

**CONTACT INFORMATION**

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 Department of Cognitive Sciences  
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**EMPLOYMENT HISTORY**

*2021 – present*      **Professor**, Department of Cognitive Sciences  
 University of California, Irvine

*2021 – present*      **Affiliated Faculty**, Department of Logic and Philosophy of Science  
 University of California, Irvine

*2015 – present*      **Affiliated Faculty**, Department of Statistics  
 University of California, Irvine

*2024*                    **Visiting Professor**  
 Sciences Po Bordeaux, France

*2011 – 2023*          **Affiliated Faculty**, Institute for Mathematical Behavioral Sciences  
 University of California, Irvine

*2016 – 2021*          **Associate Professor**, Department of Cognitive Sciences  
 University of California, Irvine

*2011 – 2016*          **Assistant Professor**, Department of Cognitive Sciences  
 University of California, Irvine

*2011 – 2016*          **Research Fellow**, Faculty of Psychology and Educational Sciences  
 University of Leuven, Belgium

*2010 – 2012*          **Postdoctoral Fellow**  
 Research Foundation—Flanders (FWO)

*2009 – 2010*          **Postdoctoral Research Associate**, Faculty of Medicine  
 University of Leuven, Belgium

**EDUCATION**

*2005 – 2009*          PhD in Quantitative Psychology and Psychometrics  
 University of Leuven, Belgium

*2002 – 2005*          Master in Psychology (Licentiate)  
 University of Leuven, Belgium

*2000 – 2002*          Bachelor in Psychology (Candidate)  
 University of Leuven, Belgium

**PROFESSIONAL AFFILIATIONS (PAST AND PRESENT)**

Fellow of the Psychonomic Society  
 Senior Fellow at Air Force Materiel Command  
 Senior Fellow at Army Combat Capabilities Development Command  
 Member of the Society for Mathematical Psychology  
 Member of the American Statistical Association  
 Member of the Psychometric Society  
 Member of the Association for Computing Machinery  
 Associate Member of IEEE  
 Member of the European Society for Cognitive Psychology

# Research

## RESEARCH INTERESTS

Stochastic process models	Computational modeling of cognition
Bayesian statistics	Computational methods
Individual differences	Psychometrics
Multi-timescale models	Data fusion
Robust science	Meta-analysis

## EXTRAMURAL FUNDING

<i>February 2025</i>	National Research Council, Research Associate Program. Role: <b>Senior Fellow</b> (personal fellowship). 12 months. \$95,250.00
<i>May 2022</i>	National Research Council, Research Associate Program. Role: <b>Senior Fellow</b> (personal fellowship). 12 months. \$52,917.00
<i>June 2021</i>	National Science Foundation grant #2051186: “Exploratory and confirmatory neurocognitive modeling with latent variables.” 48 months. Role: <b>Principal Investigator</b> (with R. Srinivasan). \$349,551.00
<i>June 2021</i>	National Science Foundation grant #2105661: “IGE: Enhancing doctoral research training through cascading mentorship (Anteater huddles).” 48 months. Role: <b>Co-Investigator</b> (with B. Sarnecka). \$420,299.00
<i>September 2019</i>	National Science Foundation grant #1850849: “Critical tests of neurocognitive relationships.” 48 months. Role: <b>Principal Investigator</b> (with R. Srinivasan). \$674,807.00
<i>February 2018</i>	National Science Foundation grant #1754205: “RR: Workshop on Robust Social and Behavioral Sciences.” 12 months. Role: <b>Principal Investigator</b> (with M. D. Lee). \$62,391.00
<i>April 2017</i>	National Science Foundation grant #1658303: “Estimation of unidentified cognitive models with physiological data.” 24 months. Role: <b>Principal Investigator</b> (with R. Srinivasan). \$337,028.00
<i>April 2016</i>	National Science Foundation: Graduate Research Fellowship Award (DGE-1321846; Awarded to advisee Alexander Etz). 36 months. Role: <b>Adviser</b> . \$132,000.00
<i>January 2016</i>	William K. and Katherine W. Estes Fund (Psychonomic Society and Association for Psychological Science): “Summer school for computational cognitive modeling”. Role: <b>Contributor</b> (with S. Lewandowsky and K. Oberauer). \$15,000.00
<i>September 2015</i>	National Science Foundation grant #1534472: “Bayesian methods for meta-analysis in the presence of publication bias.” 36 months. Role: <b>Principal Investigator</b> . \$260,000.00
<i>July 2015</i>	European Society for Cognitive Psychology: “Summer school for computational cognitive modeling”. Role: <b>Contributor</b> (with S. Lewandowsky and K. Oberauer). \$22,000.00
<i>July 2015</i>	National Science Foundation: “Support for the Applications of Mathematical Psychology to Industry meeting”. Role: <b>Organizer</b> (with J. Trueblood). \$5,000.00
<i>June 2014</i>	John Templeton Foundation grant #48192: “A formal modeling framework for the dynamics of subjective well-being.” 36 months. Role: <b>Principal Investigator</b> . \$540,018.00
<i>April 2014</i>	National Science Foundation: Graduate Research Fellowship Award (DGE-1321846; Awarded to advisee Maime Guan). 36 months. Role: <b>Adviser</b> . \$121,500.00
<i>February 2014</i>	Volkswagen Foundation teaching grant: “Summer school for computational cognitive modeling”. Role: <b>Contributor</b> . (with S. Lewandowsky and K. Oberauer). \$70,000.00

