Lauren Fink

Postdoctoral Researcher | Department of Music | Max Planck Institute for Empirical Aesthetics Affiliate | Center for Language, Music, & Emotion | New York University, Max Planck Institute

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> Website: https://lkfink.github.io Curriculum Vitae – Dec. 2020

1. EDUCATION AND DEGREES

08/2017

08/2016

07/2016 - 08/2016

2014 - 2019	Ph.D. in Neuroscience, University of California, Davis (UCD), CA, USA
2013 - 2014	M.Phil. in Music Studies (Music & Science), University of Cambridge, England, UK
2009 - 2013	B.M. in Percussion Performance (major) and Psychology (minor), University of Cincinnati College Conservatory of Music, Ohio, USA, <i>summa cum laude</i>
2. Research Career	
01/2020 =	Wissenschaftliche Mitarheiterin (Postdoctoral Researcher) in the Music

,	Department, Max Planck Institute for Empirical Aesthetics.
09/2015 – 10/2019	Researcher in the Janata Lab, Center for Mind & Brain, at the University of California, Davis, for the research projects: 1) "Predicting sensorimotor synchronization and attention to music using a linear oscillator model, eyetracking, and electroencephalography," and 2) "Fostering Empathy and Improving Focus Through the Groove Enhancement Machine: Facilitating Sensorimotor Coordination and Cooperation Among Groups of Individuals," supervised by Prof. Dr. Petr Janata, funded by <i>The University of California Music Experience Research Community Initiative</i> and the <i>National Academies Keck Futures Initiative</i> .

Gastforscher (Guest Researcher) in the Max-Planck-Institute for Empirical
Aesthetics, Frankfurt, Germany, for the project: "Comparing Pupil Labs and
SMI mobile eye-tracking glasses in the concert hall," directed by Dr. Elke
Lange.

Visiting Researcher in the Swartz Center for Computational Neuroscience
at the University of California, San Diego, for the project: "Simultaneous eye-
tracking and electroencephalography during an auditory deviance detection
task," supervised by Dr. John Iversen.

Visiting Researcher in the Center for Computer Research in Music and
Acoustics, Stanford University, for the project: "Fostering Empathy and
Improving Focus Through the Groove Enhancement Machine: Facilitating
Sensorimotor Coordination and Cooperation Among Groups of
Individuals," directed by Prof. Dr. Petr Janata and Prof. Dr. Jonathan Berger,
funded by the National Academies Keck Futures Initiative.

Visiting Researcher in the Geng Lab, Center for Mind & Brain, University 03/2015 - 06/2015of California, Davis, for the research project: "Characterization of eyeblinks and pupil diameter during an auditory deviance detection task," directed by Prof. Dr. Joy Geng. Visiting Researcher in the Dynamic Memory Lab, Center for 01/2015 - 03/2015Neuroscience, University of California, Davis, for the research project: "Goal relevance in temporal contexts: the role of the fronto-striatal-hippocampal circuit," supervised by Prof. Dr. Charan Ranganath and Dr. Matthias Gruber. 09/2014 - 12/2014Visiting Researcher in the Janata Lab, Center for Mind & Brain, University of California, Davis, for the research project: "Attention mapping via amplitude modulated sounds," supervised by Prof. Dr. Petr Janata. Researcher in the Centre for Music & Science, University of Cambridge, for 10/2013 - 08/2014the research project: "Music modulates eyeblinks: An examination of temporal coordination," supervised by Prof. Dr. Ian Cross. 04/2011 - 05/2013Intern at the Archives & Rare Books Library, University of Cincinnati http://libapps.libraries.uc.edu/liblog/?s=lauren+fink

