Curriculum Vitae

Prof. Dr. Daniel Kaiser

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Education

2015	PhD in Cognitive and Brain Sciences (CIMeC, University of Trento) Supervisor: Marius Peelen Thesis title: *Inter-object grouping in visual processing: How the brain uses real-world regularities to carve up the environment*
2012	Diploma in Psychology, Minor in Statistics (Regensburg University) Supervisors: Gyula Kovács, Mark Greenlee Thesis title: *Dissociating repetition priming and adaptation-aftereffect related neural activity in the human brain*

Research Experience

2021 –	Professor (W1) for Neural Computation at the Department for Mathematics and Computer Science, Physics, Geography (Justus-Liebig-Universität Gießen)
2018 –	Principal Investigator in DFG-funded project *Objects in Scenes* (Freie Universität Berlin / University of York)
2019 – 2021	Lecturer (Assistant Professor) at the Department of Psychology (University of York)
2017 – 2019	Postdoctoral researcher in the *Neural Dynamics of Visual Cognition* group (Freie Universität Berlin, with Radoslaw Cichy)
2016	Visiting postdoctoral researcher in the *Active Vision and Cognition* group (BCCN, Humboldt University Berlin, with Sven Ohl and Timo Stein)
2016 – 2017	Postdoctoral researcher in the project *Characterizing and Improving Brain Mechanisms of Attention* (CIMeC, University of Trento, with Marius Peelen)
2012 – 2015	PhD student in the *Visual Cognitive Neuroscience* group (CIMeC, University of Trento, with Marius Peelen)
2012	MRI operator and technical assistant (Regensburg University)
2010 – 2012	Student researcher in the project *Person Perception* (Regensburg University, with Gyula Kovács)
2011	Student researcher in the *Face Perception* group (University of Aberdeen, with Mike Burton)
2010	Student researcher in the project *Brain Plasticity and Perceptual Learning* (Regensburg University, with Mark Greenlee)

Teaching Experience

2021	BSc course *Cognitive Neuroscience Methods* (University of York)
2020	BSc course *Brain Mechanisms of Visual Recognition* (University of York)
2020	MSci course *Third Year Empirical Project* (University of York)
2020	BSc course *Cognitive Neuroscience Methods* (University of York)
2019	MSc course *Cognitive Neuroscience* (Freie Universität Berlin, with Radoslaw Cichy)
2018	MSc lecture series *Cognitive Sciences* (Humboldt-Universität Berlin, with Martin Rolfs)
2018	PhD course *MEG and EEG methods for imaging in neuroscience* (Karolinska Institute Stockholm, with Daniel Lundqvist and Radoslaw Cichy)
2016	MSc course *Foundations of Cognitive Neuroscience* (University of Trento, with Marius Peelen)
2015	PhD/MSc course *Psychtoolbox Scripting* (University of Trento, teaching assistant, with Scott Fairhall)
2015	MSc course *Current Debates in Cognitive Neuroscience* (University of Trento, with Daniel Adams)
2014/15	Summer school courses *The Social Brain* (Harvard University, teaching assistant, with Paul Downing and Marius Peelen)
2013 – 2014	PhD course *Quantitative Methods* (Johannes-Kepler University Linz)
2012 – 2013	PhD course *Psychtoolbox Scripting* (University of Trento, teaching assistant, with Christoph Braun)
2010 – 2011	MSc course *Visual Perception* (Regensburg University, teaching assistant, with Gyula Kovács)
2010 – 2011	BSc workshops *Basics of brain research for psychologists* and *fMRI in cognitive neuroscience* (Regensburg University)
2009 – 2011	BSc course *General Psychology – Sensory and Cognitive Systems* (Regensburg University, teaching assistant, with Mark Greenlee)

