2014.
- Gabriele Peters,
Forschungsbericht 2010-2013, Lehrgebiet Mensch-Computer-Interaktion, FernUniversität in Hagen, *Research Report 2/2014, FernUniversität in Hagen*, Hagen, Germany, 2014.
- Jens Garstka and Gabriele Peters,
Learning Strategies to Select Point Cloud Descriptors for 3D Object Classification: A Proposal, *Research Report 1/2014, FernUniversität in Hagen*, Hagen, Germany, 2014.
- Gabriele Peters,
Night Walk II, *10th International Conference on Computer Graphics, Imaging and Visualization (CGIV 2013)*, cover art, p. C4, 2013.
- Gabriele Peters,
Night Walk II, *13th International Symposium on Digital Art (D-ART 2013)*, *10th International Conference on Computer Graphics, Imaging and Visualization (CGIV 2013)*, 2013.
- Gabriele Peters,
Night Walk II, *Online Exhibition at 13th International Symposium on Digital Art and Gallery (D-ART 2013)*, *17th International Conference Information Visualisation (iV 2013)*, London, UK, July 15-18, 2013.
- Jochen Kerdels and Gabriele Peters,
A Generalized Computational Model for Modeling and Simulation of Complex Systems, *Research Report 4/2012, FernUniversität in Hagen*, Hagen, Germany, 2012.
- Gabriele Peters,
Night Walk, *12th International Symposium on Digital Art (D-ART 2012)*, *9th International Conference on Computer Graphics, Imaging and Visualization (CGIV 2012)*, 2012.
- Gabriele Peters,
Night Walk, *Online Exhibition at 12th International Symposium on Digital Art and Gallery (D-ART 2012)*, *16th International Conference Information Visualisation (iV 2012)*, Montpellier, France, July 10-13, 2012.

- Gabriele Peters,
Dark Days - Prague II, *11th International Symposium on Digital Art (D-ART 2011), 8th International Conference on Computer Graphics, Imaging and Visualization (CGIV 2011)*, Singapore, August 16-19, 2011.
- Gabriele Peters,
Dark Days - Prague II, *Online Exhibition and Physical Exhibition at 11th Int. Symposium on Digital Art and Gallery (D-ART 2011), 15th International Conference Information Visualisation (iV 2011)*, London, UK, July 12-15, 2011.
- Gabriele Peters,
Dark Days - Venice - Hybrid Photographic Techniques, *10th International Symposium on Digital Art (D-ART 2010), 7th International Conference on Computer Graphics, Imaging and Visualization (CGIV 2010)*, 2010.
- Gabriele Peters,
Dark Days - Venice - Hybrid Photographic Techniques, *Online Exhibition at 10th Int. Symposium on Digital Art and Gallery (D-ART 2010), 14th International Conference on Information Visualisation (iV 2010)*, London, UK, July 26-29, 2010.
- Gabriele Peters,
The Passage, *IEEE Conference Visualisation (VIZ 2009)*, IEEE Computer Society, cover art, pp. C4,C1, 2009.
- Gabriele Peters,
The Passage - Combining Analog and Digital Photographic Techniques for Artistic Expression, *9th International Symposium on Digital Art (D-ART 2009), 6th International Conference on Computer Graphics, Imaging and Visualization (CGIV 2009)*, 2009.
- Gabriele Peters,
The Passage - Combining Analog and Digital Photographic Techniques for Artistic Expression, *Online Exhibition and Physical Exhibition at 9th International Symposium on Digital Art and Gallery (D-ART 2009), 13th International Conference on Information Visualisation (iV 2009)*, Barcelona, Spain, July 14-17, 2009.
- Gabriele Peters,
Dynamisches Lernen für geometrische und graphische Objekterfassung - A Vision System for Interactive Object Learning, *Forschungsbericht 2008, Fachhochschule Dortmund*, Dortmund, Germany, 2008.
- Gabriele Peters,
Interaktive Objekterkennung - Combining Reinforcement Learning and Belief Revision - A Learning System for Active Vision, *Forschungsbericht 2008, Fachhochschule Dortmund*, Dortmund, Germany, 2008.
- Gabriele Peters,
Hochdimensionale Datenräume - A Topology-Independent Similarity Measure for High-Dimensional Feature Spaces, *Forschungsbericht 2008, Fachhochschule Dortmund*, Dortmund, Germany, 2008.
- Gabriele Peters,
Fotopanoramen - Squaring the Circle in Panoramas, *Forschungsbericht 2008, Fachhochschule Dortmund*, Dortmund, Germany, 2008.