- September 2012* National Science Foundation grant #1230118: “Cognitive structural equation models.” 36 months. Role: **Principal Investigator**. \$250,000.00
- October 2010* Research Foundation—Flanders: “Dynamic cognitive psychometrics.” 36 months. **Postdoctoral Fellow** (personal fellowship). \$200,000.00
- October 2009* University of Leuven Research Council: “A statistical framework for Approximate Bayesian Computation.” 12 months. Role: **Postdoctoral Research Associate** (personal fellowship). \$65,000.00

### INTRAMURAL FUNDING

- December 2025* UC Irvine Division of Teaching Excellence and Innovation: “Beyond vibe coding: principled AI-assisted programming”. Role: Principal Investigator. \$27,500.00
- July 2015* UC Irvine School of Social Sciences Office of the Dean: “Support for the Applications of Mathematical Psychology to Industry meeting”. Role: Organizer. \$3,000.00
- July 2015* UC Irvine School of Social Sciences Office of Graduate Affairs: “Support for the 48th Meeting of the Society for Mathematical Psychology”. Role: Principal organizer (with J. Trueblood). \$3,000.00
- July 2015* UC Irvine Department of Cognitive Sciences: “Support for the 48th Meeting of the Society for Mathematical Psychology”. Role: Principal organizer (with J. Trueblood). \$2,500.00
- November 2012* UC Irvine School of Social Sciences: “Interfacing Models with Brain Signals to Investigate Cognition”. Role: Co-Principal Investigator (with R. Srinivasan, and J. Krichmar). \$4,000.00
- June 2012* UC Irvine Summer Undergraduate Research Program (SURP): “Publication Bias in Three Prominent Psychological Journals”. Role: Adviser (with M. Guan). \$2,000.00

### PROFESSIONAL RECOGNITIONS

- July 2025* Best Poster Award at *MathPsych/ICCM 2025* (with E. Shin and A. F. Chávez De la Peña)
- July 2024* Best Poster Award at *MathPsych/ICCM 2024* (with K. Medriano and Z. Oravecz)
- July 2023* Best Poster Award at *MathPsych/ICCM/EMPG 2023* (with K. Medriano and Z. Oravecz)
- July 2022* People’s Choice Award for Best Talk at *2022 Virtual MathPsych* (with A. F. Chávez De la Peña and J. Rouder)
- July 2020* UC Irvine School of Social Sciences Outstanding Teaching Award (Spring 2020)
- December 2016* UC Irvine Social Science Assistant Professor Research Award
- September 2015* UC Irvine School of Social Sciences Outstanding Teaching Award (Spring 2015)
- July 2014* *Society for Mathematical Psychology’s* William K. Estes Early Career Award

### PREPRINTS

- PR6. **Vandekerckhove, J.**, & Fox, E. L. (preprint). Fast uncertainty quantification in EZ cognitive models. *PsyArXiv*. Via [cidlab.com/paper/123](https://cidlab.com/paper/123).
- PR5. Bridgeford, E. W., Campbell, I., Chen, Z., Lin, Z., Ritz, H., **Vandekerckhove, J.**, & Poldrack, R. A. (preprint). Ten quick tips for AI-assisted coding in science. *arXiv*. Via [cidlab.com/paper/121](https://cidlab.com/paper/121).
- PR4. McCullen, J. R., Baribault, B., & **Vandekerckhove, J.** (preprint). Chance level performance in expert diagnoses with applied kinesiology. *PsyArXiv*. Via [cidlab.com/paper/120](https://cidlab.com/paper/120).
- PR3. Chávez De la Peña, A. F., Shin, E., & **Vandekerckhove, J.** (preprint). Robust Bayesian hypothesis testing with the hierarchical EZ-DDM. *PsyArXiv*. Via [cidlab.com/paper/119](https://cidlab.com/paper/119).

- PR2. Rouder, J., Chávez De la Peña, A. F., Mehrvarz, M., & **Vandekerckhove, J.** (preprint). On Cronbach's merger: Why experiments may not be suitable for measuring individual differences. *PsyArXiv*. Via [cidlab.com/paper/101](https://cidlab.com/paper/101).
- PR1. Wagenmakers, E., Gronau, Q., & **Vandekerckhove, J.** (preprint). Five Bayesian intuitions for the Stopping Rule Principle. *PsyArXiv*. Via [cidlab.com/paper/95](https://cidlab.com/paper/95).