Grants and Awards

2018 – 2021	Postdoctoral research grant *Objects in Scenes* funded by the German Research Foundation (DFG) – 340.320€
2019	DAAD Conference Travel Stipend – 1,486€
2019	Research Startup Stipend by the Department of Education and Psychology of Freie Universität Berlin – 2,000€
2018	DAAD Conference Travel Stipend – 2,100€
2017/18	Marie Sklodowska-Curie Seal of Excellence (for scoring 89/92% with EU grant proposals)
2017	CIMeC Young Researcher Award (among the three best junior researchers in 10 years) – 500€
2016	Humboldt Talent Travel Award, Humboldt University Berlin (one month visiting postdoc) – 3,000€
2015	Abstract award at Workshop on Concepts, Actions and Objects – 200€
2013/14/15	Best presentation awards at CIMeC Doctoral School Day – 3x 200€
2012 – 2015	PhD grant of the CIMeC, University of Trento – monthly stipend (1,200€)

2011	Research internship stipend of the German Academic Scholarship Foundation – 1,100€
2009 – 2012	Studentship of the German Academic Scholarship Foundation – monthly stipend (300€)

Student Supervision

2021 –	Rico Stecher (PhD Student, JLU Gießen)
2021 –	Gongting Wang (PhD Student, FU Berlin, Co-Supervision with Radoslaw Cichy)
2019 –	Matthew Foxwell (PhD Student, University of York)
2019 –	Lixiang Chen (PhD Student, FU Berlin, Co-Supervision with Radoslaw Cichy)
2021	Lauren Carter (Student Research Assistant, University of York)
2020 – 2021	Sara Rashid (MSci Student, University of York)
2020 – 2021	Emma Rejto (MSci Student, University of York)
2020 – 2021	Josh Francis (MSci Student, University of York)
2020 – 2021	Daniela Marinova (Student Research Assistant, University of York)
2020	Karen Nyga (Student Research Assistant, University of York)
2020	Judit Fiedler (Student Research Assistant, University of York)
2018 – 2019	Sina Schwarze (Student Research Assistant, FU Berlin)
2018 – 2019	Gabriele Inciuraite (Student Research Assistant, FU Berlin)
2018	Greta Häberle (PhD Intern, FU Berlin)
2018	Alessandro Gifford (MSc Student, University of Trento / FU Berlin)
2018	Tatiana Lupashina (MSc Intern, Charité / FU Berlin)
2018	Eva Masson (MSc Intern, University of Bordeaux / FU Berlin)
2017 – 2018	Jacopo Turini (MSc Intern, University of Trento / FU Berlin)
2017	Mila Bertolo (BSc Intern, University of Glasgow / FU Berlin)
2017	Merle Moeskops (MSc Student, VU Amsterdam / FU Berlin)
2015 – 2016	Francesca Setti (MSc Student, University of Trento)
2015	Irene Graziosi (MSc Intern, University of Trento): Eye-tracking study on inter-object grouping processes in visual search
2014 – 2015	Damiano Azzalini (MSc Student, University of Trento): MEG decoding of object and shape information in visual processing

Reviewing

Attention Perception & Psychophysics, Behavioral Brain Research, Cerebral Cortex, Cognition, Cortex, eLife Sciences, Frontiers in Human Neuroscience, Journal of Experimental Psychology: Human Perception & Performance, Journal of Experimental Psychology: Learning Memory & Cognition, Journal of Neurophysiology, Journal of Neuroscience, Journal of Cognitive Neuroscience, Nature Communications, Nature Human Behavior, Neuroimage, Neuropsychologia, PeerJ, Perception, PloS Biology, PloS ONE, Proceedings of the Royal Society B, Psychological Science, Psychophysiology, Trends in Cognitive Sciences, Visual Cognition.

