

## **Prof. Dr. Tobias H. Donner**

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<b>Professional Appointments</b>	2019-	Head of Section <i>Computational Cognitive Neuroscience</i> , Dept. of Neurophysiology and Pathophysiology, University Medical Center Hamburg (UKE)
	2016-2015-	Deputy Director, Dept. of Neurophysiol and Pathophysiol, UKE Visiting Professor Brain & Cognition Group, Dept. of Psychology, University of Amsterdam (UvA)
	2015-2011-	Full Professor of Integrative Neuroscience (W3), UKE Associated PI, Bernstein Center for Computational Neuroscience Berlin
	2009-15	Assistant Professor, Brain & Cognition Group, Dept. of Psychology, UvA
	2006-9	Postdoctoral fellow, Computational Neuroimaging Laboratory, Center for Neural Science and Dept. of Psychology, New York University
	2003-6	Postdoctoral fellow, Dept. of Neurophysiology and Pathophysiology, UKE & Donders Institute for Brain, Cognition and Behaviour, Radboud University Nijmegen
	<b>Education</b>	2012
2004		License to practice medicine
2003		Doctorate <i>summa cum laude</i> , Berlin Neuroimaging Centre, Humboldt-University of Berlin, Charité Advisors: Stephan A. Brandt, Arno Villringer
2003		M.D. ( <i>medizinisches Staatsexamen</i> ), Charité, Berlin
<b>Awards and Honors</b>	2017-	Board of Reviewing Editors, <i>eLife</i>
	2015-20	Heisenberg-Professorship award from German Research Foundation (DFG)
	2006-8	Postdoc fellowship award from German National Academy of Sciences – Leopoldina
	2004	Doctoral thesis award from <i>Berliner Gesellschaft für Psychiatrie und Neurologie</i>
	2002-3	Scholarship award from German Academic Exchange Service ( <i>Deutscher Akademischer Auslandsdienst</i> )
	1998-02	Scholarship award from German National Merit Foundation ( <i>Studienstiftung des deutschen Volkes</i> )
	1997-98	Scholarship award from Graduiertenkolleg 423 "Clinical and Cognitive Neurosciences", DFG

## Past and Present Funding

- DFG project grant *Neural Network Bases of Healthy and Aberrant Belief Updating*. Part of Research Unit 5389 *Contextual influences on dynamic belief updating in volatile environments: Basic mechanisms and clinical implications* (2024-2027). Role: PI (with Tania Lincol, University of Hamburg).
- Project *Control of Memory Formation & Memory-based Decision-Making by Brainstem Arousal Systems* in DFG Research Training Group 2753 *Emotional Learning and Memory* (2022-208). Role: PI.
- BMBF grant *IMBALANCE* within ERA-NET NEURON consortium *A neuro-computational biomarker assay for schizophrenia based on E/I-balance* (2020-23). Role: PI (with Philipp Sterzer, Charité (coordinator); Jaime de la Rocha, IDIBAPS, Barcelona; Srdjan Ostojic, Ecole Normale Supérieure Paris; Peter Ulhaas, Charité / University of Glasgow).
- BMBF grant *DECINDBIAS*. Part of Collaborative Research in Computational Neuroscience program US-German grant *Choice-induced Biases in Human Decision-Making*. (2020-2024). Role: PI (with Alan Stocker, U Penn).
- DFG Research Project grant. Project title: *Mechanisms of Flexible Choice History Biases in the Human Brain* (2020-22). Role: PI.
- DFG project grant (Z3) in Collaborative Research Centre (SFB) 936. Project title: *Analysis and Modeling of Multi-Site Interactions in the Brain* (2019-23). Role: PI.
- DFG project grant (A7) in Collaborative Research Centre (SFB) 936 (3<sup>rd</sup> funding phase). Project title: *Catecholaminergic Modulation of Cortical Decision Networks* (2019-23). Role: PI.
- DFG Heisenberg Professorship award (2<sup>nd</sup> funding phase). *Adaptive Modulation of Cortical Decision Dynamics* (2018-20) Role: PI.
- Research grant from Federal state of Hamburg. Project title: *Immunological Modulation of Decision Computations in the Human Brain* (2016-18). Role: PI.
- EU Horizon 2020 Marie Curie Individual Fellowship to Konstantinos Tsetsos. Project title: *Cortical Dynamics of Decision Irrationality* (2016-18). Role: Supervisor.
- DFG project grant (A7) in Collaborative Research Centre (SFB) 936 (2<sup>nd</sup> funding phase). Project title: *Manipulating Adaptive Evidence Accumulation in Cortical Decision Networks* (2015-19). Role: PI.
- DFG Research Project grant. Project title: *The Neural Basis of Sequential Choice Bias in the Human Brain* (2015-19). Role: PI.
- DFG Heisenberg Professorship award (1<sup>st</sup> funding phase). Project title: *Neuromodulation of Cortical Decision Networks* (2015-18).
- NWO *Research Talent* grant. Project title: *How Does Surprise Alter Internal Brain State and Learning?* (2014-2018; PhD student: Thomas Meindersma). Role: PI.
- Competitive Calls Programme grant, EU-FP 7 *Human Brain Project*. Project title: *Dissecting the brainstem modulation of cortical decision computations* (2014-16). Role: PI (Co-PI: Andreas K. Engel, UKE Hamburg).
- Project grant of Amsterdam Brain & Cognition Priority Program. Project title: *Noradrenergic Shaping of Cortical Decision Computations* (2014-2016). Role: PI (Co-PI: Cyriel Pennartz, UvA).
- Starter project grant, Spinoza Center for Neuroimaging. Project title: *A Novel Signature of Reward in Human Visual Cortex* (2012-2013). Role: PI.
- Brain Imaging grant, Graduate School Neurosciences Amsterdam Rotterdam ONWAR). Project title: *Dissecting Decision-related Activity in Human Primary Visual Cortex* (2011-2014). Role: PI. (Co-PI: Victor Lamme, UvA)