#### PEER REVIEWED JOURNAL ARTICLES

- JA84. Davis-Stober, C. P., Sokratous, K., & **Vandekerckhove, J.** (in press). Comment on Shiffrin et al. (2026): Illusions of replication, illusions of truth. *Computational Brain & Behavior*. Via [cidlab.com/paper/124](https://cidlab.com/paper/124).
- JA83. Medriano, K., & **Vandekerckhove, J.** (in press). A reconstruct-then-bootstrap test for the sufficiency of diffusion processes. *Computational Brain & Behavior*. Via [cidlab.com/paper/122](https://cidlab.com/paper/122).
- JA82. Etz, A., Chávez De la Peña, A. F., Baroja, L., Medriano, K., & **Vandekerckhove, J.** (in press). The HDI+ROPE decision rule is logically incoherent but we can fix it. *Psychological Methods*. DOI: 10.1037/met0000660. Via [cidlab.com/paper/100](https://cidlab.com/paper/100).
- JA81. Boag, R. J., Innes, R., Stevenson, N., Bahg, G., Busemeyer, J. R., Cox, G. E., Donkin, C., Frank, M. J., Hawkins, G., Heathcote, A., Hedge, C., Lerche, V., Lilburn, S., Logan, G. D., Matzke, D., Miletic, S., Osth, A. F., Palmeri, T., Sederberg, P. B., Singmann, H., Smith, P. L., Stafford, T., Steyvers, M., Strickland, L. J., Trueblood, J., Tsetsos, K., Turner, B. M., Usher, M., van Maanen, L., van Ravenzwaaij, D., **Vandekerckhove, J.**, Voss, A., Weichart, E. R., Weindel, G., White, C., Evans, N. J., Brown, S., & Forstmann, B. (2025). An expert guide to planning experimental tasks for evidence accumulation modelling. *Advances in Methods and Practices in Psychological Science*, 8, p. 1-41. DOI: 10.1177/25152459251336127. Via [cidlab.com/paper/106](https://cidlab.com/paper/106).
- JA80. Weisman, M. J., Kott, A., Ellis, J. E., Murphy, B. J., Parker, T. W., Smith, S., & **Vandekerckhove, J.** (2025). Quantitative measurement of cyber resilience: modeling and experimentation. *Transactions on Cyber-Physical Systems*, 9, p. 1-25. DOI: 10.1145/3703159. Via [cidlab.com/paper/92](https://cidlab.com/paper/92).
- JA79. Chávez De la Peña, A. F., & **Vandekerckhove, J.** (2025). An EZ Bayesian hierarchical drift diffusion model for response time and accuracy. *Psychonomic Bulletin & Review*, 32, p. 3067-3087. DOI: 10.3758/s13423-025-02729-y. Via [cidlab.com/paper/102](https://cidlab.com/paper/102).
- JA78. Oravecz, Z., Sliwinski, M., Kim, S., Williams, L., Katz, M., & **Vandekerckhove, J.** (2025). Partially observable predictor models for identifying cognitive markers. *Computational Brain & Behavior*, 8, p. 410-420. DOI: 10.1007/s42113-025-00238-8. Via [cidlab.com/paper/105](https://cidlab.com/paper/105).
- JA77. Heshmati, S., Muth, C., Li, Y., Roeser, R. W., Smyth, J. M., **Vandekerckhove, J.**, Chow, S., & Oravecz, Z. (2025). Who benefits from mobile health interventions? A dynamical systems analysis of psychological well-being in early adults. *Applied Psychology: Health and Well-Being*, . Via [cidlab.com/paper/89](https://cidlab.com/paper/89).
- JA76. Kim, S., Hakun, J., Li, Y., Harrington, K. D., Elbich, D. B., Sliwinski, M., **Vandekerckhove, J.**, & Oravecz, Z. (2025). Optimizing the Color Shapes Task for ambulatory assessment and drift diffusion modeling: A factorial experiment. *JMIR Formative Research*, 9, p. 66300. DOI: 10.2196/66300. Via [cidlab.com/paper/107](https://cidlab.com/paper/107).
- JA75. Oravecz, Z., **Vandekerckhove, J.**, Hakun, J., Kim, S., Katz, M., Wang, C., Lipton, R. B., Derby, C. A., Roque, N. A., & Sliwinski, M. (2025). Computational phenotyping of cognitive decline with retest learning. *The Journals of Gerontology, Series B: Psychological Sciences and Social Sciences*, 80, p. gbaf030. DOI: 10.1093/geronb/gbaf030. Via [cidlab.com/paper/108](https://cidlab.com/paper/108).