Journal Publications

Kaiser D, Cichy RM. (submitted) Parts and wholes in scene processing. preprint

Chen L, Cichy RM*, Kaiser D*. (submitted) Semantic scene-object consistency modulates N300/400 EEG components, but does not automatically facilitate object representations. *equal contribution preprint

Kaiser D, Jacobs AM, Cichy RM. (submitted) Modelling brain representations of abstract concepts. preprint

Iamshchinina P, Kaiser D, Yakupov R, Haenelt D, Sciarra A, Mattern H, Lüsebrink F, Duezel E, Speck O, Weiskopf N, Cichy RM. (accepted) Perceived and mentally rotated contents are differentially represented in cortical depth of V1. *Commun Biol* 4: 1069. PDF

Ambrus GG, Eick CM, Kaiser D, Kovács G. (2021) Getting to know you: emerging neural representations during face familiarization. *J Neurosci* 41: 5687-5698. PDF

Kaiser D, Häberle G, Cichy RM. (2021) Coherent natural scene structure facilitates the extraction of task-relevant object information in visual cortex. *Neuroimage* 340: 118365. PDF

Stein T, Kaiser D, Fahrenfort JJ, van Gaal S. (2021) The human visual system differentially represents subjectively and objectively invisible stimuli. *PLOS Biol* 19: e3001241. PDF

Kaiser D, Nyga K. (2020) Tracking cortical representations of facial attractiveness using time-resolved representational similarity analysis. *Sci Rep* 10: 16852. PDF

Kaiser D, Inciuraite G, Cichy RM. (2020) Rapid contextualization of fragmented scene information in the human visual system. *Neuroimage* 219: 117045. PDF

Xie S, Kaiser D, Cichy RM. (2020) Visual imagery and perception share neural representations in the alpha frequency band. *Curr Biol* 30: 2621-2627. PDF

Kaiser D, Häberle G, Cichy RM. (2020) Real-world structure facilitates the rapid emergence of scene category information in visual brain signals. *J Neurophysiol* 124: 145-151. PDF

Kaiser D, Häberle G, Cichy RM. (2020) Cortical sensitivity to natural scene structure. *Hum Brain Mapp* 41: 1286-1295. PDF

Battistoni E, Kaiser D, Hickey C, Peelen MV. (2020) The time course of spatial attention during naturalistic visual search. *Cortex* 122: 225-234. PDF

Ambrus GG*, Kaiser D*, Cichy RM, Kovács G. (2019) The neural dynamics of familiar face recognition. *Cereb Cortex* 29: 4775-4784. *equal contribution PDF

Kaiser D, Turini J, Cichy RM. (2019) A neural mechanism for contextualizing fragmented inputs during naturalistic vision. *eLife* 8: e48182. PDF

Kaiser D, Quek GL, Cichy RM, Peelen MV. (2019) Object vision in a structured world. *Trends Cogn Sci* 23: 672-685. PDF

Proklova D, Kaiser D, Peelen MV. (2019) MEG sensor patterns reflect perceptual but not categorical similarity of animate and inanimate objects. *Neuroimage* 193: 167-177. PDF

Cichy RM, Kaiser D. (2019) Deep neural networks as scientific models. *Trends Cogn Sci* 23: 305-317. PDF

Kaiser D, Cichy RM. (2018) Typical visual-field locations enhance processing in object-selective channels of human occipital cortex. *J Neurophysiol* 120: 848-853. PDF

Kaiser D, Cichy RM. (2018) Typical visual-field locations facilitate access to awareness for everyday objects. *Cognition* 180: 118-122. PDF

Kaiser D, Moeskops MM, Cichy RM. (2018) Typical retinotopic locations impact the time course of object coding. *Neuroimage* 176: 372-379. PDF

Kaiser D, Peelen MV. (2018) Transformation from independent to integrative coding of multi-object arrangements in human visual cortex. *Neuroimage* 169: 334-341. PDF

Kaiser D, Haselhuhn T. (2017) Facing a regular world: How spatial object structure shapes visual processing. *J Neurosci* 37: 1965-1967. PDF

Kaiser D, Oosterhof NN, Peelen MV. (2016) The neural dynamics of attentional selection in natural scenes. *J Neurosci* 36: 10522-10528. PDF

Stein T, Kaiser D, Hesselmann G. (2016) Can working memory be non-conscious? *Neurosci Conscious* 1: 1-3. PDF