- Gabriele Peters,
Bild-Ästhetik - Aesthetic Primitives of Images for Visualization, *Forschungsbericht 2008, Fachhochschule Dortmund*, Dortmund, Germany, 2008.
- Gabriele Peters,
Höhenkarten-basierte Segmentierung - Image Segmentation Based on Height Maps, *Forschungsbericht 2008, Fachhochschule Dortmund*, Dortmund, Germany, 2008.
- Gabriele Peters,
Kunst aufräumen a la Ursus Wehrli - Content-Based Selection of Methods for Image Segmentation, *Forschungsbericht 2008, Fachhochschule Dortmund*, Dortmund, Germany, 2008.
- Gabriele Peters,
Personenverfolgung, *Forschungsbericht 2008, Fachhochschule Dortmund*, Dortmund, Germany, 2008.
- Gabriele Peters,
Dunkle Tage - Dark Days, *Forschungsbericht 2008, Fachhochschule Dortmund*, Dortmund, Germany, 2008.
- Gabriele Peters,
Dark Days - Prague, *IEEE Conference Visualisation (VIS 2008), IEEE Computer Society, ACM*, cover art, pp. C4,C1, 2008.
- Gabriele Peters,
Dark Days - Prague, *8th International Symposium on Digital Art (D-ART 2008), 5th International Conference on Computer Graphics, Imaging and Visualization (CGIV 2008)*, 2008.
- Gabriele Peters,
Dark Days - Prague, *Online Exhibition and Physical Exhibition at 8th International Symposium on Digital Art and Gallery (D-ART 2008), 12th International Conference on Information Visualisation (iV 2008)*, London, UK, July 8-11, 2008.
- Gabriele Peters,
Dark Days - New York, *7th International Symposium on Digital Art (D-ART 2007), 4th International Conference Computer Graphics, Imaging and Visualization (CGIV 2007)*, Bangkok, Thailand, August 13-16, 2007.
- Gabriele Peters,
Dark Days - New York, *Online Exhibition and Physical Exhibition at 7th International Symposium on Digital Art and Gallery (D-ART 2007), 11th International Conference on Information Visualisation (iV 2007)*, Zurich, Switzerland, July 2-6, 2007.
- Jochen Kerdels and Gabriele Peters,
Höhenbildbasierte Segmentierung, *Informatik Spektrum*, Springer, Vol. 30(1), cover art, pp. 47-48, 2007.
- Lihi Zelnik-Manor, Gabriele Peters, and Pietro Perona,
Die Quadratur des Kreises in Fotopanoramen, *Informatik Spektrum*, Springer, Vol. 29(2), cover art, p. 161, 2006.

- Gabriele Peters,
Bilder in unseren Köpfen, *UniReport - Forschungsberichte*, Vol. 34, pp. 43-48, *Universität Dortmund*, Dortmund, Germany, 2002.
- Gabriele Peters,
The Reconstruction of Unfamiliar Views of a 3-D Object from a Sparse Set of Familiar Views, *Conference on Cognitive Neuroscience*, *Hanse Wissenschaftskolleg*, Bremen, Germany, October 31 - November 3, 1999.
- Gabriele Peters,
The Interpolation Between Unsimilar Views of a 3-D Object Increases the Similarity and Decreases the Significance of Local Phase, *International School of Biophysics*, 1999.
- Gabriele Peters, Barbara Zitova, and Christoph von der Malsburg,
A Comparative Evaluation of Matching and Tracking Object Features for the Purpose of Estimating Similar-View-Areas of 3-Dimensional Objects, *IR-INI 99-06*, *Technical Report*, *Institut für Neuroinformatik*, *Ruhr-Universität Bochum*, Germany, 1999.
- Norbert Krüger, Michael Pöttsch, and Gabriele Peters,
Principles of Cortical Processing Applied to and Motivated by Artificial Object Recognition, *IR-INI 97-17*, *Technical Report*, *Institut für Neuroinformatik*, *Ruhr-Universität Bochum*, Germany, 1997.
- Norbert Krüger, Gabriele Peters, and Christoph von der Malsburg,
Object Recognition with a Sparse and Autonomously Learned Representation Based on Banana Wavelets, *IR-INI 96-11*, *Technical Report*, *Institut für Neuroinformatik*, *Ruhr-Universität Bochum*, Germany, 1996.
- Gabriele Peters,
Lernen lokaler Objektmerkmale mit Bananenwavelets, *Diploma Thesis*, *IR-INI 96-09*, *Technical Report*, *Institut für Neuroinformatik*, *Ruhr-Universität Bochum*, Germany, 1996.