3. Publications

- Sharma, N., Krishnamohan, V., Ganapathy, S., Gangopadhayay, A. & Fink, L. (2020). Acoustic and linguistic features influence talker change detection. J. Acoust. Soc. Amer. Express Letters 147(5). DOI: https://doi.org/10.1121/10.0002462.
- Fink, L., Lange, E., & Groner, R. (2019). The application of eye-tracking in music research. Journal of Eye Movement Research, 11(2):1. DOI: https://doi.org/10.16910/jemr.11.2.1.
- Fink, L., Hurley, B., Geng, J. & Janata, P. (2018). A linear oscillator model predicts dynamic temporal attention and pupillary entrainment to rhythmic musical patterns. *Journal of Eye* Movement Research, 11(2):12. DOI: https://doi.org/10.16910/jemr.11.2.12.
- Hurley, B., Fink, L., & Janata, P. (2018). Mapping the dynamic allocation of attention in musical patterns. Journal of Experimental Psychology: Human Perception & Performance, 44(11), 1694-1711. DOI: https://doi.org/10.1037/xhp0000563.
- Fink, L. (2017). Chance operations in neuroscience. In Lane, J. and L. Fink (Eds.), Allen Otte Folio, pp. 17-20. https://mediapressmusic.com/allen-otte-folio-various/.
- Fink, L. (2016). The Greatest. Pulse Special Issue of Ethnomusicology Review/Sounding Board. https://ethnomusicologyreview.ucla.edu/content/greatest.

Submitted manuscripts

- *Durojave, C., *Fink, L., Wald-Fuhrmann, M., Roeske, T. & Larrouy-Maestri, P. (submitted). Perception of Nigerian talking drum performances as speech-like vs. music-like: the role of familiarity and acoustic cues.
- *Fink, L., *Warrenburg, L. A., Howlin, C., Randall, W. M., +Hansen, N. C., & +Wald-Fuhrmann, M. (submitted). Viral Tunes: Changes in musical behaviours and interest in coronamusic

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- predict socio-emotional coping during COVID-19 lockdown. https://doi.org/10.31234/osf.io/7mg2v
- Czepiel, A., Fink, L.K., Fink, L.T., Wald-Fuhrmann, M., Tröndle, M., & Merrill, J. (under review). Synchrony in the periphery: inter-subject correlation of physiological responses during live music concerts. BioRxiv. DOI: https://doi.org/10.1101/2020.09.01.271650.

Manuscripts in preparation

- Fink, L., Alexander, P. & Janata, P. (in prep). A multi-person adaptive metronome enhances synchrony among tappers in groups.
- Fink, L. & Simola, J. (in prep). Time series analyses in pupillometry.
- Fink, L., Janata, P.; Ganapathy, S.; Furukawa, S. & Lange, E. (in prep). Using pupillometry and computational models of salience to predict listener's absorption into music.
- *Tavano, A., *Fink, L., Sierra, F., Lange, E., Poeppel, D., Valsecchi, M. (in prep). Eye and brain dynamics synchronize in expectation of future events.

Conference proceedings (peer-reviewed)

- Fink, L. (2021, provisionally accepted). Computational models of temporal salience. *Proceedings of the* Future Directions of Music Cognition International Conference.
- Sharma, N., Krishnamohan, V., Ganapathy, S., Gangopadhayay, A. & Fink, L. (2020). On the impact of language familiarity in talker change detection. Proceedings of the 2020 IEEE International Conference on Acoustics, Speech, and Signal Processing, Barcelona, Spain, pp. 6249 – 6253. DOI: https://doi.org/10.1109/ICASSP40776.2020.9054294.

4. EDITED VOLUMES

- Fink, L. & Lange, E., Eds. (2018). Special Issue on Music & Eye-Tracking. Journal of Eye Movement Research. Vol. 11(2). https://bop.unibe.ch/JEMR/issue/view/793
- Fink, L., Ed. (2017). Explorations: The UC Davis Undergraduate Research Journal (vol. 19). The Regents of the University of California. http://explorations.ucdavis.edu/2017/index.html
- Lane, J. & L. Fink, Eds. (2017). Allen Otte Folio. A collection of percussion pieces, distributed by Media Press Inc. https://mediapressmusic.com/allen-otte-folio-various/.

