

## Personal

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## Personal profile

My research focuses on what *musicality* is or can be, and aims to unravel the cognitive, biological and environmental mechanisms that underpin our capacity for music. In addition to a research agenda (*The Origins of Musicality*, 2018, MIT Press), I have published several books for the general public, including the English-language publications *Music Cognition: The Basics* (2021, Routledge) and *The Evolving Animal Orchestra* (2018, MIT Press). I regularly give public lectures and appear in the media on topics related to music cognition and the capacity for music that we all have.

## Appointments

2014–present **Professor of Music Cognition**, Faculty of Humanities and Faculty of Sciences, Institute for Logic, Language and Computation (ILLC), University of Amsterdam (UvA)  
2012–2014 Strategic Professor of Cognitive and Computational Musicology, Faculty of Humanities and Faculty of Sciences, UvA  
2010–2013 KNAW-Muller Professor, ILLC, UvA  
2007–2010 Associate Professor, ILLC, UvA  
1992–2007 Senior Researcher, ILLC, UvA  
1997–2003 Research Coordinator, Nijmegen Institute for Cognition and Information (NICI)  
1992–1997 Research Fellow, Royal Netherlands Academy of Arts and Sciences (KNAW), ILLC, UvA  
1988–1990 Research Fellow, Economic and Social Research Council (ESRC), Music Department, City University, London, UK

## Education

2013 Academic teaching certificate (*Basis Kwalificatie Onderwijs*), UvA, NL  
2000–2001 Diploma in Management, Academic Leadership and Coaching, Nijmegen University, NL  
1989–1991 PhD in Music, City University, London, UK, Supervisor: Prof. dr Eric F. Clarke  
1984 Composition, Psychoacoustics and Programming Languages, Center for Computer Research in Music and Acoustics, Stanford University, US  
1981–1984 Composition and Sound Synthesis, Institute of Sonology, Utrecht University, NL

## Research

My research career to date can be characterized by four phases: **(1)** I started my academic career as a music scientist applying artificial intelligence techniques to the **formalization of musical knowledge**, pioneering the use of expert systems and connectionist models to the representation of time and temporal structure in music (e.g., Desain & Honing, 1989). **(2)** In 1997 I started working as a research coordinator at the Nijmegen Institute for Cognition and Information (NICI; now Donders Institute for Brain, Cognition and Behavior), where I initiated research on the **computational modelling of music cognition** (e.g., Desain & Honing, 2003) and pioneered the

<sup>1</sup> N.B. An up-to-date version of this document can be found at: [http://www.mcg.uva.nl/personal/honing\\_cv.pdf](http://www.mcg.uva.nl/personal/honing_cv.pdf)

use of EEG techniques for probing rhythm perception (e.g., Jongsma et al., 2004). **(3)** In 2003 I started a new research group at the University of Amsterdam to further shape the **cognitive sciences of music**, bridging the fields of musicology, psychology and computer science. This group currently has one postdoc, two PhD students and around 10 Master's students.<sup>2</sup> **(4)** In recent years I became fascinated with the **biological and environmental factors contributing to our capacity for music** and have begun collaborating with neurobiologists (e.g., Honing, Bouwer, Prado, & Merchant, 2018; Merchant & Honing, 2014), neuroscientists (e.g., Háden, Honing, Török & Winkler, 2015; Mathias et al., 2016), and behavioral biologists (e.g., ten Cate, Spierings, Hubert, & Honing, 2016; van der Aa, Honing, & ten Cate, 2015). In 2014 I was awarded the Distinguished Lorentz Award in recognition of my interdisciplinary research bridging the humanities and social sciences with natural sciences and technology,<sup>3</sup> while at the same time appointed full professor of Music Cognition at both the Faculty of Humanities and the Faculty of Science at the University of Amsterdam. Both the award and this appointment highlight the interdisciplinary nature of my research. (A **research agenda** for 2022-2025 can be found at <sup>4</sup>.)

#### Awards and honors

2021	Royal Netherlands Academy of Arts and Sciences (KNAW): Science communication Award: <i>Wetenschap gewaardeerd</i>
2020	ABC Senior Award (Amsterdam Brain & Cognition / UvA)
2019-present	Member Royal Netherlands Academy of Arts and Sciences (KNAW)
2013-present	Member Royal Holland Society of Sciences and Humanities (KHMW)
2013–2014	Distinguished Lorentz Fellowship: fellowship and prize granted by the Lorentz Center for the Sciences and the Netherlands Institute for Advanced Study in the Humanities and Social Sciences (NIAS) <sup>5</sup>
2010–2012	Royal Netherlands Academy of Arts and Sciences, KNAW-Muller Professorship
1992–1997	Royal Netherlands Academy of Arts and Sciences, Academy research fellowship

#### Administrative and management activities (selection)<sup>6</sup>

2015-present	Board member WeCo Meertens Institute (KNAW)
2013-present	Member Research Council, Faculty of Humanities, UvA
2016-2020	Co-founder and Associate of the UvA Institute for Advanced Study (UvA-IAS)
2017-2020	Scientific director Institute for Interdisciplinary Studies (IIS), UvA
2013-2018	Coordinator research priority area Brain & Cognition, Faculty of Humanities, UvA
2013-2018	Board member Amsterdam Brain & Cognition (ABC), UvA
2010-2015	Board member Computational Humanities committee (KNAW)
2012-2013	<i>Ad interim</i> Chair of department of Musicology, UvA

#### Organization of scientific meetings (selection)<sup>6</sup>

2021	ABC Summer School on Musicality, 14-24 June 2021
2021	ABC Symposium on Musicality, 24 June 2021
2021	<i>Towards a genomics of musicality</i> , Symposium at Neurosciences and Music VII Conference, Aarhus, DK
2020	<i>Musicality Genomics Consortium</i> , Inaugural meeting, Copenhagen, DK [postponed due to Covid-19]
2019	<i>Deciphering the biology of human musicality through state-of-the-art genomics</i> , KNAW Colloquium and masterclass, Amsterdam, NL
2019	Lorentz workshop on <i>Synchrony and Rhythmic Interaction</i> , Leiden, NL
2017	Symposium <i>On the biological basis of musicality</i> , Neuroscience and Music VI Conference, Harvard Medical School, Boston, US
2017	SMART Cognitive Science International Conference, <i>Smart Animals</i> , Amsterdam, NL

<sup>2</sup> <http://www.mcg.uva.nl/about.html>

<sup>3</sup> <http://tinyurl.com/ngzt74d>

<sup>4</sup> <http://www.mcg.uva.nl/personal/plan.pdf>

<sup>5</sup> <http://tinyurl.com/ngzt74d>

<sup>6</sup> A complete listing is given in the Appendix.

