

## Dan Bang PhD

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### ACADEMIC POSITIONS

2023-now Associate Professor, Department of Clinical Medicine, Aarhus University  
2023-now Adjunct Associate Professor, Fralin Biomedical Research Institute at VTC, Virginia Tech  
2019-2023 Sir Henry Wellcome Postdoctoral Fellow, Wellcome Centre for Human Neuroimaging, UCL  
2016-2019 Postdoctoral Research Associate, Wellcome Centre for Human Neuroimaging, UCL

### VISTING POSITIONS

2019-2024 Academic visitor, Department of Experimental Psychology, University of Oxford  
2022-2023 Academic visitor, Department of Clinical Medicine, Aarhus University

### EDUCATION

2011-2015 DPhil (PhD) Experimental Psychology, University of Oxford  
2010-2011 MSc Cognitive & Evolutionary Anthropology, University of Oxford  
2006-2010 BA Linguistics, Aarhus University  
Visiting student at Radboud University Nijmegen (6 mo) and Hong Kong University (6 mo)

### ACADEMIC AWARDS

2011 Oxford-Calleva DPhil Scholarship (full funding) DKK 1M (120K GBP)

### RESEARCH GRANTS

2026-2027 Aarhus University Research Foundation – AUFF-NOVA, “A proof-of-concept study of DBS sensing for discovery neuroscience and clinical translation” (PI) DKK 0.7M  
2025-2028 Human Frontier Science Program Research Grant – Early Career, “Sub-second dopamine dynamics in human basal ganglia during beat perception and rhythmic action” (Co-PI; PI Jonathan Cannon) DKK 6M (900K USD)  
50% share = DKK 3M  
2025-2028 Lundbeck Foundation Postdoc to Wanjun Lin, “Dopaminergic basis of risky behaviour in the human brain” (Supervisor) DKK 2.9M  
2023-2028 Lundbeck Foundation Fellowship, “Sub-second dopamine and serotonin signalling in the conscious human brain” (PI) DKK 10M  
2019-2023 Sir Henry Wellcome Postdoctoral Fellowship, “Neurobiological foundations of flexible social behaviour” (PI) DKK 2.6M (300K GBP)

### BIBLIOMETRICS

31 peer-reviewed articles, 12 first-author, 3 senior author  
H-index: 21  
Citations: 3445  
Retrieved from Google Scholar 02/05/2026

### PUBLICATIONS

\*: joint first or senior author

#### Peer-reviewed articles

- Charney, A. W., Liharska, L.E., Vornholt, E., Valentine, A., Lund, A., Hashemi, A., Thompson, R. C., Lohrenz, T., Johnson, J. S., Bussola, N., Cheng, E., Park, Y. J., Qasim, S., Aristel, A., Ziafat, K., Silk, H., Linares, L. M., Sullivan, B., Feng, C., Batten, S.R., Bang, D., Barbosa, L. S., Twomey, T., White, J. P., Vannuci, M., Hadj-Amar, B., Moya, E., Figuee, M., Nadkarni, G. N., Breen, M. S., Kishida, K. T., Scarpa, J., Schadt, E. E., Saez, I., Montague, P. R., Beckmann, N. D., & Kopell, B. H. (2026). A transcriptional program associated with neurotransmission in the living human brain. *Molecular Psychiatry*. Online ahead of print.
- Sands, L. P.\*, Hong, L. \*, Batten, S. R., Hartle, A., Lohrenz, T., Barbosa, L. S., **Bang, D.**, Dayan, P., Howe, M. W., Smith, B. H., & Montague, P. R. (2026). Octopamine and tyramine dynamics predict learning rate phenotypes during associative conditioning in honey bees. *Science Advances*, 12(7), eaea8433.
- Hartle, A.\*, Kishida, K T. \*, Sands, L. P.\*, Batten, S. R., Barbosa, L. S., **Bang, D.**, Lohrenz, T., White, J. P., Sohrabi, A. K., Calafiore, R. L., DiFeliceantonio, A. G., Laxton, A. W., Tatter, S. B., Witcher, M. R.,