5. TEACHING CAREER

GU = Goethe University, Frankfurt am Main; UCD = University of California, Davis; MPIEA = Max Planck Institute for Empirical Aesthetics

Classes (conducted)

^{*} indicates co-first authorship (equal contribution)

Spring, 2021 (confirmed) Musical Time: Psychological & Theoretical Perspectives, GU

Introduction to Research Methods, UCD Summer, 2019

Fall, 2018 Visual Rhetoric, UCD

Popular Science and Technology Writing, UCD Winter, 2017

Fall, 2016 Neurobiology, UCD

Spring, 2016 Cultural History of the Blues, UCD

Classes (assisted teaching)¹

Fall, 2017 Psychology of Music, UCD Human Brain & Disease (led anatomy lab for dissecting sheep brains), UCD Spring, 2017 Fall, 2015 Psychology of Music, UCD Winter, 2015 Research Methods, UCD Spring, 2015 Neurobiology of Speech, UCD

Mentoring

01/2020 - present

Supervisor of PhD students and interns in the Music Department at MPIEA

- PhD Students:
 - Shreshth Saxena (03/2021 03/2024)
 - Co-supervising PhD dissertation project "Characterizing attentional shifts during audiovisual musical engagement," which involves a combination of computational modeling, eye-tracking, and behavioral experiments.
 - Anna Czepiel (01/2020 10/2022)
 - Co-supervising multiple projects related to the analysis of physiological data recorded during live music listening in the concert hall.
- Interns:
 - Student TBD, reviewing applications (01/2021 07/2021)
 - Supervising student to assist with project "Assessing computational models of musical surprisal." The student will be responsible for creating centralized databases of audio files and processing them through various models.
 - Hannah Fiehn (01/2020 05/2020)
 - Co-supervised student assistance and tasks related to the Conference on Music & Eye-Tracking (currently postponed due to COVID-19).

01 - 09 / 2019

Graduate coordinator for University of California LEADS (Leadership Excellence through Advanced Degrees)

- Assisted under-represented undergraduates in preparing for graduate school by offering one-on-one mentorship
- Helped students successfully find and complete summer research experiences

09/2015 - 06/2019

Graduate Writing Fellow for the University Writing Program

¹ assisted teaching by holding weekly office hours, proctoring and grading all exams, and maintaining student records.

- Held one-on-one consultations, group writing retreats, and writing workshops
- Conducted research on graduate student writing

09/2017 - 09/2019Graduate mentor, Janata Lab

> Mentored four undergraduate research assistants (2 from Psychology; 1 from Neurobiology, Physiology, & Behavior; 1 from Musicology)

01 - 06/2017Graduate mentor for the Undergraduate Research Center

> Mentored undergraduate Psychology student in lab-based research methods

Invited Lecturer

Fall, 2017	"How to publish as an undergraduate." Undergraduate Research Center, UCD
Summer, 2017	"Introduction to literature reviews." Pre-College Program: Mind & Brain, UCD
Winter, 2017	"Music & science research methods for undergraduates." Musicology Department, UCD
Spring, 2016	"Forming & maintaining writing groups." University Writing Program, UCD
	"The first abstract: Teaching undergraduates to summarize their research. Professors for the Future Program, UCD
	"Mentoring scientific writing: How to give effective, time-efficient feedback." <i>Professors for the Future Program, UCD</i>
	"Music & visual motor behavior." Musicology Department, UCD
Fall 2015	"Expectation, Syntax, and Tension in Music" Psychology Department, UCD

6. Grants / Scholarships / Fellowships

2017-19	ARCS Foundation Achievement Research Award for College Scientists (\$22,000)
2016-19	Lead Graduate Writing Fellowship, UCD (\$11,000)
2016-19	University Writing Program Travel Award, UCD (\$1,900)
2018	Graduate Student Association Special Projects Award (\$700)
2017-18	Graduate Student Association Travel Award (\$1000)
2018	Lesbians Who Tech Summit Scholarship (\$250)
2017	UC Davis Diversity Inclusion and Innovation Grant. "SOMA: Seminar Outreach for
	Minority Advocacy." PI: Lauren Fink (\$5,000)
2016-17	UC Davis & Humanities Graduate Research Award (\$3,000)
2016	University of California Music Experience Research Community Initiative: Research
	Exchange Grant – UC San Diego (\$3,500)
2016	Ling-Lie Chau Student Award for Brain Research, UCD (\$1,000)
2015	University of California Music Experience Research Community Initiative
	Symposium Travel Award (\$1,200)
2015-16	Graduate Writing Fellowship, UCD (\$3,000)
2014-15	Neuroscience Graduate Group Fellowship, UCD (\$28,680)
2014	William Barclay Squire Fund/Wolfson College Travel Grant, U. Cambridge (£600)