- 2015 SMART Cognitive Science (founding conference), Amsterdam, NL
- 2015 Rhythm Perception and Production Workshop (RPPW), Amsterdam, NL
- 2014 Lorentz workshop on Cognition, Biology and the Origins of Musicality, Lorentz Center for the Sciences, Leiden, NL
- 2013 Managing your Talents, congress on science and the performing arts, Amsterdam, NL

#### Keynote lectures (selection last ten years)<sup>6</sup>

- 2020 Science & Cocktails (DIEP, NWA), Paradiso, Amsterdam, NL
- 2019 ISMIR 2019, TU Delft, Delft, NL
- 2019 ISRA 2019, Pakhuis de Zwijger, Amsterdam, NL
- 2019 Science Night 2019, Amsterdam UMC, Amsterdam, NL
- 2018 LIBC Publieksdag, There is music in the brain, Stadsgehoorzaal, Leiden, NL
- 2018 Theater Lecture Series, Miracles of Music, e.g., het Concertgebouw, Amsterdam, NL
- 2017 Diversity in Science, KNAW symposium in honor of Michelle Lamont, Utrecht, NL
- 2016 Was Musik kann, Barenboim–Said Academy for music and the humanities, Berlin, D
- 2016 Distinguished Lecture, CIRMMT, McGill University. Montréal, CA
- 2016 Dies speech at the 384th *Dies Natalis* of the University of Amsterdam, NL
- 2016 Early intervention Conference, Groningen, NL
- 2015 Research in Music Education, Exeter, UK
- 2015 Neuro-rhythm workshop, University of Tokyo, JP
- 2014 EvoMus workshop at Evolang, Vienna, AU
- 2013 Darwin Symposium, Oslo, N
- 2013 Logic and Music Conference, Florence, I
- 2012 Montessori Europe Congress, Rome, I
- 2009 Annual Meeting of the Experimental Psychology Society, York, UK

Furthermore, I have been an **invited lecturer** at a number of summer schools, including in Barcelona (UPF), Como (Lake Como School of Advanced Studies), Plymouth University and Louvain University. For a full overview of my **invited talks** (more than 180) see: <http://www.mcg.uva.nl/personal/talks.html> or Appendix.

#### List of supervised (and ongoing) PhD-students<sup>7</sup>

(including: title dissertation, year of PhD-degree, nationality, current appointment)

- 2024<sup>8</sup> X. Huang, Music cognition within a certain culture: hook(s) in Chinese pop music and what makes Chinese music memorable? Chinese, PhD Candidate.
- 2022<sup>8</sup> N. Zhi-Yuang, Understanding the cognitive mechanisms underlying the perception of pitch, spectral features and rhythm in birds (*promotor* with prof. dr. Carel ten Cate, LU); Chinese, PhD Candidate.
- 2020 J. Pfeifer, Amusia (*promotor* with prof. dr. Paul Boersma, UvA); German. [expected to be defended in Fall 2020]
- 2020 B. van der Weij, Experienced Listeners: Modeling the influence of long-term musical exposure on rhythm perception; October 2020; Dutch; Data Scientist, NL.
- 2019 C. Vaquero, What makes a performer unique? Idiosyncrasies and commonalities in expressive music performance; Spanish; Data Scientist, NL.
- 2019 A. Jaschke, Beyond Music Education (*promotor* with prof. dr. Erik Scherder, VU); German; Professor (**Lector**) Music-based Therapies and Interventions, ArtEZ University of the Arts, Enschede, NL.
- 2018 B. Janssen, A computational approach to the analyses and recognition of melodies; February 2018, ILLC / UvA German; Postdoc, UU.
- 2018 J. Weidema, Cognitive mechanisms of relative pitch; Dutch. [N.B. stopped his PhD in 2018]; Data Scientist, NL.

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<sup>7</sup> <http://www.mcg.uva.nl/about.html>

<sup>8</sup> Expected year of PhD defense.

- 2016 F. Bouwer, What do we need to hear a beat? The influence of attention, musical abilities, and accents on the perception of metrical rhythm. June 2016, ILLC / UvA; Dutch; **VENI Postdoc** UvA.
- 2009 O. Ladinig, Temporal expectations and their violations. October 2009, ILLC / UvA; Austrian; Freelance activist.
- 2006 M. Sadakata, Ritme & Rizumu: Studies in Music Cognition. November 2006, NICI / KUN (*co-promotor* until 2003); Japanese; **Assistant Professor** UvA.
- 2004 T.C. Cemgil, Bayesian music transcription. NICI / KUN, October 2004 (*co-promotor* until 2003); Turkish; **Full Professor**, Boğaziçi Üniversitesi.
- 2002 R. Timmers, September 2002, NICI / KUN; Dutch; **Full Professor**, University of Sheffield.
- 2002 H. Heijink, Redundancy control in music performance: Towards an understanding of the role of constraint satisfaction. September 2002, NICI / KUN; Dutch; Software developer and musician.

### List of supervised postdoctoral fellows<sup>7</sup>

(including period of appointment, nationality, current position)

1. Dr Andrea Ravignani, 1 June 2019 – 1 January 2020, Italian, Postdoc.
2. Dr Ben G. Schultz, 1 October 2017 – 1 February 2019, Australian, Postdoc.
3. Dr Fleur L. Bouwer, 1 January 2017 – 31 December 2018, Dutch, Postdoc.
4. Dr Paula Roncaglia-Denissen, 1 October 2013 – 30 September 2017, Italian, **Assistant Professor**.
5. Dr John Ashley Burgoyne, 15 June 2012 – 1 September 2017, Canadian, **Assistant Professor**.
6. Dr Gábor Peter Háden, 1 October 2011 – 30 September 2013, Hungarian, Postdoc.
7. Dr Titia van Zuijen, 1 May – 1 September 2011 (part-time), Dutch, **Assistant professor**.
8. Dr Marijtje Jongsma, May 2001– September 2001, Dutch, Chair VAWO.
9. Dr Stéphane Rossignol, November 2000– November 2002, French, Senior Researcher.
10. Dr Huub van Thienen, March 1998 – March 2000, Dutch, Senior Lecturer.
11. Dr Luke Windsor, March 1998– March 2000, British, **Full professor**.
12. Dr Ilya Smulevich, September 1997– August 1998, US, **Full Professor**.