- Montague, P. R.\* & Howe, M. W.\* (2025). Caudate serotonin signaling during social exchange distinguishes essential tremor and Parkinson's disease patients. *Nature Communications*, 16, 7958.
4. Batten, S. R.\* , Hartle, A.\* , Barbosa, L. S.\* , Hadj-Amar, B.\* , **Bang, D.\***, Melville, N., Twomey, T., White, J. P., Torres, A., Celaya, X., McClure, S. M., Brewer, G. A., Lohrenz, T., Kishida, K. T., Bina, R. W., Witcher, M. R., Vannucci, M., Casas, B., Chiu, P., Montague, P. R.\* , & Howe, M. W.\* (2025). Emotional words evoke region and valence-specific patterns of concurrent neuromodulator release in human thalamus and cortex. *Cell Reports*, 44(1), 115162.
  5. Friedemann, M., **Bang, D.**, & Yeung, N. (2025). Normative and informational confidence matching. *Journal of Experimental Psychology: General*, 154(3), 759-774.
  6. Batten, S. R.\* , **Bang, D.\***, Kopell, B. H.\* , Davis, A. N., Heflin, M., Fu, Q., Perl, O., Ziafat, K., Hasshemi, A., Saez, I., Barbosa, L. S., Twomey, T., Lohrenz, T., White, J. P., Dayan, P., Charney, A. W., Figeo, M., Mayberg, H. S., Kishida, K. T., Gu, X., & Montague, P. R. (2024). Dopamine and serotonin in human substantia nigra track social context and value signals during economic exchange. *Nature Human Behaviour*, 8, 718-728.
  7. **Bang, D.\***, Luo, Y.\* , Barbosa, L. S.\* , Batten, S. R.\* , Hadj-Amar, B.\* , Twomey, T., Melville, N., White, J. P., Torres, A., Celaya, X., Ramaiah, P., McClure, S. M., Brewer, G. A., Bina, R., Lohrenz, T., King-Casas, B., Chiu, P., Vannucci, M., Kishida, K. T., Witcher, M. R., & Montague, P. R. (2023). Noradrenaline tracks emotional modulation of attention in human amygdala. *Current Biology*, 33(22), 5003-5010.e6.
  8. Hansen, L., Rocca, R., Simonsen, A., Parola, A., Bliksted, V., Ladegaard, N., **Bang, D.**, Tylén, K., Weed, E., Østergaard, S. D., & Fusaroli, R. (2023). Speech- and text-based classification of neuropsychiatric conditions in a multidagnostic setting. *Nature Mental Health*, 1, 971-981.
  9. Mahmoodi, A., Nili, H., Harbison, C., Hamilton, S., Trudel, N., **Bang, D.\***, & Rushworth, M. F. S.\* (2023). Causal role of a neural system for separating and selecting multidimensional social cognitive information. *Neuron*, 111(3), 1152-1164.e6.
  10. van der Plas, E., Zhang, S., Dong, K., **Bang, D.**, Li, J., Wright, N., & Fleming, S. M. (2022). Identifying cultural differences in metacognition. *Journal of Experimental Psychology: General*, 151(12), 3268-3280.
  11. **Bang, D.**, Moran, R., Daw, N. D., & Fleming, S. M. (2022) Neurocomputational mechanisms of confidence in self and others. *Nature Communications*, 13, 4238.
  12. Mahmoodi, A., Nili, H., **Bang, D.\***, Mehring, C.\* , & Bahrami, B.\* (2022) Distinct neurocomputational mechanisms support informational and socially normative conformity. *PLOS Biology*, 20(3), e3001565.
  13. Gao, T., Han, X., **Bang, D.**, & Han, S. (2022). Cultural differences in neurocognitive mechanisms underlying believing. *NeuroImage*, 250, 118954.
  14. **Bang, D.\***, Kishida, K. T.\* , Lohrenz, T., White, J. P., Laxton, A. W., Tatter, S. B., Fleming, S. M., & Montague, P. R. (2020). Sub-second dopamine and serotonin signalling in human striatum during perceptual decision-making. *Neuron*, 108(5), 999-1010.
  15. **Bang, D.**, Ershadmanesh, S., Nili, H., & Fleming, S. M. (2020). Private-public mappings in human prefrontal cortex. *eLife*, 9, e56477.
  16. Heyes, C., **Bang, D.**, Shea, N., Frith, C. D., & Fleming, S. M. (2020). Knowing ourselves together: the cultural origins of metacognition. *Trends in Cognitive Sciences*, 24(5), 349-362.
  17. Castañón, S. H., Moran, R., Ding, J., Egner, T., **Bang, D.\***, & Summerfield, C.\* (2019). Human noise blindness drives suboptimal cognitive inference. *Nature Communications*, 10, 1719.
  18. Haller, S. P. W.\* , **Bang, D.\***, Bahrami, B., & Lau, J. Y. F. (2018). Group decision-making is optimal in adolescence. *Scientific Reports*, 8(1), 15565.
  19. **Bang, D.**, & Fleming, S. M. (2018). Distinct encoding of decision confidence in human medial prefrontal cortex. *PNAS*, 115(23), 6082-6087.
  20. Sella, F., Blakey, R., **Bang, D.**, Bahrami, B., & Cohen Kadosh, R. (2018). Who gains more: experts or novices? The benefits of interaction under uncertainty. *Journal of Experimental Psychology: Human Perception & Performance*, 44(8), 1228-1239.
  21. **Bang, D.**, & Frith, C. D. (2017). Making better decisions in groups. *Royal Society Open Science*, 4(8), 170193.
  22. **Bang, D.**, Aitchison, L., Moran, R., Castañón, S. H., Rafiee, B., Mahmoodi, A., Lau, J. Y. F., Latham, P. E., Bahrami, B., & Summerfield, C. (2017). Confidence matching in group decision-making. *Nature Human Behaviour*, 1, 117.
  23. Fusaroli, R., Lambrechts, A., **Bang, D.**, Bowler, D., & Gaigg, S. (2017). Is voice a marker for Autism spectrum disorder? A systematic review and meta-analysis. *Autism Research*, 10(3), 384-407.
  24. Aitchison, L.\* , **Bang, D.\***, Bahrami, B., & Latham, P. E. (2015). Doubly Bayesian analysis of confidence in perceptual decision-making. *PLOS Computational Biology*, 11(10), e1004519.