Proklova D*, Kaiser D*, Peelen MV. (2016) Disentangling representations of object shape and object category in human visual cortex: the animate-inanimate distinction. *J Cogn Neurosci* 28: 680-692. *equal contribution PDF

Kaiser D*, Azzalini DC*, Peelen MV. (2016) Shape-independent object category responses revealed by MEG and fMRI decoding. *J Neurophysiol* 115: 2246-2250. *equal contribution PDF

Kaiser D, Stein T, Peelen MV. (2015) Real-world spatial regularities affect visual working memory for objects. *Psychon Bull Rev* 22: 1784-1790. PDF

Stein T, Kaiser D, Peelen MV. (2015) Interobject grouping facilitates visual awareness. *J Vis* 15: 1-10. PDF

Hickey C, Kaiser D, Peelen MV. (2015) Reward guides attention to object categories in real-world scenes. *J Exp Psychol Gen* 144: 264-273. PDF

Keresztes A, Kaiser D, Kovács G*, Racsmány M*. (2014) Testing promotes long-term learning via stabilizing activation patterns in a large network of brain areas. *Cereb Cortex* 24: 3025-3035. *equal contribution PDF

Kaiser D, Stein T, Peelen MV. (2014) Object grouping based on real-world regularities facilitates perception by reducing competitive interactions in visual cortex. *Proc Natl Acad Sci USA* 111: 11217–11222. PDF

Kaiser D*, Strnad L*, Seidl KN, Kastner S, Peelen MV. (2014) Whole person-evoked fMRI activity patterns in human fusiform gyrus are accurately modeled by a linear combination of face- and body-evoked activity patterns. *J Neurophysiol* 111: 82-90. *equal contribution PDF

Kaiser D, Walther C, Schweinberger SR, Kovács G. (2013) Dissociating the neural bases of repetition-priming and adaptation in the human brain for faces. *J Neurophysiol* 110: 2727-2738. PDF

Kovács G, Kaiser D, Kaliukhovich DA, Vidnyánszky Z, Vogels R. (2013) Repetition probability does not affect fMRI repetition suppression for objects. *J Neurosci* 33: 9805-9812. PDF

Walther C, Schweinberger SR, Kaiser D, Kovács G. (2013) Neural correlates of priming and adaptation in familiar face perception. *Cortex* 49: 1963–1977. PDF

Conference Contributions

Chen L, Cichy RM, Kaiser D. (2021) Scene-object congruency modulates N300/400 EEG components, but does not automatically facilitate object representations. *43rd European Conference on Visual Perception (online).*

Foxwell MJ, Kaiser D. (2021) Similarity to internal models determines the efficiency of scene perception. *43rd European Conference on Visual Perception (online).*

Kaiser D. (2021) Tracking the neural dynamics of aesthetic perception. *43rd European Conference on Visual Perception (online).*

Iamshchinina P, Kaiser D, Yakupov R, Haenelt D, Mattern H, Duezel E, Speck O, Weiskopf N, Cichy RM. (2020) Perceived and mentally rotated contents are differentially represented in cortical layers of V1. *21st Annual Meeting of the Vision Sciences Society (online).*

Iamshchinina P, Kaiser D, Yakupov R, Haenelt D, Mattern H, Duezel E, Speck O, Weiskopf N, Cichy RM. (2020) Perceived and mentally rotated contents are differentially represented in cortical layers of V1. *Organization for Human Brain Mapping Annual Meeting (online).*

Iamshchinina P, Karapetian A, Kaiser D, Cichy RM. (2019) Neural dynamics of categorical information in visual and auditory signals. *42nd European Conference on Visual Perception, Leuven, Belgium.*

Kaiser D, Turini J, Cichy RM. (2019) A neural mechanism for contextualizing fragmented inputs during naturalistic vision. *SAMBA - Salzburg Mind-Brain Annual Meeting, Salzburg, Austria.*

Kaiser D, Turini, J, Cichy RM. (2019) Spatial schemata determine cortical representations of the environment. *20th Annual Meeting of the Vision Sciences Society, St. Pete Beach, FL, USA.*