- Postdoctoral fellowship award, German National Academy of Sciences – Leopoldina. Project title: *The Neural Basis of Visual Awareness in Humans: Cortical Interactions Underlying Motion-Induced Blindness* (2006-2008).

**Doctoral/  
Postdoctoral  
Advisor**

- Hame Park, Postdoc, 2020-present
- Ayelet Arezi, Postdoc, 2020-present
- Joshua Calder-Travis, Postdoc, 2020-present
- Alessandro Toso, Postdoc, 2020-present
- Maxime Maher, Postdoc, 2020-present
- Natalia Kudlek, MD student, 2019-present
- Gina Monov, MD student, 2019-present
- Keno Hagen, MD student, 2017-present
- Ruud van den Brink, Postdoc, 2017-present
- Kobe Desender, Postdoc, 2017-2020
- Konstantinos Tsetsos, Postdoc, 2016-2018
- Peter Murphy, Postdoc, 2015-present
- Niklas Wilming, Postdoc, 2015-present
- Bharath Chandra Talluri, PhD student, 2015-present
- Anke Braun, PhD student, 2015-present
- Jan Willem de Gee, PhD student, 2014-2019
- Olympia Colizoli, Postdoc, 2014-2017
- Thomas Meindersma PhD student, 2014-present
- Anne Urai, PhD student, 2013-2018
- Thomas Pfeffer, PhD student, 2013-2017; Postdoc, 2017-present
- Niels Kloosterman, PhD student and Postdoc, 2010-2015
- Tomas Knapen, NWO-VENI Postdoc, 2010-2013

**Memberships**

- *Society for Neuroscience*
- *Organization for Human Brain Mapping*

**Service to the  
Profession**

Board of Reviewing Editors, *eLife*  
 Associate Editor, *Frontiers in Decision Neuroscience*  
 Member of PhD committees (national and international)  
 Member of faculty search committees (UKE and external)  
 Ad-hoc reviewer for professorial appointments & promotions (national and international)

Ad-hoc Reviewer for:

- *Attention, Perception & Psychophysics*
- *Cerebral Cortex*
- *Consciousness & Cognition*
- *Current Biology*
- *eLife*
- *European Journal of Neuroscience*
- *Frontiers in Neuroscience (several sub-disciplines)*
- *Frontiers in Psychology*
- *Journal of Cognitive Neuroscience*
- *Journal of Neuroscience*
- *Journal of Neurophysiology*
- *Journal of Vision*
- *Nature Communications*

- *Nature Human Behaviour*
- *Nature Neuroscience*
- *NeuroImage*
- *Neuron*
- *Neuroreport*
- *Proceedings of the National Academy of Science USA*
- *Psychophysiology*
- *Vision Research*

Ad-hoc Reviewer for the following funding agencies:

- *Alexander von Humboldt Foundation*
- *German Research Foundation (DFG)*
- *French National Research Agency (ANR)*
- *German-Israeli Foundation for Scientific Research and Development (GIF)*
- *Human Human Frontier Science Program (HFSP)*
- *Medical Research Council (UK)*
- *Wellcome Trust (UK)*
- *Netherlands Organisation for Scientific Research (NWO)*
- *Research Foundation Flanders (FWO)*