2013-14	Cambridge Overseas Trust, Wolfson Cambridge Scholarship, U. Cambridge (£7000)
2012-13	U. of Cincinnati Marshall Scholarship Finalist
2012-13	Undergraduate Research Council Grant, U. Cincinnati (\$3,000)
2012	Summer Undergraduate Research Fellowship, U. Cincinnati (\$4,000)
2011	Summer Undergraduate Mentored Research Grant, U. Cincinnati (\$3,000)
2009-13	Cincinnatus Scholarship, U. Cincinnati (\$32,000)
2009-13	College-Conservatory of Music Scholarship, U. Cincinnati (\$4,000)
2009-13	Founces M. Luley Music Scholarship (\$8,000)

7. CONFERENCE PRESENTATIONS

- Czepiel, A., Fink, L., Seibert, C., Scharinger, M. (2021, Mar). Multimodality of music listening: how live versus recorded versions of piano music influence self-report and physiological responses. Talk (virtual) presented at the Tagung experimentell arbeitender Psychologen (TeaP).
- Fink, L.*, Howlin, C.*, Randall, W., Warrenburg, L., Hansen, N.C., Wald-Fuhrmann, M. (2020, Sept.) Music as a tool for socio-emotional coping during Covid-19 pandemic lockdown. Talk (virtual) presented at the Society for Education, Music, and Psychology Research.
- Czepiel, A., Merrill, J., Fink, L., Egermann, H., Wald-Fuhrmann, M. (2020, Sept.) Tempo and key clarity synchronise physiology in classical concert audiences. Poster (virtual) presented at the Deutschen Gesellschaft für Musikpsychologie Virtuelle Postertagung.
- Lange, E., Zweck, F., Sinn, P., Thiel, D., Fink, L., & Kujipers, M. (2020, Sept.) Eve-tracking as method to investigate experiences of aesthetic absorption. Poster (virtual) presented at the Deutschen Gesellschaft für Musikpsychologie Virtuelle Postertagung.
- Fink, L., Hurley, B., Geng, J., Lange, E., & Janata, P. (2019, Aug.). A computational model of rhythmic auditory attention predicts the pupillary response to music. Talk presented at the European Conference on Eye Movements, Alicante, Spain.
- Lange, E., Thiele, D., Fink, L., & Kuijpers, M. (2019, Aug.). Narrative aesthetic absorption into audiobooks: Acoustics, cross-modal coupling and subjective states are related. Poster presented at the European Conference on Eye Movements, Alicante, Spain.
- Fink, L., Alexander, P., Janata, J. (2019, March). Bringing groups of people into greater temporal and psychological synchrony using a multi-person adaptive metronome. Poster presented at the Cognitive Neuroscience Society Meeting, San Francisco, CA.
- Mikovits, M., Sperber, L., Fink, L. & Prebel, J. (2019, March). Writing fellows as agents of transfer: Training in threshold concepts to support campus-wide sites of writing. Symposium presented at the College Composition and Communication Convention, Pittsburgh, PA.
- Fink, L., Lange, E., Janata, P. (2018, July). The pupil entrains to prominent periodicities in music. Talk presented at the International Conference on Music Perception & Cognition, Graz, Austria.
- Fink, L., Hurley, B., Geng, J., & Janata, P. (2018, May). Predicting attention and motor responses to musical patterns. Poster presented at the Stanford Music & Brain Symposium, Palo Alto, CA.
- Fink, L., Ribeiro, J., & White, V. (2018, March). Transforming graduate writing experiences: A new Writing Across the Curriculum (WAC) certificate program. Symposium presented at the College Composition and Communication Convention, Kansas City, MO.