### List of current teaching duties

1. How Music Works: Music Cognition (5244MUCO6Y), MSc Brain & Cognitive Sciences / Master of Logic
2. Evolution of Language and Music (5102EVTM6Y), BSc Psychobiology
3. Musicality (145415296Y6EC), Master Musicology
4. Complexity: Can it be Simplified? (5512COMP6Y) Institute of Interdisciplinary Studies
5. The Next Big Thing (5512TNBT6Y) Institute of Interdisciplinary Studies

For an up-to-date overview see: <http://www.mcg.uva.nl/courses.html> and <http://studiegids.uva.nl>.

### Editorships

I am a **corresponding editor** for Music Perception and Empirical Musicology Review, and an **advisory editor** for the Journal of New Music Research, as well as **topic editor** of Frontiers | Auditory Cognitive Neuroscience. I am also very active as a **reviewer** for journals including PNAS, NYAS, Philosophical Transactions of the Royal Society B, Topics in Cognitive Science, Cognition, Cognitive Science, Current Biology, PLOS ONE, Frontiers in Neuroscience, Frontiers in Psychology, Frontiers in Cognition, Frontiers in Neuroscience, Computer Music Journal, Journal of the Acoustical Society of America, Psychology of Music and Music Theory Spectrum.

### Advisory boards

I have served on several interdisciplinary research **review committees** of the Netherlands Organization for Scientific Research (NWO), as well as on a number of steering committees of the Royal Netherlands Academy of Arts and Sciences (KNAW), such as the Computational Humanities Program Committee. I am a **board member** of the Amsterdam Brain & Cognition (ABC) center and the Royal Holland Society of Sciences and Humanities (KHMW), co-founder and Associate of the UvA Institute of Advanced Study (UvA-IAS), and a scientific advisory board member of the Meertens institute of the KNAW. Furthermore, I was vice-president elect of the

European Society for the Cognitive Sciences of Music (ESCOM) from 2007 to 2009. I have also served on the **advisory boards** of several public institutions for the promotion of music and music education, including Muziek Telt!, Papageno and the Dutch music therapy association (NVvMT). Finally, I have **reviewed grant applications** for most major research funding bodies in the Netherlands, Europe, the US and Canada (NL: NWO and KNAW, EU: FP7, ESF and ERC, US: NSF and NIH, Canada: NSERC, UK: EPSRC).

### Major collaborations

I have **collaborated with leading research institutes** in the fields of music psychology, neuroscience and biology, and with experts including Prof. István Winkler of the Hungarian Academy of Sciences (MTA), Prof. Hugo Merchant of the Universidad Nacional Autonoma de México (UNAM), Prof. Isabelle Peretz of International Laboratory for Brain, Music and Sound Research (BRAMS) and Prof. Carel ten Cate of the Institute of Biology Leiden (Leiden University).

### Example of leadership in technical innovation

I have been active in designing **citizen science games** as one of the spin-offs of the NWO CATCH research project on cognition-based music information retrieval. One example is the 'Hooked on Music' game,<sup>9</sup> developed in collaboration with the Museum of Science and Industry in Manchester (UK) and several software companies, which attracted massive worldwide attention.<sup>10</sup> More than 200,000 people from more than 200 countries have played this innovative online game, providing a rich database for our research on what makes music 'catchy' (Burgoyne et al., 2013).

### Ten representative publications

I have published more than 200 scientific papers and over 25 book chapters and books in domains ranging from the cognitive sciences of music to neuroscience and neurobiology. The following is an overview of the most representative publications:

1. **Honing, H.** (2021, in press) *Music Cognition: The Basics*. London: Routledge.
2. **Honing, H.** (2019). *The Evolving Animal Orchestra. In Search of What Makes Us Musical*. Cambridge, Mass.: The MIT Press. [Translation of *Aap slaat maat*, 2018; Also translated in German & Italian]
3. **Honing, H., & Bouwer, F. L.** (2019) Rhythm. In Rentfrow, P.J., & Levitin, D. (eds.), *Foundations in Music Psychology: Theory and Research*. Cambridge, Mass.: The MIT Press.
4. **Honing, H.** (ed.) (2018). *The Origins of Musicality*. Cambridge, Mass.: The MIT Press.
5. **Honing, H., Bouwer, F.L., Prado, L., & Merchant, H.** (2018). Rhesus monkeys (*Macaca mulatta*) detect isochrony in rhythm: Additional support for the gradual audiomotor evolution hypothesis. *Frontiers Neuroscience*. doi:10.3389/fnins.2018.00475.
6. **Honing, H., ten Cate, C., Peretz, I., & Trehub, S.** (2015). Without it no music: Cognition, biology, and evolution of musicality. *Philosophical Transactions of the Royal Society B: Biological Sciences*, 370 (1664).
7. Gingras, B., **Honing, H.**, Peretz, I., Trainor, L., & Fisher, S. (2015). Defining the biological bases of individual differences in musicality. *Philosophical Transactions of the Royal Society B: Biological Sciences*, 370 (1664).
8. Merchant, H. & **Honing, H.** (2014). Are non-human primates capable of rhythmic entrainment? Evidence for the gradual audiomotor evolution hypothesis. *Frontiers in Neuroscience*, 7(274) 1-8.
9. **Honing, H.** (2012). Without it no music: beat induction as a fundamental musical trait. *Annals of the New York Academy of Sciences*, 1252: *The Neurosciences and Music IV — Learning and Memory*, 85–91.
10. Winkler, I., Haden, G., Ladinig, O., Sziller, I., & **Honing, H.** (2009). Newborn infants detect the beat in music. *Proceedings of the National Academy of Sciences*, 106, 2468-2471.