## Publications and Talks

- Original Articles**
- Hebisch J, Ghassemieh AC, Zhecheva E, Brouwer M, van Gaal S, Schwabe L, **Donner TH\*** & de Gee JW\*. 2024. Task-irrelevant stimuli reliably boost phasic pupil-linked arousal but do not affect decision formation. (2024) *Scientific Reports* 14:28380. doi: 10.1038/s41598-024-78791-8.
  - Murphy PR, Krkovic K, Monov G, Kudlek N, Lincoln T\* & **Donner TH\*** (2024) Individual Differences in Belief Updating and Phasic Arousal Are Related to Psychosis Proneness. *Communications Psychology*. 2:88. doi: 10.1038/s44271-024-00140-2.
  - Monov G, Stein H, Klock L, Gallinat J, Kühn S, Lincoln T, Krkovic K, Murphy PR\* & **Donner TH\*** (2024) Linking Cognitive Integrity to Working Memory Dynamics in the Aging Human Brain. *Journal of Neuroscience*. 44: e1883232024.
  - Toso A\*, Wermuth AP\*, Arazi A, Braun A, Grent-’t Jong T, Uhlhaas PJ & **Donner TH** (2024). 40 Hz Steady-State Response in Human Auditory Cortex Is Shaped by Gabaergic Neuronal Inhibition. *Journal of Neuroscience*. 44:e 2029232024.
  - Celotto M, Bím J, Tlaie A, De Feo V, Lemke S, Chicharro D, Nili H, Bieler M, Toso A, Hanganu-Opatz IL, **Donner T**, Brovelli A & Panzeri S (2023) An Information-theoretic Quantification of the Content of Communication Between Brain Regions.
  - Mazancieux A, Mauconduit F, Amadon A, de Gee JW, **Donner TH** & Meyniel F (2023) Brainstem fMRI signaling of surprise across different types of deviant stimuli. *Cell Reports*. 42: 113405. *Advances in Neural Information Processing Systems (NeurIPS)*, 36: 64213–65.
  - Braun A & **Donner TH** (2023) Adaptive biasing of action-selective cortical build-up activity by choice history. *eLife*. RP86740. doi: 10.7554/eLife.86740.
  - van den Brink RL, Hagena K, Wilming N, Murphy P, Büchel C & **Donner TH** (2023) Flexible sensory-motor mapping rules manifest in correlated variability of stimulus and action codes across the brain. *Neuron*. 111: 571-584.
  - Urai AE & **Donner TH** (2022) Persistent activity in human parietal cortex mediates perceptual choice repetition bias. *Nature Communications*. 13:6015.
  - Pfeiffer T, Keitel C, Kluger DS, Keitel A, Russmann A, Thut G, **Donner TH\***, Gross J\* (2022) Coupling of pupil- and neuronal population dynamics reveals diverse influences of arousal on cortical processing. *eLife* 11: e71890. doi: 10.7554/eLife.71890.
  - Colizoli O, de Gee JW, van der Zwaag W & **Donner TH**. 2022. Functional magnetic resonance im-aging responses during perceptual decision-making at 3T and 7T in human cortex, striatum, and brainstem. *Human Brain Mapping*. 43: 1265-1279.
  - Pfeiffer T, Ponce-Alvarez A, Meindersma T, Gahnström C, van den Brink RL, Nolte G, Tsetsos K, Engel AK, Deco G & **Donner TH**. 2021. Circuit mechanisms for the chemical modulation of cor-tex-wide network interactions and behavioral variability. *Sci Adv* 7: eabf5620.
  - Murphy PR, Wilming N, Hernandez-Bocanegra DC, Prat Ortega G & Donner TH. **2021**. Adaptive Circuit Dynamics Across Human Cortex During Evidence Accumulation in Changing Environ-ments. *Nature Neuroscience*. 4: 987-997.
  - de Gee JW, Correa CMC, Weaver M, **Donner TH** & van Gaal S. 2021. Pupil dilation and P3 reflect subjective surprise about decision outcome. *Cerebral Cortex*. 31(7):3565-3578
  - Talluri BC, Urai AE, Bronfman ZZ, Brezis N, Tsetsos K\*, Usher M\* & **Donner TH\***. 2021. Choic-es Change the Temporal Weighting of Decision Evidence. *Journal of Neurophysiology*. 125(4):1468-1481.
  - Desender K, **Donner TH** & Verguts T. 2021. Dynamic expressions of confidence

within an evidence accumulation framework. *Cognition*. 207:104522.