25. Mahmoodi, A., **Bang, D.**, Olsen, K., Zhao, Y. A., Shi, Z., Broberg, K., Safavi, S., Han, S., Nili Ahmadabadi, M., Frith, C. D., Roepstorff, A., Rees, G., & Bahrami, B. (2015). Equality bias impairs collective decision-making across cultures. *PNAS*, *112*(12), 3835–3840.
26. Shea, N., Boldt, A., **Bang, D.**, Yeung, N., Heyes, C., & Frith, C. D. (2014). Supra-personal cognitive control and metacognition. *Trends in Cognitive Sciences*, *18*(4), 186–193.
27. **Bang, D.**, Fusaroli, R., Tylén, K., Olsen, K., Latham, P. E., Lau, J. Y. F. F., Roepstorff, A., Rees, G., Frith, C. D., & Bahrami, B. (2014). Does interaction matter? Testing whether a confidence heuristic can replace interaction in collective decision-making. *Consciousness and Cognition*, *26*(1), 13–23.
28. Ma, Y., **Bang, D.**, Wang, C., Allen, M., Frith, C., Roepstorff, A., & Han, S. (2014). Sociocultural patterning of neural activity during self-reflection. *Social Cognitive and Affective Neuroscience*, *9*(1), 73–80.
29. Mahmoodi, A., **Bang, D.**, Ahmadabadi, M. N., & Bahrami, B. (2013). Learning to make collective decisions: the impact of confidence escalation. *PLOS ONE*, *8*(12), e81195.
30. Bahrami, B., Olsen, K., **Bang, D.**, Roepstorff, A., Rees, G., & Frith, C. (2012). What failure in collective decision-making tells us about metacognition. *Philosophical Transactions of the Royal Society B: Biological Sciences*, *367*(1594), 1350–1365.
31. Olsen, K., **Bang, D.**, Roepstorff, A., Rees, G., & Frith, C. D. (2012). Together, slowly but surely: the role of social interaction and feedback on the build-up of benefit in collective decision-making. *Journal of Experimental Psychology: Human Perception and Performance*, *38*(1), 3–8.