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<sup>9</sup> <http://www.mcg.uva.nl/hookedonmusic>

<sup>10</sup> <http://tinyurl.com/p6zhku2>

## Books

1. **Honing, H.** (2021, in press) *Music Cognition: The Basics*. London: Routledge
2. **Honing, H.** (2020). *La scimmia batte il tempo. Alle origini della musicalità negli animali e nell'uomo* Roma: Carocci editore. ISBN 9788843099542. [Translation of *Aap slaat maat*, 2018]
3. **Honing, H.** (2019). *The Evolving Animal Orchestra. In Search of What Makes Us Musical*. Cambridge, Mass.: The MIT Press. [Translation of *Aap slaat maat*, 2018]
4. **Honing, H.** (2019). *Der Affe schlägt den Takt. Musikalität bei Tier und Mensch*. Leipzig: Henschel Verlag. ISBN 9783894878108. [Translation of *Aap slaat maat*, 2018]
5. **Honing, H.** (ed.) (2018). *The Origins of Musicality*. Cambridge, Mass.: The MIT Press.
6. **Honing, H.** (2018). *Aap slaat maat. Op zoek naar de oorsprong van muzikaliteit bij mens en dier*. Nieuw Amsterdam Uitgevers.
7. **Honing, H.** (2011/2013). *Musical Cognition. A Science of Listening*. Oxford: Routledge.
8. **Honing, H.** (2012). *Op zoek naar wat ons muzikale dieren maakt*. Nieuw Amsterdam Uitgevers.
9. **Honing, H.** (2009/2012). *Iedereen is muzikaal. Wat we weten over het luisteren naar muziek*. Nieuw Amsterdam Uitgevers.
10. Desain, P. & **Honing, H.** (1992). *Music, Mind and Machine. Studies in Computer Music, Music Cognition and Artificial Intelligence*. Amsterdam: Thesis Publishers.

For a complete publication list see: <http://www.mcg.uva.nl/publications/list.html> or Appendix.

## Impact of research

Honing's internationally renowned investigations on the sciences of music are a prime example of research that crosses the boundaries of several fields in an innovative and inspiring way. For this, Honing was awarded the prestigious Distinguished Lorentz Award 2013/14 in recognition of his interdisciplinary research bridging the humanities and social sciences with natural sciences and technology, and in 2019 he was elected member of the Royal Netherlands Academy of Arts and Sciences (KNAW). In the last decade, Honing initiated many national and international research collaborations on music cognition with neuroscientists, behavioral and neurobiologists that have led to numerous highly cited publications in interdisciplinary journals contributing to a new foundation for the study of musicality. And lastly, Honing published several books for the general public, including *Musical Cognition* and *The Evolving Animal Orchestra*, his books and public lectures being popular with a broad audience and appreciated both inside and outside the scientific world. [H-Index: 44, i10-index: 103, citations: 6683.<sup>11</sup>]

## Outreach

I have lectured to **general audiences** on music cognition and musicality at many different venues, including as part of the Studium Generale programmes at the universities of Utrecht, Groningen, Eindhoven, Twente and Maastricht, and at science festivals such as Cheltenham, TEDx and the World Science Festival. My research is frequently **featured in the media**, including in national and international newspapers and magazines (e.g., NRC Handelsblad, de Volkskrant, Trouw, USA Today, The Guardian, The Independent, Financial Times, Science News, Nature, New Scientist, Salon, Nautilus) and broadcast media including national public television and public radio. Several documentaries featuring my research have appeared on Dutch television (e.g., *De man zonder ritme*, *Over Canto*) and other media (e.g., Netflix: *Music, explained*). I recently explored the topic of musicality in an online lecture series produced by the *Universiteit van Nederland* (in Dutch).<sup>12</sup> For a full overview of my media appearances (over 200) see: <http://www.mcg.uva.nl/press.html>.

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<sup>11</sup> <http://scholar.google.nl/citations?user=Rzvl4oQAAAAJ> (retrieved on 20210819). N.B. The Dutch universities signed DORA, discouraging the use of Journal Impact Factors and H-index.

<sup>12</sup> <http://tinyurl.com/qfave3b>

## Funding ID

Since obtaining my PhD in 1991, I have received continuous external support for my research (more than €5M). The major research grants I have received are (co-applicants not listed):

<i>Year</i>	<i>Title</i>	<i>Funding agency/programme</i>		<i>Budget</i>
2021	A flexible and sustainable infrastructure for MUSic-related Citizen Science Listening Experiments [MUSCLE]	PDI-SSH Call 2021	€	450,000
2021	Unravelling our capacity for music: The contour hypothesis	NWO Open Competition	€	750,000
2021	Pilotfonds Wetenschapscommunicatie door wetenschappers: Gewaardeerd!	KNAW	€	10,000
2020	ABC Project Grant	UvA research priority area	€	250,000
2020	ABC Senior Award	UvA research priority area	€	5,000
2020	Nationale Wetenschapsagenda	Wetenschapscommunicatie (LU penvoerder)	€	50,000
2019	UvA-IAS Fellowship for dr Andrea Ravignani	UvA-IAS Initiative	€	25,000
2015	ABC Talent Grant for dr Fleur Bouwer	UvA research priority area	€	125,000
2014	ABC Talent Grant for dr J. Ashley Burgoyne	UvA research priority area	€	125,000
2013	Distinguished Lorentz Fellowship & Prize	Lorentz Center & NIAS	€	90,000
2012	Knowledge and Culture	NWO Horizon programme	€ <sup>13</sup>	2,000,000
2011	COgnition Guided Interoperability beTWEEN Collections of musical Heritage (COGITCH)	NWO CATCH programme	€ <sup>14</sup>	655,853
2011	Tales & Tunes: Modeling oral transmission	KNAW CH programme	€ <sup>14</sup>	827,000
2010	Neural plasticity in conscious perception	UvA research priority area	€ <sup>14</sup>	730,000
2010	Hendrik Muller chair in music cognition	KNAW stipend	€	22,500
2007	Music Matters: On music and the cognitive sciences	NWO GW project grant	€	25,000
2005	Emergent cognition Through Active Perception (EmCAP)	EU FP6 IST project grant	€ <sup>13</sup>	1,850,000
2005	Music as a social, psychological and acoustical phenomenon: a cognitive revolution in musicology	NWO GW project grant	€	158,000
2004	PracticeSpace: Exploration and training of music performance skills	NWO STW project grant	€	650,000
2001	Music Orchestration Systems in Algorithmic Research and Technology (MOSART)	EU FP5 IHP project grant	f	220,000
1997	Quantization of music with neural networks	NWO STW Project grant	f	220,000
1997	Disclosure of large musical databases	NWO SION project grant	f	220,000
1995	A formalism for knowledge representation in music	KNAW Fellowship extension	f	100,000
1992	A formalism for knowledge representation in music	KNAW Fellowship	f	150,000

For a full overview of my grant proposals see: <http://www.mcg.uva.nl/research.html>.

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<sup>13</sup> Total budget; my own research received approximately 25% of this amount.

<sup>14</sup> Total budget; my own research received approximately 50% of this amount.