- Wilming N, Murphy PR, Meyniel F, & **Donner TH**. 2020. Large-scale Dynamics of Perceptual Decision Information across Human Cortex. *Nature Communications*. 11: 5109. doi: 10.1038/s41467-020-18826-6.
- de Gee JW, Tsetsos K, Schwabe L, Urai AE, McCormick D, McGinley MJ\* & **Donner TH\***. (\*=Shared senior authorship.) 2020. Pupil-linked Phasic Arousal Predicts a Reduction of Choice Bias Across Species and Decision Domains. *eLife*. 9: 9:e54014. doi: 10.7554/eLife.54014.
- Lak A, Hueske E, Hirokawa J, Masset P, Ott T, Urai AE, **Donner TH**, Carandini M, Tonegawa S, Uchida N & Kepecs A. 2020. Reinforcement Biases Subsequent Perceptual Decisions when Confidence is Low: a Widespread Behavioral Phenomenon. *eLife*. 9: e49834. doi: 10.7554/eLife.49834.
- Daniel E\*, Meindertsma T\*, Arazi A, **Donner TH** & Dinstein I. (\*=Shared first authorship.) 2019. The Relationship between Trial-by-trial Variability and Oscillations of Cortical Population Activity. *Scientific Reports*. 9: 16901.
- Desender K, Boldt A, Verguts T & **Donner TH**. 2019. Post-decisional Sense of Confidence Shapes Speed-accuracy Tradeoff for Subsequent Choices. *eLife*. 8: e43499. doi: 10.7554/eLife.43499.
- Urai AE, de Gee JW & **Donner TH**. 2019. Choice History Biases Subsequent Evidence Accumulation. *eLife*. 8: e46331. doi: <https://doi.org/10.1101/251595>.
- Poland E, **Donner TH**, Müller K, Leopold DA & Wilke M. 2019. Thalamus Exhibits Less Sensory Variability Quenching than Cortex. *Scientific Reports*. 9: 7590.
- Talluri BC, Urai AE, Tsetsos K, Usher K & **Donner TH**. 2018. Confirmation Bias Through Selective Overweighting of Choice-Consistent Evidence. *Current Biology*. 28: 3128-35. Dispatch: Prat-Ortega G & de la Rocha J. 2018. Selective Attention: A Plausible Mechanism Underlying Confirmation Bias. *Current Biology* 28, R1143-63.
- Colizoli O, de Gee JW, Urai AE, **Donner TH**. 2018. Task-evoked Pupil Responses Reflect Internal Belief States. *Scientific Reports*. 8: 13702.
- van den Brink RL, Nieuwenhuis S\* & **Donner TH\***. (\*=Shared senior authorship.) 2018. Amplification and Suppression of Distinct Brain-wide Activity Patterns by Catecholamines. *Journal of Neuroscience*. 38: 7476-91.
- Meindertsma T, Kloosterman NA, Engel AK, Wagenmakers EJ & **Donner TH**. 2018. Surprise About Sensory Event Timing Drives Cortical Transients in the Beta Frequency Band. *Journal of Neuroscience*. 38: 7600-10.
- Bergt A, Urai AE, **Donner TH** & Schwabe L. 2018. Reading Memory Formation from the Eyes. *European Journal of Neuroscience*. 47: 1525-33.
- Pfeffer T, Avramiea AE, Nolte G, Engel AK, Linkenkaer-Hansen K & **Donner TH**. 2018. Catecholamines Alter the Intrinsic Variability of Cortical Population Activity and Perception. *PLoS Biology*. 16: e2003453; doi: 10.1371/journal.pbio.2003453.
- Braun A, Urai AE & **Donner TH**. 2018. Adaptive History Biases Result from Confidence-weighted Accumulation of Past Choices. *Journal of Neuroscience*. 38: 2418-29.
- Meindertsma T, Kloosterman NA, Nolte G, Engel AK, & **Donner TH**. 2017. Multiple Transient Signals in Human Visual Cortex Associated with an Elementary Decision. *Journal of Neuroscience*. 37: 5744-57.
- de Gee JW, Colizoli O, Kloosterman NA, Knapen T, Nieuwenhuis S & **Donner TH**. 2017. Dynamic Modulation of Decision Biases by Brainstem Arousal Systems. *eLife* 6. pii: e23232. doi: 10.7554/eLife.23232.
- Urai AE, Braun A & **Donner TH**. 2017. Pupil-linked arousal is driven by decision uncertainty and alters serial choice bias. *Nature Communications*. 8:14637. doi: 10.1038/ncomms14637.
- van den Brink RL, Pfeffer T, Warren CW, Murphy PR, Tona K-D, van der Wee NJA,

Giltay E, van Noorden MS, Rombouts SARB, **Donner TH\*** & Nieuwenhuis S\*. (\*=Shared senior authorship.) 2016. Catecholaminergic Neuromodulation Shapes Intrinsic MRI Functional Connectivity in the Human Brain. *Journal of Neuroscience*. 36: 7865-76.