Xie S, Kaiser D, Iamshchinina P, Cichy, RM. (2019) Low-frequency oscillations track the contents of visual perception and mental imagery. *20th Annual Meeting of the Vision Sciences Society, St. Pete Beach, FL, USA.*

Ambrus GG, Kaiser D, Cichy RM, Kovács G. (2019) The neural dynamics of familiar face recognition. *61st TeaP - Conference for Experimental Psychologists, London, UK.*

Kaiser D. (2019) Integrative processing of multi-object arrangements. *International Convention of Psychological Science, Paris, France.*

Ambrus GG, Kaiser D, Süllwold L-C, Kovács G. (2018) The temporal dynamics of identity encoding for famous faces. 41st *European Conference on Visual Perception, Trieste, Italy.*

Kaiser D, Moeskops MM, Cichy RM. (2018) Typical real-world locations facilitate object processing. *19th Annual Meeting of the Vision Sciences Society, St. Pete Beach, FL, USA.*

Hensler T, Kaiser D, Cichy RM, Lundqvist D, Olsson A. (2018) The influence of observational fear learning on emotional responses and neural stimulus representations. *2nd MEG Nord Conference, Stockholm, Sweden.*

Kaiser D, Moeskops MM, Cichy RM. (2017) Typical real-world locations impact object coding across the visual field. *47th Annual Meeting of the Society for Neuroscience, Washington, DC, USA.*

Kaiser D, Moeskops MM, Cichy RM. (2017) Typical real-world locations impact the time course of object coding. *CIMeC 10-years anniversary conference, Rovereto, Italy.*

Kaiser D, Battistoni E, Oosterhof NN, Hickey C, Peelen MV. (2017) Using MEG to track attention during naturalistic visual search. *40th European Conference on Visual Perception, Berlin, Germany.*

Moeskops MM, Kaiser D, Cichy RM. (2017) Typical real-world locations impact object coding across the visual field. *40th European Conference on Visual Perception, Berlin, Germany.*

Thorat S, Proklova D, Kaiser D, Peelen MV. (2017) Using convolutional neural networks to measure the contribution of visual features to the representation of object animacy in the brain. *CAOs Workshop on Concepts, Actions and Objects, Rovereto, Italy.*

Peelen MV, Kaiser D. (2017) Positional regularity disrupts independent coding of multiple objects in visual cortex. *17th Annual Meeting of the Vision Sciences Society, St. Pete Beach, FL, USA.*

Setti F, Kaiser D, Peelen MV. (2016) Objects in commonly experienced configurations are less distracting: evidence from MEG. *CAOs Workshop on Concepts, Actions and Objects, Rovereto, Italy.*

Proklova D, Kaiser D, Peelen MV. (2016) Decoding object shape and object category with MEG. *CAOs Workshop on Concepts, Actions and Objects, Rovereto, Italy.*

Kaiser D, Azzalini DC, Peelen MV. (2015) Disentangling visual and semantic object representations in time and space using MEG and fMRI decoding. *Tübingen MEG Symposium, Tübingen, Germany.*

Proklova D, Kaiser D, Peelen MV. (2015). Disentangling the effects of shape and category on the representation of animate and inanimate objects in human ventral temporal cortex. *45th Annual Meeting of the Society for Neuroscience, Chicago, IL, USA.*

Kaiser D, Downing PE, Peelen MV. (2015) Suppressive top-down mechanisms trigger attentional modulation of perceptual representations in visual cortex. *4th CIMeC Doctoral School Day, Rovereto, Italy.*

Kaiser D, Oosterhof NN, Peelen MV. (2015) The temporal dynamics of target selection in real-world scenes. *15th Annual Meeting of the Vision Sciences Society, St. Pete Beach, FL, USA.*

Hickey C, Kaiser D, Peelen MV. (2015) Neural mechanisms of incentive salience in naturalistic human vision. *15th Annual Meeting of the Vision Sciences Society, St. Pete Beach, FL, USA.*