## Appendix: Research Output using Standard Evaluation Protocol (SEP)

### 1. Ten most important publications (in last ten years)

1. **Honing, H.** (2019). *The Evolving Animal Orchestra. In Search of What Makes Us Musical*. Cambridge, Mass.: The MIT Press. [Translation of *Aap slaat maat*, 2018; Translations in German, Italian and Spanish underway.]
2. **Honing, H., & Bouwer, F. L.** (2019) Rhythm. In Rentfrow, P.J., & Levitin, D. (eds.), *Foundations in Music Psychology: Theory and Research*. Cambridge, Mass.: The MIT Press.
3. **Honing, H.** (ed.) (2018). *The Origins of Musicality*. Cambridge, Mass.: The MIT Press.
4. **Honing, H.** (2018). On the biological basis of musicality. *Annals of the New York Academy of Sciences* (The Neurosciences and Music VI: Music, Sound and Health).
5. **Honing, H., Bouwer, F.L., Prado, L., & Merchant, H.** (2018). Rhesus monkeys (*Macaca mulatta*) detect isochrony in rhythm: Additional support for the gradual audiomotor evolution hypothesis. *Frontiers Neuroscience*. doi:10.3389/fnins.2018.00475.
6. **Honing, H., ten Cate, C., Peretz, I., & Trehub, S.** (2015). Without it no music: Cognition, biology, and evolution of musicality. *Philosophical Transactions of the Royal Society B: Biological Sciences*, 370 (1664).
7. Gingras, B., **Honing, H.**, Peretz, I., Trainor, L., & Fisher, S. (2015). Defining the biological bases of individual differences in musicality. *Philosophical Transactions of the Royal Society B: Biological Sciences*, 370 (1664).
8. Merchant, H. & **Honing, H.** (2014). Are non-human primates capable of rhythmic entrainment? Evidence for the gradual audiomotor evolution hypothesis. *Frontiers in Neuroscience*, 7(274) 1-8.
9. **Honing, H.** (2012). Without it no music: beat induction as a fundamental musical trait. *Annals of the New York Academy of Sciences*, 1252: *The Neurosciences and Music IV— Learning and Memory*, 85–91.
10. Winkler, I., Haden, G., Ladinig, O., Sziller, I., & **Honing, H.** (2009). Newborn infants detect the beat in music. *Proceedings of the National Academy of Sciences*, 106, 2468-2471.

### 2. Refereed articles

1. Greenfield, M.D., **Honing, H.**, Kotz, S..A. & Ravnani, A. (2021) Introduction. In: Synchrony and rhythm interaction: From the brain to behavioural ecology. *Philosophical Transactions of the Royal Society B: Biological Sciences*. doi: 10.1098/rstb.2020.0324.
2. **Honing, H.** (2021). Lured into listening: Engaging games as an alternative to reward-based crowdsourcing in music research. *Zeitschrift für Psychologie*. doi: 10.1027/2151-2604/a000474
3. **Honing, H.** (2021). Unraveling the origins of musicality: Beyond music as an epiphenomenon of language. *Behavioral and Brain Sciences*. doi: 10.1017/S0140525X20001211.
4. Lenc, T., Merchant, H., Keller, P.E., **Honing, H.**, Varlet, M., & Nozaradan, S. (2021). Mapping between sound, brain and behavior: multi-level nature of rhythm processing in humans and non-human primates. *Philosophical Transactions of the Royal Society B: Biological Sciences*. doi: 10.1098/rstb.2020.0325.
5. **Honing, H.** (2021, in press). Unraveling the origins of musicality: Beyond music as an epiphenomenon of language. *Behavioral and Brain Sciences*.
6. Jacoby, N., Margulis, E., Clayton, M., Hannon, E., **Honing, H.**, Iversen, J., Klein, T. R., Mehr, S. A., Pearson, L., Peretz, I., Perlman, M., Polak,, R. Ravnani, A., Savage, P.E., Steingo, G., Stevens, C., Trainor, L., Trehub, S., & Veal, M. (2020). Cross-Cultural Work in Music Cognition: Challenges, Insights and Recommendations. *Music Perception*, 37(3), 183-193. doi: 10.1525/MP.2020.37.3.185.
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### 3. Special Issues

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## 6. PhD theses (supervised, and in progress)

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2. C. Vaquero, 'What makes a performer unique? Idiosyncrasies and commonalities in expressive music performance', Spring 2019, ILLC/UvA.
3. A. Jaschke, 'is Music a Luxury?: What we know - and do not know - about the Neurocognitive and Behavioural effects of music education.' (*promotor* with E. Scherder, VU). January 2019, VU.
4. B. Janssen, 'Retained or lost in transmission? Analyzing and Predicting Stability in Dutch Folk Songs.' February 2018, ILLC / UvA.
5. F. Bouwer, 'Temporal aspects of music and the role of attention and memory in music cognition.' June 2016, ILLC / UvA.
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11. J. Weidema, 'Cognitive mechanisms of relative pitch' [cancelled in 2018]
12. J. Pfeifer, 'Amusia' (*promotor* with P. Boersma, UvA). [expected to be defended in Fall 2020]
13. N. Zhi-Yuang, 'Understanding the Cognitive Mechanisms underlying the Perception of Pitch, Spectral Features and Rhythm in Birds.' (*promotor* with C. Ten Cate, UL). [expected to be defended in 2022]
14. X. Huang, Music cognition within a certain culture: hook(s) in Chinese pop music and what makes Chinese music memorable? Chinese, PhD Candidate. [expected to be defended in 2024]

## 7. Conference papers

1. Korsmit, I. R., Burgoyne, J. A., & **Honing, H.** (2017). If You Wanna Be My Lover ... A Hook Discovery Game to Uncover Individual Differences in Long-term Musical Memory. In E. Van Dijck (Ed.), *Proceedings of the 25th Anniversary Conference of the European Society for the Cognitive Sciences of Music* (pp. 106–111). Ghent: University of Ghent.
2. Mooren, N., Burgoyne, J.A., & **Honing, H.** (2017) Investigating grouping behaviour of dancers in a silent disco using overhead video capture. In E. Van Dijck (Ed.), *Proceedings of the 25th Anniversary Conference of the European Society for the Cognitive Sciences of Music* (pp. 142–149) Ghent: University of Ghent.
3. Burgoyne, J.A., Hofman, A.D., van der Maas, H.L.J. & **Honing, H.** (2015). Adaptive music recognition games for dementia therapy. In *Proceedings of the European Society for the Cognitive Sciences of Music*. Manchester, England.
4. Vaquero Patricio, C. & **Honing, H.** (2014). Generating expressive timing by combining rhythmic categories and Lindenmayer systems. In M Majid al-Rifaie, J Gow & S McGregor (Eds.), *Proceedings of the 50th Anniversary Convention of the AISB* (pp. 1-7). London: AISB.