- Hebart M, Schriever Y, **Donner TH\***, Haynes JD\*. (\*=Shared senior authorship.) 2016. The Relationship between Perceptual Decision Variables and Confidence in the Human Brain. *Cerebral Cortex*. 26: 118-30.
- Bronfman ZZ, Brezis N, Moran R, Tsetsos K, **Donner T\*** & Usher M\*. (\*=Shared senior authorship.) 2015. Decisions reduce sensitivity to subsequent information. *Proc Biol Sci* 282(1810). pii: 20150228. doi: 10.1098/rspb.2015.0228.
- Tsetsos K, Pfeffer T, Jentgens P & **Donner TH**. 2015. Action Planning and the Timescale of Evidence Accumulation. *PLoS One* 12;10(6): e0129473. doi: 10.1371/journal.pone.0129473.
- Kloosterman NA, Meindersma T, van Loon AM, Lamme VAF, Bonnef YS & **Donner TH**. 2015. Pupil Size Tracks Perceptual Content and Surprise. *European Journal of Neuroscience*. 41:1068-78.
- Kloosterman NA, Meindersma T, Hillebrand A, van Dijk B, Lamme VAF & **Donner TH**. 2015. Top-Down Modulation in Human Visual Cortex Predicts the Stability of a Perceptual Illusion. *Journal of Neurophysiology*. 113: 1063-76.
- Bonnef YS, **Donner TH**, Cooperman A, Heeger DJ & Sagi D. 2014. Motion-induced Blindness and Troxler Fading: Common and Different Mechanisms *PLoS One*. 9(3):e92894. doi: 10.1371/journal.pone.0092894.
- de Gee JW, Knapen T & **Donner TH**. 2014. Decision-related Pupil Dilation Reflects Upcoming Choice and Individual Bias. *Proceedings of the National Academy of Sciences USA*. 111: E618-25.
- Cohen MX & **Donner TH**. 2013. Midfrontal Conflict-Related Theta Power Reflects Endogenous Neural Oscillations the Predict Behavior. *Journal of Neurophysiology*. 110: 2752-63.
- Ossmy O, Moran O, Pfeffer T, Tsetsos K, Usher M\* & **Donner TH\*** (\*=Shared senior authorship.) 2013. The Timescale of Perceptual Evidence Integration Can Be Adapted to the Environment. *Current Biology* 23: 981-6.
- van Loon AM, Knapen T, Scholte HS, St John-Saaltink E, **Donner TH\*** & Lamme VA\*. (\*=Shared senior authorship.) 2013. GABA Shapes the Dynamics of Bistable Perception. *Current Biology*. 23: 823-7.
- **Donner TH**, Sagi D, Bonnef YS & Heeger DJ. 2013. Retinotopic Patterns of Correlated Fluctuations in Visual Cortex Reflect the Dynamics of Spontaneous Perceptual Suppression. *Journal of Neuroscience*. 33: 2188-2198.
- de Lange F, Dobromir Rahnev D, **Donner TH\***, Lau H\*. (\*=Shared senior authorship.) 2013. Pre-stimulus Oscillatory Activity over Motor Cortex Reflects Perceptual Expectations. *Journal of Neuroscience*. 33: 1400-1410.
- Honey CJ, Thesen T, **Donner TH**, Silbert L, Carlson CE, Devinsky O, Doyle WK, Rubin NK, Heeger DJ, Hasson U. 2012. Slow Cortical Dynamics and the Accumulation of Information over Long Time Scales. *Neuron*. 76: 423-434.
- Hebart M, **Donner TH\***, Haynes JD\*. (\* = Shared senior authorship.) 2012. Human Visual and Parietal Cortex Encode Visual Choices Independent of Motor Plans. *Neuroimage*. 63: 1393-1403.
- Freeman J, **Donner TH** & Heeger DJ. 2011. Inter-Area Correlations in the Human Ventral Visual Pathway Reflect Feature Integration. *Journal of Vision*. 26. doi: 10.1167/11.4.15.
- Bonnef YS, **Donner TH**, Sagi D, Fried M, Heeger DJ & Arieli A. 2010. Microsaccades and Motion-induced Blindness: Cause and Effect. *Journal of Vision*. 10. doi: 10.1167/10.14.22.