- JA74. Davis-Stober, C. P., Sarafoglou, A., Aczel, B., Chandramouli, S. H., Errington, T. M., Field, S. M., Fishbach, A., Freire, J., Ioannidis, J. P., Oberauer, K., Pestilli, F., Ressler, S., Schad, D. J., Ter Schure, J., Tentori, K., van Ravenzwaaj, D., **Vandekerckhove, J.**, & Gundersen, O. (2025). How can we make sound replication decisions?. *Proceedings of the National Academy of Sciences*, *122*, p. e2401236121. DOI: 10.1073/pnas.2401236121. Via [cidlab.com/paper/109](https://cidlab.com/paper/109).
- JA73. Shiffrin, R. M., Trueblood, J., Kellen, D., & **Vandekerckhove, J.** (2025). Dialogues about the practice of science. *Proceedings of the National Academy of Sciences*, *122*, p. e2423782122. DOI: 10.1073/pnas.2423782122. Via [cidlab.com/paper/110](https://cidlab.com/paper/110).
- JA72. Williams, L., Kim, S., Li, Y., Heshmati, S., **Vandekerckhove, J.**, Roeser, R. W., & Oravecz, Z. (2025). How much we express love predicts how much we feel loved in daily life. *PLOS ONE*, *20*, p. e0323326. DOI: 10.1371/journal.pone.0323326. Via [cidlab.com/paper/116](https://cidlab.com/paper/116).
- JA71. Vo, K., Sun, J. Q., Nunez, M. D., **Vandekerckhove, J.**, & Srinivasan, R. (2024). Deep latent variable joint cognitive modeling of neural signals and human behavior. *NeuroImage*, *291*, p. 120559. DOI: 10.1016/j.neuroimage.2024.120559. Via [cidlab.com/paper/104](https://cidlab.com/paper/104).
- JA70. Montgomery, L. E., Baldini, C. M., **Vandekerckhove, J.**, & Lee, M. D. (2024). Where’s Waldo, Ohio? Using cognitive models to improve the aggregation of spatial knowledge. *Computational Brain & Behavior*, *7*, p. 242-254. DOI: 10.1007/s42113-024-00200-0. Via [cidlab.com/paper/103](https://cidlab.com/paper/103).
- JA69. Nunez, M. D., Fernandez, K., Srinivasan, R., & **Vandekerckhove, J.** (2024). A tutorial on fitting joint models of M/EEG and behavior to understand cognition. *Behavior Research Methods*, *56*, p. 6020-6050. DOI: 10.3758/s13428-023-02331-x. Via [cidlab.com/paper/94](https://cidlab.com/paper/94).
- JA68. Villarreal, J., Chávez De la Peña, A. F., Mistry, P., Menon, V. E., **Vandekerckhove, J.**, & Lee, M. D. (2024). Bayesian graphical modeling with the circular drift diffusion model. *Computational Brain & Behavior*, *7*, p. 181-194. DOI: 10.1007/s42113-023-00191-4. Via [cidlab.com/paper/98](https://cidlab.com/paper/98).
- JA67. Oravecz, Z., & **Vandekerckhove, J.** (2024). Quantifying evidence for—and against—Granger causality with Bayes factors. *Multivariate Behavioral Research*, *59*, p. 1148-1158. DOI: 10.1080/00273171.2023.2214890. Via [cidlab.com/paper/93](https://cidlab.com/paper/93).
- JA66. **Vandekerckhove, J.**, (2024). Commensurability engineering is first and foremost a theoretical exercise. *Behavioral and Brain Sciences*, *47*, p. e63. DOI: 10.1017/S0140525X23002224. Via [cidlab.com/paper/90](https://cidlab.com/paper/90).
- JA65. Chwiesko, C., Janecek, J., Doering, S., Hollearn, M., McMillan, L., **Vandekerckhove, J.**, Lee, M. D., Ratcliff, R., & Yassa, M. (2023). Parsing memory and non-memory contributions to age-related declines in mnemonic discrimination performance: A hierarchical Bayesian diffusion decision modeling approach. *Learning & Memory*, *30*, p. 296-309. DOI: 10.1101/lm.053838.123. Via [cidlab.com/paper/99](https://cidlab.com/paper/99).
- JA64. Wiech, K., Eippert, F., **Vandekerckhove, J.**, Zaman, J., Placek, K., Tuerlinckx, F., Vlaeyen, J., & Tracey, I. (2022). Cortico-brainstem mechanisms of biased perceptual decision-making in the context of pain. *Journal of Pain*, *23*, p. 1372. DOI: 10.1016/j.jpain.2021.11.006. Via [cidlab.com/paper/82](https://cidlab.com/paper/82).
- JA63. Morey, R., Kaschak, M. P., Diez-Álamo, A. M., Glenberg, A. M., Zwaan, R., Lakens, D., Ibáñez, A., Garcia, A., Gianelli, C., Jones, J. L., Madden, J., Alifano, F., Bergen, B., Bloxsom, N. G., Bub, D. N., Cai, Z. G., Chartier, C. R., Chatterjee, A., Conwell, E., Cook, S. W., Davis, J. D., Evers, E., Girard, S., Harter, D., Hartung, F., Herrera, E., Huettig, F., Humphries, S., Juanchich, M., Kühne, K., Lu, S., Lynes, T., Masson, M. E., Ostarek, M., Pessers, S., Reglin, R., Steegen, S., Thiessen, E. D., Thomas, L. E., Trott, S., **Vandekerckhove, J.**, Vanpaemel, W., Vlachou, M., Williams, K., & Ziv-Crispel, N. (2022). A pre-registered, multi-lab non-replication of the Action-sentence Compatibility Effect (ACE). *Psychonomic Bulletin & Review*, *29*, p. 1239. DOI: 10.3758/s13423-021-01927-8. Via [cidlab.com/paper/83](https://cidlab.com/paper/83).

