

Per Magnus LINDBORG
School of Creative Media
Visiting address:
CMC-M6065
Email: plindbor@cityu.edu.hk
Phone: +852 34422948



Biography

Dr PerMagnus Lindborg is a composer whose research in sound perception and design is anchored in computer music. He explores cross-modal correspondences to enrich the science-art bond by applying empirical results in the design of artwork as well as extracting analytic data from sensory experiences. Significant output through SOUNDISLANDS creative studio includes the 'Locust Wrath' series of climate data sonification installations, and the surround sound design for 'Axis', the world's first dome-projected dance film.

He holds a PhD from KTH Royal Institute of Technology (Stockholm 2015) and has published in PLoS One, Leonardo, Applied Acoustics, Frontiers, Applied Sciences, IRCAM-Delatour, Springer-LNCS, and conference proceedings such as SMC, ICMC, ICMPC, and ICAD. Starting out as a pianist and composer (BMus Oslo 1995), he was an independent artist for ten years, while simultaneously pursuing studies in music computing (IRCAM Paris 1999) and contemporary musicology (DEA Paris 2003). From 2005 he has taught in higher education in France (École nationale de musique de CAPM), Singapore (Nanyang Technological University), and Korea (Seoul National University). He founded the Soundislands Festival (2013–17) and serves on the board of International Computer Music Association, as Music Coordinator and as Regional Director for Asia-Oceania.

PerMagnus engages in climate change issues and has taken the initiative to organise the *DACA 2022 conference on Data Art for Climate Action* (January 2022), and the Frontiers Research Topic *Data Perceptualization for Climate Science Communication*. Since January 2021 he co-directs the SoundLab at CityU.

Employment

School of Creative Media

City University of Hong Kong
2 Jan 2020 → present

Research outputs

Generative Adversarial Networks for Technical Ear Training in Perceiving How Reverberation Affects Frequency Contents in Music Production Education

Chen, M. & Lindborg, P. M., 30 Sep 2022, (Accepted/In press/Filed).

Re-scaling Beethoven: Very long, very short

Lindborg, P., 10 Jun 2022.

KYAGER

Lindborg, P. & Loo, S. W., 15 Apr 2022

Feather-Crater

Lindborg, P., 14 Apr 2022

Charting the scene(s) of sonic arts in Hong Kong: An overview based on 23 interviews with local practitioners and organisers

IKESHIRO, R., CHARRIERAS, D. & Lindborg, P., 12 Apr 2022, (Accepted/In press/Filed) In: Organised Sound.

Stairway to Helheim: Eight-channel site-specific sonification installation [online version]

Lindborg, P., 23 Feb 2022

Stairway to Helheim

Lindborg, P., Feb 2022, *DACA 2022 - Conference on Data Art for Climate Action: Proceedings/Catalogue*. Lindborg, P. (ed.). School of Creative Media, City University of Hong Kong, p. 98-99 2 p.

SoundLab and Electroacoustic Music in Hong Kong

Ikeshiro, R. & Lindborg, P., 28 Dec 2021, *Emille: the Journal of the Korean Electro-Acoustic Music Society*. Lee, B. & Cho, Y. (eds.). Seoul: Yesol Publishing, Vol. 19. p. 33-37 5 p.

Real and Imagined Smellscapes

Lindborg, P. & Liew, K., Dec 2021, In: *Frontiers in Psychology*. 12, 718172.

Stairway to Helheim: Eight-channel site-specific sonification installation

Lindborg, P., 13 Nov 2021

Power Chess: robot-to-robot nonverbal emotional expression applied to competitive play

LC, R., Benayoun, M., Lindborg, P., Xu, H., Chan, H. C., Yip, K. M. & Zhang, T., 13 Oct 2021, *ARTECH 2021 : Proceedings of the 10th International Conference on Digital and Interactive Arts: Hybrid Praxis - Art, Sustainability and Technology*. Lopes, M. M., Lopes, P. B., Araújo, A., Olivero, L. F. & Fernandes-Marcos, A. (eds.). New York: Association for Computing Machinery, 2. (ACM International Conference Proceeding Series).