#### **Invited commentaries**

1. Fleming, S. M., & **Bang, D.** (2018). Shouldering responsibility. *Science*, *361*(6401), 449–450.

#### **Book chapters**

1. Friedemann, M., **Bang, D.**, & Yeung, N. (2023). Cognitive neuroscience of metacognition. In G. J. Boyle (Ed.), *The SAGE Handbook of Cognitive and Systems Neuroscience*. SAGE Publications.
2. **Bang, D.**, Mahmoodi, A., Olsen, K., Latham, P. E., Roepstorff, A., Rees, G., Frith, C., & Bahrami, B. (2014). What failure in collective decision-making can tell us about metacognition. In S. M. Fleming & C. Frith (Eds.), *The Cognitive Neuroscience of Metacognition*. Springer.

#### **SUPERVISION**

##### **Postdoc**

2025-now Felix Deilmann, Aarhus University  
 2024-now Wanjun Lin, Aarhus University

##### **PhD (1 primary, 4 co-supervisor)**

2025-now Malte Lau Petersen, Aarhus University [primary]  
 2023-now Simon Arvin, Aarhus University [co-supervisor]  
 2023-now Azadeh Nazemorroaya, Max Planck Institute for Biological Cybernetics, Tübingen [co-supervisor]  
 2019-2023 Maja Friedemann, Oxford [co-supervisor]  
 2018-2022 Elisa van der Plas, UCL [co-supervisor]

##### **Masters (2 primary, 3 co-supervisor)**

2024-2025 Malte Lau Petersen, Cognitive Science, Aarhus University [primary]  
 2021-2022 David Schultheiss, Neural Information Processing, Tübingen [co-supervisor]  
 2020-2021 Yuena Zheng, Advanced Neuroimaging, UCL [primary]  
 2020-2021 Ariane Wiegand, Bioinformatics, Tübingen [co-supervisor]  
 2016-2017 Oriane Armand, Advanced Neuroimaging, UCL [co-supervisor]

##### **Visiting students**

2025 Marino Theodor Larsen Persiani, Masters, Psychology, Southern University Denmark  
 2018-2019 Sara Ershadmanesh, PhD, Neuroscience, University of Tehran

#### **TALKS**

\*: video recording available via website

2026 Thirteenth Symposium on the Biology of Decision-Making (SBDM), Paris (invited)  
 2026 DANDRITE Community Meetings, Aarhus University (invited)  
 2025 Centre for Complexity Sciences, National Autonomous University of Mexico, Mexico City (invited)  
 2024 School of Psychology, Georgia Tech, Atlanta (invited)  
 2023 Institute de Neuromodulation, Centre Hospitalier Sainte-Anne, Paris (invited)  
 2023 Fralin Biomedical Research Institute at VTC, Virginia Tech (invited)  
 2023 Max Planck Institute for Biological Cybernetics, Tübingen (invited)  
 2022 Danish Research Centre for Magnetic Resonance, Hvidovre (invited)  
 2021 Behavioural and Cognitive Neuroscience Seminar, Oxford (invited)  
 2020 \*ViDA Future of Dopamine Symposium, online meeting (selected)

2019 \*Fralin Biomedical Research Institute at VTC, Virginia Tech (invited)  
 2019 Cognitive Control and Performance Monitoring Workshop, Belgium (invited)  
 2019 Computational Psychiatry Seminar, UCL (invited)  
 2019 iCog 5 Conference, Reading (keynote)  
 2018 \*Virginia Tech Carillion Research Institute, Virginia Tech (invited)  
 2017 Interdisciplinary Metacognition and Uncertainty Meeting, CUNY, New York (invited)  
 2017 Nanosymposium, Society for Neuroscience, Washington DC (selected)  
 2017 Brain Meeting, UCL (invited)  
 2017 Adaptive Rationality Centre, Max Planck Institute for Human Development, Berlin (invited)  
 2017 The Role of Ignorance Workshop, Institute of Philosophy, London (invited)  
 2016 Interacting Minds in Collaboration Symposium, Aarhus (invited)  
 2016 Metacognitive Diversity Across Cultures Workshop, Institut Jean Nicod, Paris (invited)  
 2015 \*Metacognition Workshop, Interacting Minds Centre, Aarhus (invited)  
 2015 Motivation and Decision-Making Workshop, Oxford (invited)  
 2015 London Judgement and Decision-Making Seminars, UCL (invited)  
 2014 Decision Making Bristol 2014, Bristol University, Bristol (selected)  
 2013 Human Cooperation Workshop, UCL (invited)