- JA62. Lucio, P., **Vandekerckhove, J.**, Polanczyk, G., & Cogo-Moreira, H. (2021). Is it worthwhile to take account of "guessing" in the performance of the Raven test? Calling for the principle of parsimony for test validation. *Journal of Psychoeducational Assessment*, *39*, p. 100–111. DOI: 10.1177/0734282920930923. Via [cidlab.com/paper/78](https://cidlab.com/paper/78).
- JA61. Shiffrin, R. M., Matzke, D., Crystal, J. D., Wagenmakers, E., Chandramouli, S. H., **Vandekerckhove, J.**, Zorzi, M., Morey, R., & Murphy, M. C. (2021). Extraordinary claims, extraordinary evidence? A discussion. *Learning & Behavior*, *49*, p. 540. DOI: 10.3758/s13420-021-00474-5. Via [cidlab.com/paper/85](https://cidlab.com/paper/85).
- JA60. Lui, K. K., Nunez, M. D., Cassidy, J. M., **Vandekerckhove, J.**, Cramer, S. C., & Srinivasan, R. (2021). Timing of readiness potentials reflect a decision-making process in the human brain. *Computational Brain & Behavior*, *4*, p. 547. DOI: 10.1007/s42113-020-00097-5. Via [cidlab.com/paper/86](https://cidlab.com/paper/86).
- JA59. Devezer, B., Navarro, D. J., **Vandekerckhove, J.**, & Buzbas, E. O. (2021). The case for formal methodology in scientific reform. *Royal Society Open Science*, *8*, p. 200805. DOI: 10.1098/rsos.200805. Via [cidlab.com/paper/87](https://cidlab.com/paper/87).
- JA58. Oravecz, Z., & **Vandekerckhove, J.** (2020). A joint process model of consensus and longitudinal dynamics. *Journal of Mathematical Psychology*, *98*, p. 102386. DOI: 10.31234/osf.io/xyghj. Via [cidlab.com/paper/76](https://cidlab.com/paper/76).
- JA57. Aczel, B., Hoekstra, R., Gelman, A., Wagenmakers, E., Klugkist, I., Rouder, J., **Vandekerckhove, J.**, Lee, M. D., Morey, R., Vanpaemel, W., Dienes, Z., & van Ravenzwaaij, D. (2020). Discussion points for Bayesian inference. *Nature Human Behavior*, *4*, p. 561–563. DOI: 10.1038/s41562-019-0807-z. Via [cidlab.com/paper/75](https://cidlab.com/paper/75).
- JA56. Oravecz, Z., Dirsmith, J., Heshmati, S., **Vandekerckhove, J.**, & Brick, T. (2020). Psychological well-being and personality traits are associated with experiencing love in everyday life. *Personality and Individual Differences*, *154*, p. 109620. DOI: 10.1016/j.paid.2019.109620. Via [cidlab.com/paper/73](https://cidlab.com/paper/73).
- JA55. van den Bergh, D., Bogaerts, S., Spreen, M., Flohr, R., **Vandekerckhove, J.**, Rhemtulla, M., Batchelder, W., & Wagenmakers, E. (2020). Cultural consensus theory for the evaluation of patients' mental health scores in forensic psychiatric hospitals. *Journal of Mathematical Psychology*, *98*, p. 102383. DOI: 10.1016/j.jmp.2020.102383. Via [cidlab.com/paper/77](https://cidlab.com/paper/77).
- JA54. Guan, M., Stokes, R., **Vandekerckhove, J.**, & Lee, M. D. (2020). A cognitive modeling analysis of risk in sequential choice tasks. *Judgment and Decision Making*, *15*, p. 823–850. Via [cidlab.com/paper/88](https://cidlab.com/paper/88).
- JA53. Heshmati, S., Oravecz, Z., Pressman, S., Batchelder, W., Muth, C., & **Vandekerckhove, J.** (2019). What does it mean to feel loved? Cultural agreement and individual differences. *Journal of Social and Personal Relationships*, *36*, p. 214–243. DOI: 10.1177/0265407517724600. Via [cidlab.com/paper/47](https://cidlab.com/paper/47).
- JA52. **Vandekerckhove, J.**, White, C., Trueblood, J., Rouder, J., Matzke, D., Leite, F., Etz, A., Donkin, C., Devezer, B., Criss, A., & Lee, M. D. (2019). Robust diversity in cognitive science. *Computational Brain & Behavior*, *2*, p. 271–276. DOI: 10.1007/s42113-019-00066-7. Via [cidlab.com/paper/74](https://cidlab.com/paper/74).
- JA51. Nunez, M. D., Gosai, A., **Vandekerckhove, J.**, & Srinivasan, R. (2019). The latency of a visual evoked potential tracks the onset of decision making. *NeuroImage*, *197*, p. 93–108. DOI: 10.1016/j.neuroimage.2019.04.052. Via [cidlab.com/paper/72](https://cidlab.com/paper/72).
- JA50. Lee, M. D., Criss, A., Devezer, B., Donkin, C., Etz, A., Leite, F., Matzke, D., Rouder, J., Trueblood, J., White, C., & **Vandekerckhove, J.** (2019). Robust modeling in cognitive science. *Computational Brain & Behavior*, *2*, p. 141–153. DOI: 10.1007/s42113-019-00029-y. Via [cidlab.com/paper/71](https://cidlab.com/paper/71).
- JA49. Schubert, A., Nunez, M. D., Hagemann, D., & **Vandekerckhove, J.** (2019). Individual differences in cortical processing speed predict cognitive abilities: A model-based cognitive neuroscience account. *Computational Brain & Behavior*, *2*, p. 64–84. DOI: 10.1007/s42113-018-0021-5. Via [cidlab.com/paper/70](https://cidlab.com/paper/70).

- JA48. Dutilh, G., Annis, J., Brown, S., Cassey, P., Evans, N. J., Grasman, R., Hawkins, G., Heathcote, A., Holmes, W., Kryptos, A., Kupitz, C., Leite, F., Lerche, V., Lin, Y., Logan, G. D., Palmeri, T., Starns, J., Trueblood, J., van Maanen, L., van Ravenzwaaij, D., **Vandekerckhove, J.**, Visser, I., Voss, A., White, C., Wiecki, T., Rieskamp, J., & Donkin, C. (2019). The quality of response time data inference: A blinded, collaborative approach to the validity of cognitive models. *Psychonomic Bulletin & Review*, *26*, p. 1051–1069. DOI: 10.3758/s13423-017-1417-2. Via [cidlab.com/paper/48](http://cidlab.com/paper/48).
- JA47. Mistry, P., Pothos, E., **Vandekerckhove, J.**, & Trueblood, J. (2018). A quantum probability account of individual differences in causal reasoning. *Journal of Mathematical Psychology*, *87*, p. 76–97. DOI: 10.1016/j.jmp.2018.09.003. Via [cidlab.com/paper/69](http://cidlab.com/paper/69).
- JA46. Etz, A., Haaf, J., Rouder, J., & **Vandekerckhove, J.** (2018). Bayesian inference and testing any hypothesis you can specify. *Advances in Methods and Practices in Psychological Science*, *1*, p. 281–295. DOI: 10.1177/2515245918773087. Via [cidlab.com/paper/51](http://cidlab.com/paper/51).
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#### PEER REVIEWED BOOK CHAPTERS