- Lange, E. & Fink, L. (2017, August). Using eye-tracking and pupillometry to study rhythmic processing in music and dance. Symposium presented at the European Conference on Eye Movements, Wüppertal, Germany.
- Fink, L., Hurley, B., Geng, J., & Janata, P. (2017, August). Predicting attention to auditory rhythms using a linear oscillator model and pupillometry. Talk presented at the Conference on Music & Eye-Tracking, Frankfurt, Germany.
- Fink, L., & Alexander, P., & Janata, P. (2017, July). Fostering Empathy and Improving Focus Through the Groove Enhancement Machine: Facilitating Sensorimotor Coordination and Cooperation Among Groups of Individuals. Demonstration presented at the National Academies Keck Futures Initiative Art, Science, Engineering, and Medicine Mid-Cycle Grant Meeting, Boston, MA.
- Hurley, B., Fink, L., & Janata, P. (2017, March). A resonator model predicts temporal orienting in rhythmic music. Proceedings of the Cognitive Neuroscience Society Annual Meeting.
- Bright, A., Singleton, J., Fink, L., & Rodger, K. (2017, March). Cultivating a Rhetorical Consciousness: Supporting Graduate Student Writers Across the Curriculum. Symposium presented at the College Composition and Communication Convention, Portland, OR.
- Fink, L., Hurley, B., Geng, J. & Janata, P. (2016, July). Pupillary and eyeblink responses to auditory stimuli index attention and sensorimotor coupling. Proceedings of the 14th International Conference for Music Perception & Cognition, pg. 788.
- Hurley, B., Fink, L., & Janata, P. (2016, July). Predicting temporal attention in music with a damped oscillator model. Proceedings of the 14th International Conference for Music Perception & Cognition, pg. 782.
- Fink, L. & Rodger, K. (2016, June). Mapping neuroscience through professional writing. Talk presented at the International Writing Across the Curriculum Conference, Ann Arbor, MI.
- Fink, L. (2015, July). Eyeblinks as biomarkers of temporal coordination during music cognition. Poster presented at the Rhythm Perception & Production Workshop, Amsterdam, Netherlands.
- Fink, L. & Mazman, A. (2013, July). False belief attribution: An investigation of the neural pattern account. Poster presented at the Society for Philosophy and Psychology Conference, Providence, RI.

8. SERVICE

2016 -Ad-hoc Reviewer for: Nature Scientific Reports Brain and Cognition *Cortex* Music & Science Cognitive Neurodynamics Journal of Eye Movement Research Journal of Vision Vision Research Quarterly Journal of Experimental Psychology 2020 -Postdoctoral representative to the Directors, Music Department, MPIEA 2020 -Member of the Equality Support Team, MPIEA 2017 & 2022 Scientific Chair. Conference on Music & Eye-Tracking, MPIEA 2018-20 Peer-review panelist. California Arts Council, State of California

2017-19	Guest Editor of Special Issue. Journal of Eye Movement Research
2017-18	Founder and coordinator. Seminar Outreach for Minority Advocacy, UCD
2017	Selection Committee. Neuroscience Initiative to Enhance Diversity, UCD
2017	Graduate Student Coordinator. Neuroscience Initiative to Enhance Diversity, UCD
2016-17	Editor-in-Chief. Explorations: The UC Davis Undergraduate Research Journal
2015-16	Editor. Explorations: The UC Davis Undergraduate Research Journal
2014-16	Neuroscience Retreat Organizing Committee, UCD

9. Professional Training

2021	Sign UP! Career-building Program for Post Docs, Max-Planck-Gesellschaft, EAF Berlin
2020	Communicating Science to Non-Scientists and Media Training for Researchers, Max-
	Planck-Gesellschaft, online
2020	Neuromatch Academy, observer track, online
2019	Telluride Neuromorphic Cognition Engineering Workshop, Telluride, CO
2018	Mini Event-Related Potential Bootcamp, Steve Luck, UCD Center for Mind & Brain
2018	Women in Music Information Retrieval Mentoring Program (mentor: Dr. Kat Agres)
2017	Certificate: AAAS Science Communication Program
2017	Certificate: Designing an Undergraduate STEM course, American Association for the
	Advancement of Science
2017	Certificate: Thoughtful Pedagogy for Diverse Learning Environments, UCD Center
	for Educational Effectiveness
2016	Certificate: Foundations in Teaching, UCD Center for Educational Effectiveness
2014	Interdisciplinary Kollege: Social Cognition. Günne, Germany
2009-10	Racial Awareness Pilot Program. U. of Cincinnati

10. Affiliations / Memberships

2018 –	Cognitive Neuroscience Society
2017 –	Women in Music Information Retrieval
2016 –	Society for Music Perception & Cognition
2015 –	Association of Women in Science
2007 –	Percussive Arts Society
2013-14	Society for Philosophy & Psychology

11. INVITED TALKS

Oct. 2020	"Using pupillometry to index auditory attention and aesthetic absorption." Center for Language, Music, and Emotion, New York University, Max Planck Institute.
Mar. 2020 (cancelled due to COVID-19)	"Time series and convolutional analyses in pupillometry." Pupillometry Workshop, RITMO Center for Interdisciplinary Studies in Rhythm, Time and Motion, University of Oslo.
Feb. 2019	"Modeling pupillary entrainment to music and absorptive music listening experiences." Center for Computer Research in Music and Acoustics, Stanford University.
Sept. 2018	"Pupillometry as an auditory research tool." UC Davis Neuroscience Retreat, Bodega Bay Marine Laboratory, Bodega Bay, CA.