5. Bouwer, F. L., & **Honing, H.** (2013) How much beat do you need? An EEG study on the effects of attention on beat perception using only temporal accents. *Front. Hum. Neurosci. Conference Abstract: 14th Rhythm Production and Perception Workshop* Birmingham 11th - 13th September 2013. doi:10.3389/conf.fnhum.2013.212.00030
6. Burgoyne, J. A., Balen, J. van, Bountouridis, D., & **Honing, H.** (2013). Hooked: A game for discovering what makes music catchy. *Proceedings of the International Society for Music Information Retrieval (ISMIR)*.
7. van der Aa, J., **Honing, H.**, & ten Cate, C. (2013). Interval based rhythm perception in the zebra finch (*Taeniopygia guttata*). *Front. Hum. Neurosci. Conference Abstract: 14th Rhythm Production and Perception Workshop* Birmingham 11th - 13th September 2013. doi:10.3389/conf.fnhum.2013.212.00004
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12. **Honing, H.**, & Romeijn, J.W. (2011). Surprise! Assessing the value of risky predictions. *Proceedings of the thirteenth International Conference on Informatics and Semiotics in Organisations - Problems and Possibilities of Computational Humanities* (Fryske Academy, series FA 1053), (p. 185). Leeuwarden: Fryske Academy.
13. **Honing, H.** (2011). The role of surprise in theory testing. In: *All models are wrong. Conference on model uncertainty & selection in complex models*. Groningen: Rijksuniversiteit Groningen.
14. **Honing, H.** (2010). Beat-induction as a fundamental musical skill. *Proceedings of the International Conference on Music Perception and Cognition*. Seattle: University of Washington.
15. **Honing, H.**, Ladinig, O., Winkler, I., & Haden, G. (2009). Do newborn infants sense the beat? *Proceedings of the European Society for the Cognitive Sciences of Music*, 200-201.
16. Rohrmeier, M., Rebuchat, P., **Honing, H.**, Loui, P., Wiggins, G., Pearce, M. T., & Müllensiefen (2009) . Music Cognition: Learning and Processing *Proceedings of the CogSci 2009 conference* (pp. 41-42), Amsterdam: Free University.
17. **Honing, H.** (2008). Musical competence and the role of exposure. *Proceedings of the Music and Language II Conference*, Boston: Tufts University. [abstract]
18. **Honing, H.**, Ladinig, O., Winkler, I., & Haden, G. (2008). Probing emergent meter perception in adults and newborns using event-related brain potentials: a pilot study. *Proceedings of the Neurosciences & Music III Conference*. Montreal: McGill University.
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20. Haas, W.B. de, & **Honing, H.** (2007). Groove, swing and the role of tempo: A model and some preliminary empirical evidence. *Proceedings of the Society for Music Perception and Cognition (SMPC)*, 105, Montreal: Concordia University.
21. Ladinig, O., & **Honing, H.** (2008). An empirically validated model of complexity: Longuet-Higgins and Lee reconsidered. *Proceedings of the International Conference on Music Perception and Cognition*. Sapporo, Japan: Hokkaido University. [abstract]
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23. **Honing, H.** (2007). Preferring the best fitting, least flexible, and most surprising prediction: Towards a Bayesian approach to model selection in music cognition. *Proceedings of the Society for Music Perception and Cognition (SMPC)*, 37, Montreal: Concordia University.

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25. Ladinig, O., & **Honing, H.** (2007). Complexity judgments as a measure for metric salience: Is there indeed a difference between musicians and non-musicians? *Proceedings of the Society for Music Perception and Cognition (SMPC)*, 27, Montreal: Concordia University.
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27. Smith, L.M., & **Honing, H.** (2007) The continuous wavelet transform as a multiresolution representation of musical rhythm. *Proceedings of the 11th Rhythm Perception and Production Workshop (RPPW)*, Dublin, Ireland. [abstract only]
28. Smith, L.M., & **Honing, H.** (2007). Evaluation of multiresolution representations of musical rhythm. *Proceedings of the International Conference on Music Communication Science*, ?, Sydney: MARCS.
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31. **Honing, H.**, & Ladinig, O. (2006). The effect of exposure and expertise on timing judgments: Preliminary results. *Proceedings of the International Conference on Music Perception and Cognition* (pp. 80-85). Bologna: Italy.
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38. Desain, P. & **Honing, H.** (2003). Single trial ERP allows Detection of Perceived and Imagined Rhythm. *Proceedings of the RENCON workshop, International Joint Conference on Artificial Intelligence (IJCAI)*. 1-4.
39. Desain, P., **Honing, H.** & Timmers, R. (2003). Music Performance Panel: NICI / MMM Position Statement. K. Jensen (ed.), *Proceedings of the MOSART Midterm Meeting*, DIKU Report 03/12, ISSN: 0107-8283. Copenhagen, Denmark. 318-322.
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55. Desain, P. and **Honing, H.** (1997). How to evaluate generative models of expression in music performance. In *Issues in AI and Music Evaluation and Assessment. International Joint Conference on Artificial Intelligence*, 5-7. Nagoya: Japan.
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65. Desain, P., & **Honing, H.** (1994). Foot-Tapping: a brief introduction to beat induction. In *Proceedings of the 1994 International Computer Music Conference*. 78-79. San Francisco: International Computer Music Association.
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76. Desain, P., & **Honing, H.** (1986). LOCO, composition microworlds in Logo. In P. Berg (ed.), *Proceedings of the 1986 International Computer Music Conference*. 109-118. San Francisco: Computer Music Association.