- BC5. Williams, L., Heshmati, S., **Vandekerckhove, J.**, & Oravecz, Z. (2025). Current methodological approaches for studying the association between love and psychological well-being in daily life. In *The International Handbook of Love*. DOI: 10.1007/978-3-031-76665-7\_75-1. Via [cidlab.com/paper/117](http://cidlab.com/paper/117).
- BC4. Weisman, M. J., Kott, A., Ellis, J. E., Murphy, B. J., Parker, T. W., Smith, S., & **Vandekerckhove, J.** (2025). Experimental measurements of cyber resilience. In *Cyber Resilience: Applied Perspectives. Risk, Systems and Decisions*, p. 181-196. DOI: 10.1007/978-3-031-90109-6\_9. Via [cidlab.com/paper/118](http://cidlab.com/paper/118).
- BC3. Etz, A., Goodman, S. N., & **Vandekerckhove, J.** (2022). Statistical inference in behavioral research: traditional and Bayesian approaches. In *Research Integrity: Best Practices for the Social and Behavioral Sciences*. Via [cidlab.com/paper/84](http://cidlab.com/paper/84).
- BC2. Oravecz, Z., Huentelman, M., & **Vandekerckhove, J.** (2016). Sequential Bayesian updating for Big Data. In *Big Data in Cognitive Science: From Methods to Insights*, p. 13–33. Via [cidlab.com/paper/29](http://cidlab.com/paper/29).
- BC1. **Vandekerckhove, J.**, Matzke, D., & Wagenmakers, E. (2015). Model comparison and the principle of parsimony. In *Oxford Handbook of Computational and Mathematical Psychology*, p. 300–317. Via [cidlab.com/paper/19](http://cidlab.com/paper/19).

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- PP4. Ellis, J. E., Parker, T. W., **Vandekerckhove, J.**, Murphy, B. J., Smith, S., Kott, A., & Weisman, M. J. (2022). An experimentation infrastructure for quantitative measurements of cyber resilience. In *IEEE Military Communications Conference Proceedings*. Via [cidlab.com/paper/80](http://cidlab.com/paper/80).

- PP3. Kott, A., Weisman, M. J., & **Vandekerckhove, J.** (2022). Mathematical modeling of cyber resilience. In *IEEE Military Communications Conference Proceedings*. DOI: 10.1109/MILCOM55135.2022.10017731. Via [cidlab.com/paper/79](http://cidlab.com/paper/79).
- PP2. Sun, J. Q., Vo, K., Lui, K. K., Nunez, M. D., **Vandekerckhove, J.**, & Srinivasan, R. (2022). Decision SincNet: Neurocognitive models of decision making that predict cognitive processes from neural signals. In *Proceedings of the International Joint Conference on Neural Networks*. DOI: 10.48550/arXiv.2208.02845. Via [cidlab.com/paper/81](http://cidlab.com/paper/81).
- PP1. **Vandekerckhove, J.**, Tuerlinckx, F., & Lee, M. D. (2008). A Bayesian approach to diffusion process models of decision-making. In *Proceedings of the 30th Annual Conference of the Cognitive Science Society*, p. 1429–1434. Via [cidlab.com/paper/4](http://cidlab.com/paper/4).

### TECHNICAL REPORTS (NOT PEER REVIEWED)

- TR1. Kott, A., Weisman, M. J., **Vandekerckhove, J.**, Ellis, J. E., Parker, T. W., Murphy, B. J., & Smith, S. (2023). A methodology for quantitative measurement of cyber resilience (QMOCR). *Army Research Labs Technical Report, 0*. Via [cidlab.com/paper/96](http://cidlab.com/paper/96).

### SOFTWARE

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- Oravec, Z., **Vandekerckhove, J.**, & Batchelder, W. H. (2012). Bayesian Cultural Consensus Toolbox [Software and manual]. Available via [bayesian.zitaoravec.net](http://bayesian.zitaoravec.net)
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- Vandekerckhove, J.** (2006). General simulated annealing algorithm. Available via [sw.cidlab.com](http://sw.cidlab.com)

## DISSERTATION

**Vandekerckhove, J.** (2009). Extensions and applications of the diffusion model for two-choice response times. Unpublished doctoral dissertation.

## OTHER PUBLICATIONS

**Vandekerckhove, J.**, Kellen, D., Trueblood, J. S., & Shiffrin, R. M. (2025, March). The structures that fund, publish, and evaluate science shape its progress. *PNAS Updates*. Via <https://www.pnas.org/post/update/structures-fund-publish-and-evaluate-science>

Westfall, H.A., & **Vandekerckhove, J.** (2025, February). Cover Image: Dialogues on the Practice of Science. *Cover image for volume 122(5) of Proceedings of the National Academy of Sciences*.