Apr. 2018	"The Groove Enhancement Machine." Center for Computer Research in Music and Acoustics, Stanford University.
Mar. 2018	"Seeing in time: Rhythmic music systematically alters pupil dynamics." Max Planck Institute for Empirical Aesthetics, Frankfurt, Germany.
Oct. 2017	"Stage presence." Ladies Rock Sacramento. Sacramento, CA.
Apr. 2017	"Writing a personal statement." Neuroscience Initiative to Enhance Diversity, UC Davis.
Nov. 2016	"Predicting audiovisual attention over time." Davis Entrepreneurs Meet-Up, Davis Roots, Davis, CA.
July 2016	"Assessing attention to music using eye-tracking." Stanford Summer Arts Institute, Stanford University.
Apr. 2016	"The importance of synchronization and the power of music." Sunday Assembly, Sacramento, CA.
Oct. 2013	"It's all in the mind." Cambridge Festival of Ideas, Cambridge, UK.

12. PROFESSIONAL MUSIC EXPERIENCE

2018-19	Drum set coach. Girls Rock Sacramento. Sacramento, CA
Nov. 2014	Percussion Quartet: Lauren Fink, Tyler Niemeyer, Shane Jones, Zach Larabee. Premiere of "Oscillator Etudes" by Paul Schuette at the <i>Percussive Arts Society International Convention, Indianapolis, IN</i>
Feb. 2013	Drum set player. "Science! The Musical." World Premiere. Corpus Playroom, Cambridge, UK
Apr. 2013	Senior Recitalist. "Matriculaphony: A Percussive Circus on Van Meter Ames' A Book of Changes." Patricia Corbett Theater, Cincinnati, OH
07-08/2013	Drum Line Instructor. Liberty High School, Youngstown, OH
2012-13	Percussion Accompanist. Dance Division, U. of Cincinnati College-Conservatory of Music.
2010 - 2011	Percussion Coach. Cincinnati Youth Wind Ensemble. Cincinnati, OH
06-07/2010	Orchestral Percussionist. Symphony Orchestra Academy of the Pacific. British Columbia, Canada
2008 - 2014	Private Percussion Teacher. Youngstown & Cincinnati, OH

13. REFERENCES

- Prof. Dr. Melanie Wald-Fuhrmann: Director, Max Planck Institute for Empirical Aesthetics Phone: +49 69-8300479-200 | E-Mail: melanie.wald-fuhrmann@ae.mpg.de
- Dr. Elke Lange: Scientific Researcher, Max Planck Institute for Empirical Aesthetics Phone: +49 69-8300479-210 | E-Mail: elke.lange@aesthetics.mpg.de
- Prof. Dr. Petr Janata: Professor of Psychology, Center for Mind & Brain, UC Davis

- Phone: +1 (530) 297 4471 | E-Mail: pjanata@ucdavis.edu
- **Prof. Dr. Joy Geng**: Associate Professor of Psychology, Center for Mind & Brain, UC Davis Phone: +1 (530) 297-4486 | E-Mail: jgeng@ucdavis.edu
- Dr. Melissa Bender: Continuing Lecturer, University Writing Program, UC Davis
 - Phone: +1 (530) 752-6283 | E-Mail: mmbender@ucdavis.edu
- **Prof. Dr. Ian Cross**: Professor of Music and Science, Faculty of Music, U. of Cambridge, UK Phone: +44 (0)1223 335185 | E-Mail: ic108@cam.ac.uk
- **Prof. Allen Otte:** Professor of Percussion, U. of Cincinnati College-Conservatory of Music Phone: +1 (513) 556 9423 | E-Mail: allen.otte@uc.edu