Remote Islands Radio Plays: Teaching Soundscape Composition in the Uncertain Future of the Anthropocene

Lindborg, P., 25 Sep 2021.

I'm always here

Guzman-Serrano, R., Merewether, C., IKESHIRO, R., LC, R., Lindborg, P. & Wong, C., 25 Jul 2021

KYAGER: film version

Lindborg, P., 24 Jul 2021

P8•八音: multichannel sound installation with video projection, objects, and wall painting

Lindborg, P., Koh, J. B. & Chan, M. C. Y., 24 Jul 2021

Simmering / 고다: film version as part of exhibition

Lindborg, P. & Hwang, J., 24 Jul 2021

The Sound of Origin

Lindborg, P., 24 Jul 2021

Evaluation of AI Reverberation on Guitar

CHEN, M. & LINDBORG, P., Jul 2021.

KYAGER for Sheng, Trombone, and Electronics

Lindborg, P., Jul 2021

Sonification of Glitch-Video: Making and Evaluating Audiovisual Art made from the Betta Fish

Janbuala, K. & Lindborg, P., Jul 2021, *Proceedings of the International Computer Music Conference 2021: The virtuoso computer: redefining limits*. Cádiz, R. F. (ed.). San Francisco, CA: International Computer Music Association, p. 255-259 (ICMC - Proceedings of the International Computer Music Conference).

The multi-hub academic conference: Global, inclusive, culturally diverse, creative, sustainable

Parncutt, R., Lindborg, P., Meyer-Kahlen, N. & Timmers, R., Jul 2021, In: *Frontiers in Research Metrics and Analytics*. 6, 699782.

Editorial: Human Perception of Environmental Sounds

Aletta, F., De Coensel, B. & Lindborg, P., Jun 2021, In: *Frontiers in Psychology*. 12, 714591. Scopus citations: 2

Feeling Loki's Pain: Designing and Evaluating a DIY 3D Auditory Display for geodata sonification

Lindborg, P., Jun 2021, *Proceedings of the 26th Proceedings of International Conference for Auditory Displays [ICAD]*. Shanghai, China: ICAD, (ICAD).

KYAGER: for Sheng, audio, and video

Lindborg, P. & Loo, S. W., Jun 2021

KYAGER

Lindborg, P., Wang, L. S., Koh, J. B. & Chen, M., Jun 2021

Loki's Pain

Lindborg, P., Jun 2021, *Proceedings of the 21st New Instruments for Musical Expression Conference (NIME) 2021*. 12 p. (NIME Proceedings series).

Mountain Graffiti: audiovisual postcard

Lindborg, P., Jun 2021

When In Doubt Go To A Museum [Exhibition]

Logar, T., von Hauswolff, C. M. & Lindborg, P., 21 May 2021

Soundscape in Times of Change: Case Study of a City Neighbourhood During the COVID-19 Lockdown

Lenzi, S., Sádaba, J. & Lindborg, P., Mar 2021, In: *Frontiers in Psychology*. 12, 570741.Scopus citations: 17

ICMA Awards

Lindborg, P. & Haworth, C., 2021, International Computer Music Association. 2 p. (Array; no. 2)

SoundLab Presents: Audio-Visual from Hong Kong, curated by Ryo Ikeshiro @ Seeing Sound

Lindborg, P., Ikeshiro, R., Blazsek, A., Lo, E., Chen, M., Yiu, A. A. A. & Ikeshiro, R., 13 Dec 2020

Loki's Pain

Lindborg, P. & CASSINELLI, A., 24 Nov 2020

How to Tread Lightly: stage expanded, an exhibition

Thyssen-Bornemisza, F., Hausswolff, C. M. & Lindborg, P., 6 Oct 2020

ASMR, a Sound Art: Experiences from Online Classes in Music and Multimedia

Lindborg, P., 25 Sep 2020.

Which Timbral Features Granger-Cause Colour Associations to Music?