Stein T, Kaiser D, Peelen MV. (2015) Real-world regularities facilitate visual awareness of objects under continuous flash suppression. *15th Annual Meeting of the Vision Sciences Society, St. Pete Beach, FL, USA.*

Kaiser D, Downing PE, Peelen MV. (2015) Suppressive top-down mechanisms trigger attentional modulation of perceptual representations in visual cortex. *CAOs Workshop on Concepts, Actions and Objects, Rovereto, Italy.*

Proklova D, Kaiser D, Peelen MV. (2015) Animate-inanimate organization in human ventral temporal cortex: shape or category? *CAOs Workshop on Concepts, Actions and Objects, Rovereto, Italy.*

Azzalini DC, Kaiser D, Peelen MV. (2015) Temporal dynamics of visual object categorisation: an MEG decoding study. *Brixen Cognitive Science Arena, Brixen, Italy.*

Kaiser D, Oosterhof NN, Peelen MV. (2014) The temporal dynamics of target selection in real-world scenes. *Tübingen MEG Symposium, Tübingen, Germany.*

Kaiser D, Oosterhof NN, Peelen MV. (2014) The temporal dynamics of target selection in real-world scenes. *3rd CIMeC Doctoral School Day, Rovereto, Italy.*

Kaiser D, Peelen MV. (2014) Multi-voxel pattern analysis versus fMRI-adaptation: Comparing apples and oranges? *RESUS - Repetition Suppression Summer School, Jena, Germany.*

Kaiser D, Stein T, Peelen MV. (2014) Reduced attentional competition between objects that follow real-world regularities. *14th* Annual Meeting *of the Vision Sciences Society, St. Pete Beach, FL, USA.*

Kaiser D, Stein T, Peelen MV. (2014) Real-world regularities enhance visual short-term memory for objects. *CAOs Workshop on Concepts, Actions and Objects, Rovereto, Italy.*

Kaiser D, Stein T, Peelen MV. (2014) Reduced attentional competition between objects that follow real-world regularities. *56th TeaP - Conference for Experimental Psychologists, Giessen, Germany.*

Kaiser D, Stein T, Peelen MV. (2013) Real-world regularities reduce attentional competition between objects. *Rovereto Attention Workshop, Rovereto, Italy.*

Kaiser D, Stein T, Peelen MV. (2013) Object grouping expands visual capacity. *2nd CIMeC Doctoral School Day, Rovereto, Italy.*

Kaiser D, Strnad L, Seidl KN, Kastner S, Peelen MV. (2013) Independent face- and body-selective fMRI response patterns in human fusiform gyrus during whole-person perception. *36th European Conference on Visual Perception, Bremen, Germany.*

Kovács G, Kaiser D, Kaliukhovich DA, Vogels R. (2012) Stimulus repetition probability does not affect repetition suppression for non-face stimuli in the human lateral occipital cortex. *42nd Annual Meeting of the Society for Neuroscience, New Orleans, LA.*

Keresztes A, Kaiser D, Nagy K, Kovács G, Racsmány M. (2012) Neuroimaging evidences of testing effect. *DuCog IV, Dubrovnik Conference on Cognitive Science, Dubrovnik, Croatia.*

Kaiser D, Walther C, Schweinberger SR, Kovács G. (2011) Dissociating repetition priming and adaptation-aftereffect related neural activity in the human brain. *Workshop of DFG Research Unit "Person Perception": Integrating Cognitive, Neuroscientific, and Social Approaches to Person Perception: Current Status and Future Perspectives, Jena, Germany.*

Kovács G, Kaiser D, Walther C, Schweinberger SR. (2011) Dissociating repetition priming and adaptation-aftereffect related neural activity in the human brain. 41st Annual Meeting of the Society for Neuroscience, Washington, DC.

Kaiser D, Walther C, Kovács G. (2010) The neural correlates of priming and adaptation - The quest for an applicable paradigm. *Workshop of DFG Research Unit "Person Perception": Person Perception 25 years after Bruce and Young (1986), Jena, Germany.*

Gießen, October 2021