## 8. Professional publications

1. **Honing, H.** (2020). Are humans the only musical species? *The MIT Reader*, Cambridge, Mass: The MIT Press.
2. **Honing, H.** (2017). Wat is een absoluut gehoor en is het erfelijk? In Rinnooy Kan & de Graaf (eds.), *Hoe zwaar is licht?* (pp. 74-76). Amsterdam: Uitgeverij Balans.
3. **Honing, H.** (2016). Muzikaliteit gaat aan muziek én taal vooraf. *Blind!*, 43.
4. **Honing, H.** (2016). Voor de muziek uit. Waarom muzikaliteit aan muziek én taal voorafgaat. *Onze Taal*, 2/3, 8.
5. **Honing, H.** (2012). Een vertelling. In: S. van der Maas, C. Hulshof, & P. Oldenhavé (Eds.), *Liber Plurum Vocum voor Rokus de Groot* (pp. 150-154). Amsterdam: Universiteit van Amsterdam (ISBN 978-90-818488-0-0)
6. Willekens, F. et al. (2010). *Computational Humanities. Report of the Computational Humanities Programme Committee of the KNAW*. Amsterdam: Royal Netherlands Academy of Arts and Sciences (KNAW).
7. **Honing, H.** (2008). De vergeten luisteraar. *Boekman*, 77, 42-47.
8. **Honing, H.** (2006). How to make a machine listen? *Intensive Science*, 21. Sony Computer Science Laboratory: Paris.
9. **Honing, H.** (2005). Muziek is geen geluid. Over muziek, kunst en wetenschap, *BLIND!*, 4.

10. Desain, P., & **Honing, H.** (2004). Final Report NWO-PIONIER Project "Music, Mind, Machine". *Technical Notes ILLC, X-2004-02*.
11. **Honing, H.** (2004). Computational modeling of music cognition: a case study on model selection. *ILLC Prepublication PP-2004-14*.
12. **Honing, H.** (2004). Een vertelling over muziek, motoriek en metafoor. *Mens en Melodie*, 59(5), 5-9.
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14. **Honing, H.** (1998). Vergelijking Midi-files. Deskundige Rapport. Nijmegen.
15. Desain, P., **Honing, H.** (1997). *Lisp as a second language*. [unpublished book]
16. Desain, P. and **Honing, H.** (1997). Computatoneel modelleren van beat-inductie. *Informatie* 48-53. ISSN: 0019-9907.
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18. Desain, P., & **Honing, H.** (1996). Pas op voor de tempocurve! *Nieuwsbrief Nederlandse Vereniging voor Psychonomie*, (1), 4-7.
19. Desain, P., & **Honing, H.** (1996). Pas op voor de tempocurve! *Nieuwsbrief Nederlandse Vereniging voor Psychonomie*, (2), 11-13.
20. Desain, P., & **Honing, H.** (1996). Pas op voor de tempocurve! *Nieuwsbrief Nederlandse Vereniging voor Psychonomie*, (3), 8-11.
21. Desain, P., & **Honing, H.** (1996). *LOCO-SONNET: a graphical dataflow language for algorithmic composition*. IBM, T.J. Watson Center, NY.
22. Desain, P., & **Honing, H.** (1995). *Music, Mind, Machine. Computational Modeling of Temporal Structure in Musical Knowledge and Music Cognition*. Research proposal (Manuscript).
23. Desain, P., & **Honing, H.** (1994). *CLOSe to the edge? Advanced object oriented techniques in the representation of musical knowledge*. (Research Report CT-94-13). Amsterdam: Institute for Logic, Language and Computation (ILLC).
24. Desain, P. and **Honing, H.** (1994). *Review of ZIPI: Proposal of a New Networking Interface for Electronic Musical Devices* (version 1.0.).
25. Desain, P., & **Honing, H.** (1994). *Shoes news 2* (electronic newsletter). Nijmegen: University of Nijmegen.
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31. Desain, P., **Honing, H.**, Jong, P. d., Spek, R. v. d., & Vos, S. d. (1992). *Audit report. Portfolio Management System*. Utrecht: Centre for Knowledge Technology.
32. Desain, P., & **Honing, H.** (1989). *LOCO, composition microworlds in Logo*. (Research Report). Utrecht: Centre for Knowledge Technology.
33. Desain, P., & **Honing, H.** (1988). *LOCO, composition microworld, manual Apple Macintosh*. (Research Report). Utrecht: Centre for Art, Media and Technology, Utrecht School of the Arts.
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## 9. Publications aimed at the general public (*selection*)

1. **Honing, H.** (2019). What makes music special to us: Clarifying the differences between what animals and humans hear, *Nautilus*, 70.

2. **Honing, H.** (2019). How playing music for rhesus monkeys is teaching us about our own brains, *Salon* (OCLC 43916723).
3. **Honing, H.** (2017). Wat is een absoluut gehoor en is het erfelijk? In Rinnooy Kan & de Graaf (eds.), *Hoe zwaar is licht?* (pp. 74-76). Amsterdam: Uitgeverij Balans.
4. **Honing, H.** (2015). Do re mi (Interview). In: Govert Schilling (Ed.), *Een aap die kan blozen* (pp. 62-70). Hilversum: Fontaine.
5. **Honing, H.** (2015). Een intieme relatie met emoties en geheugen (Interview). In: Roger van Boxtel (Ed.), *Van trilling tot rilling* (pp. 58-70). Amsterdam: Prometheus | Bert Bakker.
6. **Honing, H.** (3 november 2014). Gaan we de kinderen horen zingen in de klas? *Opinie & Debat, Volkskrant*.
7. **Honing, H.** (2011). Muziek is geen luxe, maar wat dan wel? *Academische Boekengids*, 88, 2-4.
8. **Honing, H., Scherder, E., & Swaab, D.** (18 juni 2011). Amuzikaal zijn is de grote uitzondering. *Opinie & Debat, Volkskrant*.
9. **Honing, H.** (2007). Noten of letters. De taal van de muziek en het plezier van het luisteren. *Academische Boekengids*, 6(3), 6-7.
10. **Honing, H.** (2006, March 18). De analfabetische luisteraar (kan ook Groot Luisteren) [The illiterate listener], *NRC Handelsblad, Opinie & Debat*, p. 19.
11. **Honing, H.** (2004). Het geheim van de syncope. Over muziekcognitie, meten aan uitvoeringen, spannende ritmes en de aandacht van baby's. *De Groene Amsterdammer* 45, 28-29.
12. **Honing, H.** (2004). Muziek de maat genomen. Over de groeiende rol van theorie en observatie in de musicologie. *De Academische Boekengids*, 4(7). 23.