Lindborg, P., Sep 2020, *PROCEEDINGS OF THE 2nd INTERNATIONAL CONFERENCE ON TIMBRE*. Greece: Aristotle University of Thessaloniki, p. 75-78

Freq_Out_Wave-1_2kHz

Lindborg, P., 29 Aug 2020

Freq_Out_Wave-1_2kHz: Part of Trajectory 6: web-based interactive collaborative sound art

Lindborg, P., 18 Jul 2020

Ninth Day at Che Kung Temple - Chinese New Year of the Rat

Lindborg, P., Feb 2020

A Sonification of Cross-Cultural Differences in Happiness-Related Tweets

LIEW, K. & LINDBORG, P., Jan 2020, In: AES: Journal of the Audio Engineering Society. 68, 1/2, p. 25-33 9 p.Scopus citations: 3

Feather-Crater

Lindborg, P., 12 Dec 2019

Gwanaksan

Lindborg, P., 12 Dec 2019

Haslla

Lindborg, P., 12 Dec 2019

Simmering / 고다

Lindborg, P., Dec 2019

The Sound of Origin

Lindborg, P., Dec 2019

Astrolabe – Whakaterenga: multimedia installation and VR film

Belton, D., Grenfell, J., Lindborg, P. & Koh, J. B., 5 Nov 2019

Atmosphere / 정취

Lindborg, P., Nov 2019

Graviton Dance (2012): For loudspeakers (with optional light display)

Lindborg, P. & Koh, J. B., Sep 2019.

Graviton Dance: Generative 3D sound composition

Lindborg, P., 11 Aug 2019

Diversity Statement of the International Computer Music Association

ICMA Board, I. B., Jun 2019, In: Array. 2019, 1, p. 49-50 2 p.

WHAT IS THE COLOR OF THAT ELECTROACOUSTIC MUSIC?

Lindborg, P., Jun 2019, *Proceedings of the 2019 International Computer Music Conference, ICMC-NYCCEMF 2019 - International Computer Music Conference New York City Electroacoustic Music Festival*. International Computer Music Association, p. 149-152 4 p. (Proceedings of the International Computer Music Conference, ICMC-NYCCEMF - International Computer Music Conference New York City Electroacoustic Music Festival).

Listening to Cities: Film triptych about Hong Kong, Daegu, Singapore, and Tromsø

Lindborg, P., 16 Apr 2019

How do we listen?

Lindborg, P., 28 Dec 2018, In: Emille, the Journal of the Korean Electro-Acoustic Music Society. 16, p. 43-49 7 p.

Music for Mr Wang

Lindborg, P., 24 Nov 2018

Pieces of Eight – 八音: (performance) Nine-hour remote performances by eight musicians at eight locations with Internet streaming, followed by one-hour live performance with eight musicians, eight percussionists, eight eGuqins and eight-channel electronics at blackbox theatre

Lindborg, P., 24 Nov 2018

Pieces of Eight – 八音 (installation): Multichannel generative sound installation with various acoustic and electronic sound objects

Lindborg, P., Schuldenfrei, E., Koh, J. B., Yiu, M., Taylor, D. & Hegland, A., 24 Nov 2018

Interactive Sonification of Weather Data for *The Locust Wrath*, a Multimedia Dance Performance

Lindborg, P., Oct 2018, In: Leonardo. 51, 5, p. 466-474 9 p.Scopus citations: 6

Making of Pieces of Eight – 八音: Film documenting onsite recordings in Hong Kong and interviews with HKNME musicians.

Lindborg, P., Koh, J. B. & Lane, W., Oct 2018

Golden City Variations: for two pianists and two percussionists

Lindborg, P., 30 Apr 2018

Cross-modal perception of noise-in-music: audiences generate spiky shapes in response to auditory roughness in a novel electroacoustic concert setting

Liew, K., Lindborg, P. M., Rodrigues, R. & Styles, S. J., 2018, In: Frontiers in Psychology. 9, 178.Scopus citations: 8

***Pacific bell tower*, a sculptural sound installation for live sonification of earthquake data**

Lindborg, P., Oct 2017, *2017 ICMC/EMW: HEARING THE SELF*. Shanghai Conservatory of Music, Vol. 2017. p. 207-209 3 p. (International Computer Music Conference Proceedings).