- **Donner TH**, Siegel M, Fries P & Engel AK. 2009. Build-up of Choice-Predictive Activity in Human Motor Cortex during Perceptual Decision-Making. *Current Biology*. 19: 1681-5. *Dispatch*: Gross J & Ploner M, 2009. Perceptual Decisions: From Sensory Signals to Behavior. *Current Biology*. 19: R847-9.
- **Donner TH**, Sagi D, Bonneh YS & Heeger DJ. 2008. Opposite Neural Signatures of Motion-Induced Blindness in Human Dorsal and Ventral Visual Cortex. *Journal of Neuroscience*. 28: 10298-310. *Dispatch*: Blake R & Braun J, 2009. Visual Perception: The Elusive Footprints of Visual Awareness. *Current Biology*. 19, R30-2.
- Siegel M, **Donner TH**, Oostenveld R, Fries P & Engel AK. 2008. Neuronal Synchronization Along the Human Dorsal Visual Pathway Reflects the Focus of Spatial Attention. *Neuron* 60: 709-19.
- **Donner TH**, Siegel M, Oostenveld R, Fries P, Bauer M & Engel AK. 2007. Population Activity in the Human Dorsal Pathway Predicts the Accuracy of Visual Motion Detection. *Journal of Neurophysiology*. 98: 345-359.
- Siegel M, **Donner TH**, Oostenveld R, Fries P & Engel AK. 2007. High-Frequency Activity in Human Visual Cortex Is Modulated by Visual Motion Strength. *Cerebral Cortex*. 17: 732-741.
- Olma MC, **Donner TH** & Brandt SA. 2007. Control of Visual Selection during Visual Search in the Human Brain. *Journal of Eye Movement Research*. 1: 1-10; [http://www.jemr.org/contents/volume\\_1/issue\\_1/olma](http://www.jemr.org/contents/volume_1/issue_1/olma).
- Parton A\*, **Donner TH**\*, Donnelly N & Usher M. (\* = Shared first authorship). 2006. Perceptual Grouping Based on Temporal Structure: Impact of Subliminal Flicker and Visual Transients. *Visual Cognition*. 13: 481-502.
- Schira M, Fahle M, **Donner TH**, Kraft A & Brandt SA. 2004. Differential Contribution of Early Visual Areas to the Perceptual Process of Contour Detection. *Journal of Neurophysiology*. 91: 1716-1721.
- **Donner TH**, Kettermann A, Diesch E, Villringer A & Brandt SA. 2003. Parietal Activation During Visual Search in the Absence of Multiple Distractors. *Neuroreport*. 14: 2257-2261.
- Müller NG, **Donner TH**, Bartelt OA, Brandt SA, Villringer A & Kleinschmidt A. 2003. The Functional Neuroanatomy of Visual Conjunction Search: A parametric fMRI Study. *Neuroimage*. 20: 1578-1590.
- Müller NG, Bartelt OA, **Donner TH**, Villringer A & Brandt SA. 2003. A Physiological Correlate of the 'Zoom Lens' of Visual Attention. *Journal of Neuroscience*. 23: 3561-3565.
- **Donner TH**, Kettermann A, Diesch E, Ostendorf F, Villringer A. & Brandt SA. 2002. Visual Feature and Conjunction Searches of Equal Difficulty Engage Only Partially Overlapping Frontoparietal Networks. *Neuroimage*. 15: 16-25.
- **Donner T**, Kettermann A, Diesch E, Ostendorf F, Villringer A & Brandt SA. 2000. Involvement of the Human Frontal Eye Field and Multiple Parietal Areas in Covert Visual Selection during Conjunction Search. *European Journal of Neuroscience*. 12: 3407-3414.

**Reviews,  
Commen-  
taries,  
Book  
Chapters**

- Talluri BC, Braun A & **Donner TH**. 2021. Decision-making: How the past guides the future in frontal cortex. *Current Biology*. 31: R303-R306.
- Talluri BC, Urai AE & **Donner TH**. 2019. Our own choices generate biases for subsequent decisions. *Science Breaker*. <https://doi.org/10.25250/thescbr.brk203>
- Donner TH. 2017. Entscheidung mit Augenmaß. *Gehirn & Geist*. 03\_2017: 50-56.
- Warren CM, Nieuwenhuis S & **Donner TH**. 2015. Perceptual Choice Boosts Network Stability: Effect of Neuromodulation? *Trends in Cognitive Sciences* 19: 362-4.
- **Donner TH** & Nieuwenhuis S. 2013. Brain-wide Gain Modulation: The Rich Get Richer ("News & Views" Commentary). *Nature Neuroscience*. 16: 989-90.



- Siegel M\*, **Donner TH\*** & Engel AK. (\* = Shared first authorship.) 2012. Spectral Fingerprints of Large-scale Neuronal Interactions. *Nature Reviews Neuroscience*. 13: 121-34.
- **Donner TH** & Siegel M. 2011. A Framework for Local Cortical Oscillation Patterns. *Trends in Cognitive Sciences*. 15: 191-199.
- Siegel M, Engel AK & **Donner TH**. 2011. Cortical Network Dynamics of Perceptual Decision-Making in Humans. *Frontiers in Neuroscience*. 5: 21. doi: 10.3389/fnhum.2011.00021.
- Nieuwenhuis S & **Donner TH**. 2011. The Visual Attention Network Untangled ("News & Views" Commentary). *Nature Neuroscience*. 14: 542-3.
- Bonnef Y & **Donner T**. 2011. Motion Induced Blindness. *Scholarpedia*. 6(6): 3321 [http://www.scholarpedia.org/article/Motion\\_induced\\_blindness](http://www.scholarpedia.org/article/Motion_induced_blindness).
- Siegel M & **Donner TH**. 2010. Linking Band-limited Cortical Population Activity to fMRI and Behavior. In M Ullsperger & S Debener (Eds.), *Integrating EEG and fMRI: Recording, Analysis, and Application*. Oxford University Press.