### **PUBLIC TALKS**

2026 Folkeuniversitetet (February), Herning  
 2025 Folkeuniversitetet (May), Aalborg  
 2025 Brain Awareness Week (March), Aarhus  
 2025 Folkeuniversitetet (February), Aarhus  
 2024 Hearts & Minds Festival (September), Aarhus

### **TEACHING**

2019 Guest lecturer (1 hour, UCL MSc in Neuroscience)  
 2018 Guest lecturer (2 hours, UCL MSc in Cognitive & Decision Sciences)  
 2012-2015 Tutor (8 hours / year, small groups, Queen's College and Magdalen College, Oxford BSc in Experimental Psychology)  
 2009-2010 Instructor (10 hours, Aarhus BA in Linguistics)

### **EXAMINATION**

2025 PhD defence chair, Mathias Klarlund, Aarhus University  
 2021 MSc thesis examiner for UCL MSc in Neuroscience  
 2021 MSc thesis examiner for UCL MSc in Advanced Neuroimaging  
 2021 MSc thesis examiner for UCL MSc in Clinical Neuroscience  
 2020 PhD external examiner, Juliet Dunstone, University of Stirling  
 2019 MSc thesis examiner for UCL MSc in Neuroscience  
 2019 MSc thesis examiner for UCL-ENS Dual Master in Brain and Mind Sciences

### **PEDAGOGICAL COURSES**

2025 PhD Supervision, Aarhus (2 days)  
 2019 Developing as a UCL supervisor, UCL (2 hours)  
 2019 Introduction to Research Supervision, UCL (2 hours)  
 2012 Teaching and Learning Skills Development Part 2, Oxford (2 days)  
 2012 Teaching Skills Part 1, Oxford (1 day)

### **REVIEWING**

#### ***Journals***

Nature Neuroscience | Neuron | Nature Communications | Nature Human Behaviour | PLoS Computational Biology | PLoS Biology | eLife | Human Brain Mapping | Social Cognitive and Affective Neuroscience | Journal of Psychopharmacology | Journal of Experimental Psychology: General | Journal of Experimental Psychology: Human Perception and Performance | Cortex | Journal of Vision | Developmental Cognitive Neuroscience.

#### ***Conferences***

Conference on Neural Information Processing Systems (NeurIPS) | Cognitive Science Society (CogSci).

#### ***Grants***

European Research Council | Swiss National Science Foundation | Israel Science Foundation | National Science Foundation (US) | French National Institute of Health and Medical Research and French National Center for Scientific Research.

### **PROFESSIONAL SERVICE**

2025 Co-organiser of the Computational Neuroscience – NAD Workshop, Fyn, Denmark

2018-2021 Committee member, Athena Swan Self-Assessment Team (gender-equality initiative), UCL Queen Square Institute of Neurology, UCL  
2017-2022 Representative for PhD students and postdocs at bi-weekly PI meeting, Wellcome Centre for Human Neuroimaging, UCL  
2019 Co-organiser of the Ninth International Symposium on Biology of Decision Making, Oxford

#### **MEDIA (SELECTED)**

2026 ["Skærmtid og socialisering"](#) – Hjernen i balance, video  
2025 ["Risiko"](#) – Teenagehjernen, podcast  
2020 ["Dopamine and serotonin may do more than we thought"](#), Freethink, article  
["Brain development: decisions, decisions, ..."](#), Naked Scientists, podcast  
2018 ["Confidence"](#), The Conversation, podcast  
2017 ["Why more diverse groups make better decisions"](#), Naked Scientists, podcast

#### **LANGUAGE TRAINING**

07/2007-09/2007 Summer school in Mandarin Chinese, Beijing Normal University  
02/2006-07/2006 Semester in Mandarin Chinese, Beijing Normal University  
09/2005-02/2006 Semester in Mandarin Chinese, Beijing Foreign Studies University  
02/2005-07/2005 Semester in Mandarin Chinese, Beijing Language & Culture University