Sonic Explorations of Gumowski-Mira Maps

Tan, T. S. H. & Lindborg, P., Oct 2017, *2017 ICMC/EMW: HEARING THE SELF*. Shanghai, China: Shanghai Conservatory of Music, p. 195-200 6 p. (International Computer Music Conference Proceedings).

Dissonance and Roughness in Cross-Modal Perception

Liew, K., Styles, S. J. & Lindborg, P., Aug 2017. 5 p.

AXIS, Anatomy of Space: Dome projected dance art film with surround electroacoustic music

Belton, D., Lindborg, P., Koh, J. B. & Grenfell, J., 20 Mar 2017

Personality traits bias the perceived quality of sonic environments

Lindborg, P. & Friberg, A., Dec 2016, In: Applied Sciences (Switzerland). 6, 12, 405.Scopus citations: 18

A taxonomy of sound sources in restaurants

Lindborg, P., Sep 2016, In: Applied Acoustics. 110, p. 297-310 14 p.Scopus citations: 32

Porous emerald

LINDBORG, P., Jul 2016, In: ISSUE. 05, p. 83-97 15 p.

About *When We Collide*: A Generative and Collaborative Sound Installation

Lindborg, P. & Koh, J. B., Aug 2015, *Proceedings of the 2nd International Symposium on Sound & Interactivity*. International Computer Music Association, p. 104-107 4 p.

LOCUST WRATH: AN iOS AUDIENCE PARTICIPATORY AUDITORY DISPLAY

Lindborg, P. & Yuning, D. L., Jul 2015, *ICAD 15 - Proceedings of the 21st International Conference on Auditory Display*. Vogt, K., Andreopoulou, A. & Goudarzi, V. (eds.). Austria: IEM-KUG, Graz, p. 125-132 8 p.

Audio Quality Moderates Localisation Accuracy: Two Distinct Perceptual Effects?

Lindborg, P. & Kwan, N. A., May 2015, *Proceedings - 138th Audio Engineering Society Convention 2015*. Audio Engineering Society, Vol. 2. p. 797-806 10 p.

Psychoacoustic, physical, and perceptual features of restaurants: A field survey in Singapore

Lindborg, P., May 2015, In: Applied Acoustics. 92, p. 47-60 14 p.Scopus citations: 26

Colour Association with Music Is Mediated by Emotion: Evidence from an Experiment Using a *CIE Lab* Interface and Interviews

Lindborg, P. & Friberg, A. K., 2015, In: PLoS ONE. 10, 12, e0144013.Scopus citations: 26

Conversation with Pete Kellock, Zul Mahmud and Mark Wong: SOUND ART IN SINGAPORE

Lindborg, P., Aug 2014, In: eContact!. 16, 2

SINGAPORE VOICES: An interactive installation about languages to (re)(dis)cover the intergenerational distance

Lindborg, P., 2010, In: IM: Interactive Media. 6, 27 p.

Reflections on Aspects of Music Interactivity in Performance Situations

Lindborg, P., Oct 2008, In: eContact!. 10, 4

About *TreeTorika*: Rhetoric, CAAC and Mao

Lindborg, P., 2008, *OM Composer's Book*. Bresson, J., Agon, C. & Assayag, G. (eds.). France: Éditions Delatour France / IRCAM - Centre Pompidou, Vol. 2. p. 155-176 22 p.

Preparing for *TreeTorika*: Computer-Assisted Analysis of Mao's oratory

Lindborg, P., Jul 2007, *SMC'07 4th Sound and Music Computing Conference: PROCEEDINGS*. Spyridis, C., Georgaki, A., Kouroupetroglou, G. & Anagnostopoulou, C. (eds.). Athens: National and Kapodistrian University of Athens, p. 267-274 8 p. (Proceedings of the Sound and Music Computing Conference, SMC).Scopus citations: 1

"Leçons": An Approach to a System for Machine Learning, Improvisation and Musical Performance

Lindborg, P., May 2003, *Computer Music Modeling and Retrieval: International Symposium, CMMR 2003. Revised Papers*. Wiil, U. K. (ed.). Berlin, Heidelberg: Springer, p. 210-216 7 p. (Lecture Notes in Computer Science; vol. 2771).