**Vandekerckhove, J.** (2019, December). Freedom of choice vs. undisclosed flexibility: Researcher degrees of freedom in model-based inference. *Psychonomic Society Featured Content*. Via [featuredcontent.psychonomic.org](https://featuredcontent.psychonomic.org)

**Vandekerckhove, J.** (2019, September). On being SMARTer than Vincent. *Psychonomic Society Featured Content*. Via [featuredcontent.psychonomic.org](https://featuredcontent.psychonomic.org)

**Vandekerckhove, J.** (2019, August). Detecting Bigfoot vs. brain waves: New approaches to multivariate data analysis. *Psychonomic Society Featured Content*. Via [featuredcontent.psychonomic.org](https://featuredcontent.psychonomic.org)

**Vandekerckhove, J.** (2019, May). You can obscure a lot by just plotting: Cognitive science of data presentation. *Psychonomic Society Featured Content*. Via [featuredcontent.psychonomic.org](https://featuredcontent.psychonomic.org)

**Vandekerckhove, J.** (2019, February). Weighting or besting? Speeded multi-attribute choice [Original title: The weighting is the hardest part]. *Psychonomic Society Featured Content*. Via [featuredcontent.psychonomic.org](https://featuredcontent.psychonomic.org)

**Vandekerckhove, J.** (2018, February). From classical to new to real: A brief history of #BayesInPsych. *Psychonomic Society Featured Content*. Via [featuredcontent.psychonomic.org](https://featuredcontent.psychonomic.org)

**Vandekerckhove, J.** (2016, December). In Vivo: Basics of Bayes (a.k.a. “Afterthoughts”). *Computational Modeling in Cognition*. Via [psyarxiv.com/9mc2h](https://psyarxiv.com/9mc2h)

## MEDIA

- I maintain [cidlab.com](https://cidlab.com) to distribute research results and publications; and various other websites to announce events and workshops.
- I maintain [mathpsych.org](https://mathpsych.org) to announce events, job listings, and to run online conferences.
- I provide support for **The Bayes Factor**, a podcast on Bayesian inference and the people behind it.
- My research has featured in numerous media outlets, including the *New York Times*, *National Public Radio*, the *Chronicle of Higher Education*, *WIRED Magazine*, *Science News*, and *Nature News*.

# Teaching and Service

## GRADUATE ADVISING

<i>2022 – present</i>	Kathleen Medriano (chair)
<i>2022 – present</i>	José Luis Baroja (chair)
<i>2021 – present</i>	Adriana Chávez De la Peña (chair)
<i>2016 – 2022</i>	Alexander Etz (chair) → instructional faculty at UT Austin
<i>2014 – 2020</i>	Colin Kupitz (chair) → researcher at Air Force Research Labs
<i>2014 – 2019</i>	Beth Baribault (chair) → postdoc at UC Berkeley
<i>2013 – 2019</i>	Maimie Guan (with M. D. Lee) → researcher at Apple, Inc.
<i>2013 – 2018</i>	Irina Danileiko (with M. D. Lee) → researcher at Wizards of the Coast
<i>2012 – 2017</i>	Michael D. Nunez (with R. Srinivasan) → faculty at University of Amsterdam

## OTHER MENTORING ACTIVITIES

<i>2017 – 2021</i>	Associate project scientist Michael D. Nunez (with R. Srinivasan)
<i>2018</i>	Assistant project scientist Ravi Selker (with M. D. Lee)
<i>2016 – 2017</i>	Visiting researcher Anna-Lena Schubert
<i>2013 – 2014</i>	Research specialist Dominik Wabersich

## DEPARTMENTAL SERVICE

<i>2017 – 2022</i>	Vice Chair for Graduate Affairs, Cognitive Sciences
<i>2017 – 2022</i>	Chair of the Graduate Admissions Committee of Cognitive Sciences
<i>2013 – 2017</i>	Undergraduate Director of B.S. Cognitive Sciences
<i>2012 – present</i>	Academic personnel committee member (5) and chair (2)
<i>2012 – present</i>	Search committee member (5) and chair (2)
<i>2011 – present</i>	Doctoral committees (9), advancement committees (13), concentration exams (9)

## CAMPUS SERVICE

<i>2025 – present</i>	<b>Member</b> (elected), Campus Council on Research, Computing & Libraries
<i>2017 – 2021</i>	<b>Representative</b> (elected), School of Social Sciences to the Senate Assembly
<i>2017 – present</i>	<b>Member</b> , Faculty Advisory Committee for Research Cyberinfrastructure

## OUTSIDE SERVICE

<i>2024</i>	<b>Secretary/Treasurer Search Chair</b> , Society for Mathematical Psychology
<i>2019 – present</i>	<b>Standing Conference Chair</b> , Society for Mathematical Psychology
<i>2019 – present</i>	<b>Executive Board Member</b> ( <i>ex officio</i> ), Society for Mathematical Psychology

## UCI TEACHING

<i>Undergraduate</i>	Probability and Statistics in Psychology; Advanced experimental methods in psychology (lecture and lab); Honors advanced experimental methods in psychology (lecture and lab); Cognitive modeling; Computational lab skills
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*Graduate*                    Algorithmic statistics; Bayesian inference; Computational statistics; Social data science; Software development; Transparent and reproducible science; Computational lab skills

## EXTERNAL TEACHING

*2010 – present*            **Lecturer and co-organizer**, biennial Computational Cognitive Modeling summer school

*March 2024*                **Visiting professor**, Sciences Po Bordeaux, “Responsible consumption of research in the social sciences”

*September 2018*          **Invited lecturer**, Workshop at University of Potsdam, “Cognitive psychometrics for multimodal data”

*September 2016*          **Invited lecturer**, Workshop at University of Toronto, “A practical course in Bayesian graphical modeling” (with M. D. Lee)

*March 2015*                **Invited lecturer**, seminar for Interdisciplinary Data Sciences Consortium, University of South Florida, Tampa, “Cognitive psychometrics and cognitive latent variable models”

*July 2015*                 **Invited lecturer**, Workshop at University of Zurich, “Cognitive psychometrics and cognitive latent variable modeling”

*December 2010*          **Invited lecturer**, University of Zurich doctoral program, “A practical course in Bayesian graphical modeling” (with M. D. Lee)