**Invited  
talks  
(Selection)**

- *Mindtalks* Seminar, University of Bremen, planned, January, 2025
- *Cognitive Brain Mapping Group* Seminar, Northwestern University, Chicago, October, 2024
- Hamburg Academy of Science Workshop *Advancing brain theory: networks - multi-timescale dynamics -embodiment*, June 2024
- Department of Cognitive Science, Central European University, Budapest, June, 2024
- Department of Cognitive Psychology, Leiden University (virtual), May, 2024
- School of Psychology & Neuroscience, Glasgow, April, 2024
- Co-chair: CoSyne workshop *What controls evidence accumulation*. Lisbon/Cascais, March, 2024
- MindCORE Seminar Series, University of Pennsylvania, planned, February, 2024
- Medical faculty, Otto von Guericke University Magdeburg, February, 2024
- Biocenter, University of Basel, November, 2023
- BrainModes conference, Hamburg, November, 2023
- DGKN symposium *The Role of Excitation/Inhibition-Balance in Cortical Network Dynamics: From Physiology to Cognition to Clinical Symptoms*, Hamburg, March, 2023
- Department of Experimental Psychology, Oxford University, November, 2022
- Leibniz Institute for Neurobiology Magdeburg, October, 2022
- Institute of Clinical Neuroscience, Heinrich-Heine-University Düsseldorf, May, 2022
- Max Planck Institute for Human Development (virtual), March 29, 2021.
- Bar-Ilan University (virtual), December 20, 2021.
- Society for Neuroeconomics Symposium *Variability in decision making: origins, mechanisms, and implications* (virtual), September 30, 2021.
- Gold Lab, Dept. of Neuroscience, U Penn (virtual), October 13, 2020.
- *Amsterdam Brain & Cognition Colloquium*, Amsterdam, February 28, 2020.
- *Brain and Cognition Seminar*, University of Geneva, December 17, 2019.
- Bernstein Center for Computational Neuroscience Freiburg, November 12, 2019.
- Institute of Cognitive Science, University of Osnabrück, October 30, 2019.
- *Gordon Research Conference on Eye Movements* 2019, July 10, 2019.
- Institute of Neuroscience & Psychology, University of Glasgow, October 26 2018.
- *SFB 936 Lecture Series*, University Medical Center Hamburg-Eppendorf. October 15 2018.

- *ESI Systems Neuroscience Conference*, Ernst-Strügnmann Institute, Frankfurt. August 31 2018.
- Wellcome Trust Centre for Neuroimaging, UCL. July 20 2018.
- Department of Cognitive Science, Central European University, Budapest. June 20 2018.
- Workshop *Context-dependent dynamics of perception*. SISSA, Trieste. May 18 2018.
- Helsinki Brain Center Symposium *Neuronal Circuit Dynamics Across Scales and Species*, Helsinki. May 4 2018.
- Symposium *Unraveling Sequential Dependencies in Perceptual Choice*. European Conference on Visual Perception, Berlin. 28 August 2017. (Chair & speaker).
- Salzburg Mind-Brain Annual Meeting, University of Salzburg, 14 July 2017.
- Neuroscience Workshop Saclay: *Neural circuits and behavior: From cells to connectivity and function*, Gif-sur-Yvette. 6 June 2017.
- Laboratory for Neuro- and Psychophysiology, University of Leuven, 16 May 2017.
- Center for Brain, Behavior, and Metabolism, Lübeck. 31 January 2017.
- BrainModes 2016 conference, Leuven. 1 December 2016.
- Sixth International *Symposium on Biology of Decision Making*, Paris. 25 May 2016.
- Zlotowski Center for Neuroscience. Ben Gurion University of the Negev. 26 April 2016.
- DGKN symposium *Die Bedeutung neuronaler Oszillationen für Hören und Schmerz Wahrnehmung*, Düsseldorf. 17 March 2016.
- Workshop *Form and function of choice-related feedback signals in decision making*. CoSyne, Snowbird. 1 March 2016.
- Institute for Brain, Cognition and Behaviour, Universitat de Barcelona. 20 November 2015.
- European Institute of Theoretical Neuroscience (EITN) workshop *Probabilistic Inference and the Brain*, Paris. 10 September 2015.
- Dutch Neuroscience Meeting Symposium *Perceptual Decision-Making*. Lunteren. 12 June 2015.
- Computational Neuroscience Seminar, CRM, Barcelona. 15 May 2015.
- Institute of Neuroscience & School of Psychology, Trinity College Dublin. 13 April 2015.
- HBP-SP3 meeting, Paris. 7 April 2015.
- ICPS 2015 symposium *Model-based neuroscience of strategic decision-making*, Amsterdam. 13 March 2015.
- 2014 Tübingen MEG Symposium. 27 October 2014.
- Symposium *The Many Faces of Top-Down: an Integrative Perspective*. Organization for Human Brain Mapping, Hamburg. 10 June 2014. (Chair & speaker)
- Symposium *Dialogues on the Role of Top-down Factors in Sensory Processing*. Donders Institute, Radboud University Nijmegen. 21 May 2014.
- Department of Neurology, Lübeck University. 14 January 2014.
- Department of Integrative Neurophysiology, Center for Neurogenomics and Cognitive Research (CNCR), VU University Amsterdam. 8 October 2013.
- School of Psychology, Tel Aviv University. 17 December 2012.
- Department of Experimental Psychology, Oxford University. 5 December 2012.
- Institute of Cognitive Neuroscience, University College London. 3 December 2012.
- Symposium *Cortical Network Dynamics of Perceptual Decision-making*.