*September 2010*          **Invited lecturer**, University of Zurich doctoral program, “Programming models in MATLAB”

*2006 – 2011*              **Teaching assistant** (2006 – 2008, 2010 – 2011), substitute local coordinator (2007), and co-lecturer (2008) “Socrates-Erasmus Intensive Program on Mathematical and Computational Models in the Psychological Sciences”

*2005 – 2008*              **Teaching assistant** and tutor for various undergraduate courses on statistics. Co-lecturer for undergraduate courses on mathematical modeling

## EDITORIAL AND AD-HOC REVIEWER SERVICE

*2026 – present*            **Editorial board member**, *Individual Differences in Cognition*

*2024 – 2025*                **Guest editor**, *Proceedings of the National Academy of Science*, Special feature on the practice of science (with R. Shiffrin, J. S. Trueblood, and D. Kellen)

*2020 – 2021*                **Associate editor**, *Psychonomic Bulletin & Review*

*2018 – 2019*                **Associate editor**, *Psychonomic Society Digital Content*

*2017 – 2022*                **Editorial board member**, *Advances in Methods and Practices in Psychological Science*

*2015 – 2018*                **Guest lead editor**, *Psychonomic Bulletin & Review*, Special issue on statistical recommendations (with J. N. Rouder and J. K. Kruschke)

*2016 – 2018*                **Panelist**, *National Science Foundation*, Advisory Panel for the Methodology, Measurement, and Statistics (MMS) Program

*2016 – 2019*                **Consulting editor**, *Behavior Research Methods*

*2016 – 2018*                **Tutorial editor**, *Journal of Mathematical Psychology*

*2014 – 2016*                **Consulting editor**, *Journal of Mathematical Psychology*

**Ad hoc reviewer** for *Deutsche Forschungsgemeinschaft*; *European Research Council*; *National Endowment for the Humanities*; *National Institutes of Health*; *National Science Foundation*; and others.

**Ad hoc reviewer** for *Acta Psychologica*; *Advances in Methods and Practices in Psychological Science*; *the Annual Meeting of the Society for Cognitive Science (conference)*; *Behavior Research Methods*; *Clinical Epidemiology*; *Cognition*; *Cognition, Brain, and Behavior*; *Cognitive Psychology*; *Cognitive Science*; *Collabra*; *Decision*; *Entropy*; *Experimental Psychology*; *iPerception*; *Journal of Cognitive Neuroscience*; *Journal of*

*Experimental Psychology: General; Journal of Mathematical Psychology; Journal of Memory and Language; Memory & Cognition; Methodology; Perspectives in Psychological Science; PLOS ONE; Proceedings of the National Academy of Science; Psychological Science; Psychological Methods; Psychological Research; Psychological Review; Psychometrika; Psychonomic Bulletin & Review; Quarterly Journal of Experimental Psychology;* and others.

## EVENTS ORGANIZED

- July 2023* **Co-organizer** (with R. Shiffrin), “Workshop on Statistical Inference and Scientific Inference,” Selva, Italy
- June 2023* **Organizer**, “56th Annual Meeting of the Society for Mathematical Psychology,” a virtual conference
- July 2022* **Organizer** (with D. Kellen), “55th Annual Meeting of the Society for Mathematical Psychology,” Toronto, Ontario
- July 2022* **Organizer**, “55th Annual Meeting of the Society for Mathematical Psychology,” a virtual conference
- July 2021* **Organizer**, “54th Annual Meeting of the Society for Mathematical Psychology,” a virtual conference
- July 2020* **Organizer**, “53rd Annual Meeting of the Society for Mathematical Psychology,” Toronto, Ontario a virtual conference
- July 2019* **Organizer**, “52nd Annual Meeting of the Society for Mathematical Psychology,” Montreal, Quebec
- July 2018* **Organizer** (with R. Shiffrin), “On the relationship between scientific practice and statistical practice,” Madison, WI
- July 2018* **Organizer** (with M. D. Lee), “Workshop on robust social science,” Orlando, FL
- May 2017* **Organizer** (with Z. Oravecz), “Models and methods of well-being,” Boston, MA
- November 2016* **Organizer** (with A. H. Criss and E.-J. Wagenmakers), “Computational approaches to cognition,” Boston, MA
- May 2016* **Organizer**, “Cognitive psychometrics in action,” Chicago, IL
- November 2015* **Organizer** (with A. H. Criss and E.-J. Wagenmakers), “Mathematical Psychology at Psychonomics,” Chicago, IL
- July 2015* **Organizer**, “Applications of mathematical psychology to industry meeting,” Newport Beach, CA
- July 2015* **Organizer** (with J. S. Trueblood), “48th Annual Meeting of the Society for Mathematical Psychology,” Newport Beach, CA
- July 2015* **Organizer**, “Teaching Bayesian statistics with JASP,” Newport Beach, CA
- November 2014* **Organizer**, “Using BayesFactor for practical Bayesian analysis.” Irvine, CA
- March 2014* **Organizer**, “Workshop on recent advances in Bayesian inference.” Irvine, CA
- November 2013* **Organizer** (with J. Krichmar and R. Srinivasan), “Workshop on interfacing models with brain signals to investigate cognition.” Irvine, CA
- August 2010* **Organizer**, “Practical applications of models for response time.” Portland, OR

## OTHER SERVICE TO THE FIELD

- 2014* **Developer**, “Minimal frustration” automated scheduler for the 47th Annual Meeting of the Society for Mathematical Psychology.
- 2020* **Developer**, The **virtual.mathpsych.org** reusable platform for online conferences.