BioMag Conference, Paris. August 28 2012.

- Lecture Series SFB *Multi-Site Communication in the Brain*. University Medical Center Hamburg-Eppendorf. 7 May 2012.
- Colloquium *New Insights from Model-based Cognitive Sciences*. Royal Netherlands Academy of Arts and Sciences. 2 May 2012.
- Workshop *Amsterdam Brain Connectivity*. University of Amsterdam. April 20 2012.
- Symposium *Changing Views: How Top-down Factors Alter Perception and Decision-making*. 13<sup>th</sup> NVP Winter Conference on Cognition, Brain, and Behaviour. December 16 2011.
- NWO-NRF Joint Seminar *The Brain as a Network and Brain Disorders as a Network Dysfunction*, Seoul National University. 27 January 2011.
- Princeton Neuroscience Institute, Princeton University. 21 May 2010.
- Donders Institute for Brain, Cognition and Behaviour. Nijmegen. 7 May 2010.
- Netherlands Institute for Neuroscience. Amsterdam. 29 April 2010.
- Dept. of Psychology, Leiden University. 24 March 2010.
- European Society for Cognitive and Affective Neuroscience Kick-off meeting, Amsterdam. 10 December 2009.
- School of Psychology, Tel-Aviv University. 23 March 2009.
- Dept. of Neurobiology, The Weizmann Institute of Science. Rehovot. 18 March 2009.
- Dept. of Psychology, University of Amsterdam. 23 October 2008.
- Bernstein Center for Computational Neuroscience, Berlin. 16 October 2008.
- Cognitive Neuroscience Sector, SISSA, Trieste. 29 July 2008.
- Symposium *A Multi-Level Perspective on the Neural Correlates of Perceptual Decision Making*. Organization for Human Brain Mapping, Chicago. 12 June 2007.
- MPI for Human Cognitive and Brain Science, Leipzig. 16 March 2006.

## Teaching

### Course Developer, Coordinator, Lecturer

- *Integrative Lectures in Clinical Neuroscience*. Medical School, University Medical Center Hamburg-Eppendorf (UKE). Since 2022. Role: Lecturer.
- *Seminars in Neurophysiology & Sensory Physiology*. Medical School, University Medical Center Hamburg-Eppendorf (UKE). Since 2020. Role: Lecturer.
- *Mentoring Program for Excellent Students*, Medical School, University Medical Center Hamburg-Eppendorf (UKE). Since 2018. Role: Mentor.
- *Advanced Topics in Computational Cognitive Neuroscience*, Graduate School, UKE. Since 2017. Role: Coordinator, moderator.
- *Conscious and Unconscious Processes*. Course in Research Master Program Psychology (Brain & Cognition track), Dept. of Psychology, University of Amsterdam (UvA). 2013. Role: Coordinator, lecturer (with Hans Phaf).
- *Brain Rhythms and Cognition*. Course in Research Master Program Psychology (Brain & Cognition track), Dept. of Psychology, UvA. Yearly, 2012-15. Role: Developer, coordinator, lecturer.
- *Perception and Visual Consciousness*. Lecture Series in Bachelor Psychobiology, Dept. of Psychology and Sammerdam Institute for Life Sciences, UvA. Yearly, 2010-15. Role: Lecturer (coordinated by Natalie Cappaert).
- *Neurosciences*. Course in Bachelor Psychology, Department of Psychology, UvA. Yearly, 2010-15. Role: Coordinator, lecturer (with Lucia Talamini).
- *Advanced Topics in Cognitive Neuroscience*. Course in Research Master Brain & Cognition, Dept. of Psychology, UvA. Yearly, 2009-14. Role: Coordinator, lecturer (with Jaap Murre).
- *The Neurobiology of Decision-Making*. Course at 2011 Interdisciplinary College from the German Society for Cognitive Science: *Autonomy, Decisions, and Free Will*. Guenne, Germany. Spring 2011. Role: Developer, lecturer.
- *Spectral Analysis of Neural Mass Action*. Guest Lecture in Research Master course *Neurophysiology*, Amsterdam Brain & Cognition program, UvA. Yearly, 2009-14. Role: Lecturer (coordinated by several faculty members).

### Literature Thesis Supervisor

- *Literature thesis* in Medical School, UKE. Since 2018. Role: Supervisor and Evaluator.
- *Literature thesis* in Research Master, Amsterdam Brain & Cognition program, UvA. Yearly, 2010-15. Role: Supervisor and Evaluator.
- *Literature thesis* for Course in Bachelor Psychology, Department of Psychology, UvA. Yearly, 2010-15. Role: Supervisor and Evaluator.