## 10. Other research output

### Professional memberships, boards and committees

1. Member elect of Royal Netherlands Academy of Arts and Sciences (KNAW) (2019-...)
2. Member elect of the Koninklijke Hollandse Maatschappij der Wetenschappen (KHMW) (2013-...)
3. Board member WeCo Meertens Institute (KNAW) (2015-2023)
4. Scientific director Institute for Interdisciplinary Studies (IIS), UvA ) (2017-2020)
5. Co-founder and Associate of the UvA Institute for Advanced Study (UvA-IAS) (2016-...)
6. Advisory Board, Stichting Papageno (2015-...)
7. Member of the Amsterdam Brain & Cognition (ABC) Board, UvA (2013-2018)
8. Member Onderzoeksraad, Faculty of Humanities, UvA (2013-...)
9. Member SMART Cognitive Science, Faculty of Humanities, UvA (2013-...)
10. Co-initiator ABC Creative Mind Prize, Prize by Freek and Hella de Jonge Foundation and ABC Talent Grant (2013-..)
11. Co-initiator Honorary Fellowship Freek de Jonge, Faculty of Humanities, UvA (2015/2016)
12. Coordinator research priority area Brain & Cognition, Faculty of Humanities, UvA (2013-..)
13. Member Program Group Computational Humanities, Royal Netherlands Academy of Arts and Sciences (KNAW) (2010-2016)
14. Member Program Committee Computational Humanities, Royal Netherlands Academy of Arts and Sciences (KNAW) (2009/2010)
15. Member NWO review committees interdisciplinary research (2009/2010)
16. Advisory Board Muziek telt initiative (www.muzeiktelt.nl) (2010-..)
17. Advisory Board Orion UvPA initiative (2009-...)
18. Member jury muziekscriptie prijs coordinated by Muziek Centrum Nederland (MCN). (2008-..)
19. Vice-President Elect of the European Society for the Cognitive Sciences of Music (ESCOM) (2007-2009)
20. Member Society for Music Perception and Cognition (SMPC) (since 2002)
21. Member European Society for the Cognitive Sciences of Music (ESCOM) (since 1996)
22. Member Vereniging van Academie-onderzoekers (KNAW) (since 1992)
23. Member Cognitive Science Society (CSS) (since 2005)
24. Member Dutch Ethno-musicological Society (A. Bake)

25. Member Forumcommissie Koninklijke Vereniging voor Nederlandse Muziekgeschiedenis (KVNMM) (2005/2006)
26. External reviewer for most major research funding bodies in the Netherlands, Europe, the US and Canada (NL: NWO and KNAW, EU: FP7, ESF and ERC, US: NSF and NIH, Canada: NSERC, UK: EPSRC). (2003-...)

#### Editorial functions and Scientific Advisory Boards (*selection*)

1. Corresponding Editor for Music Perception (MP)
2. Corresponding Editor for Empirical Musicology Review (EMR)
3. Topic editor Frontiers | Auditory Cognitive Neuroscience
4. Advisory editor Journal of New Music Research (JNMR)
5. Scientific Advisory Board of International Conference on Music Perception and Cognition (ICMPC)
6. Scientific Advisory Board of International Computer Music Conference (ICMC05/06)
7. Scientific Advisory Board of Rhythm Perception and Production Workshop (RPPW)
8. Scientific Advisory Committee of various conferences, including International Conference of Music and Artificial Intelligence (ICMAI), Workshop Constraint Programming and Music (CP01), Brazilian Symposium on Computer Music (SBCM), Computer Music Modeling and Retrieval (CMMR03, 04, 05), Journées d'Informatique Musicale (JIM, 01-05), and Sound and Music Computing (SMC).
9. Reviewer for many journals, including Proceedings of the National Academy of Sciences, Philosophical Transactions of the Royal Society B, Topics in Cognitive Science, Cognition, Cognitive Science, Current Biology, PLOS ONE, Brain & Cognition, Frontiers in Neuroscience, Computer Music Journal, Behaviour & Information Technology, Experimental Brain Research, Journal of the Acoustical Society of America, Leonardo and Music Theory Spectrum.

#### Keynotes, invited lectures, media appearances<sup>17</sup>

I have lectured to **general audiences** on music cognition and musicality at many different venues, including as part of the Studium Generale programmes at the universities of Utrecht, Groningen, Eindhoven, Twente and Maastricht, and at science festivals such as Cheltenham, TEDx and the World Science Festival. My research is frequently **featured in the media**, including in national and international newspapers and magazines (e.g., NRC Handelsblad, de Volkskrant, USA Today, The Guardian, The Independent, Financial Times, Frankfurter Allgemeine, Science News, New Scientist) and broadcast media including national public television and public radio. Several documentaries featuring my research have appeared on Dutch television. Two documentaries on the topic of musicality are currently in preparation. I recently explored the topic of musicality in an online lecture series produced by the Universiteit van Nederland (in Dutch).<sup>18</sup> For a full overview of my media activities (over 200) see: <http://www.mcg.uva.nl/press.html>.

#### *Invited lectures* [For more recent lectures, see <sup>19</sup>]

1. On the origins of musicality (online), Keio University, J (21.12.2020)
2. **Keynote** (online). On the origins of musicality, CBEN, NL (13.11.2020)
3. Presentation (hybrid) during LUISTER/LISTEN event, Koninklijk Conservatorium, Den Haag, NL (28.10.2020)
4. Iedereen is muzikaal, Kielzog theater, Hoogezand, NL (19.09.2020)
5. **[N.B. Lectures until September 2020 cancelled due to health issues and pandemic]**
6. **Keynote**. In search of what makes us musical, Science & Cocktails (DIEP, NWA), Paradiso, Amsterdam, NL (27.01.2020)

<sup>17</sup> For all outreach activities, media appearances, video and audio fragments see <http://www.mcg.uva.nl/press.html>

<sup>18</sup> <http://tinyurl.com/qfave3b>

<sup>19</sup> <http://tinyurl.com/hk8f6xy>

7. Lezing over muzikaliteit, ACTA, Universiteit van Amsterdam, NL (11.12.2019)
8. Lezing over muzikaliteit, Bagels & Beans, Delft, NL (26.11.2019)
9. Lezing over muzikaliteit, GAIN symposium, Zoetermeer, NL (19.11.2019)
10. Muzikaliteit in dieren, **Studium Generale**, Groningen, NL (06.11.2019)
11. **Keynote**. What makes us musical animals. ISMIR 2019, TU Delft, NL (05.11.2019)
12. *Der Affe schlägt den Takt*: Buchpremiere, Dutch Embassy, Berlin, G (01.11.2019)
13. Lezing over muzikaliteit, Academy Franeker, NL (30.10.2019)
14. Lezing over muzikaliteit, Tivoli/Vredenbrug, Utrecht, NL (02.10.2019)
15. **Keynote**. What makes us musical animals, ISRA 2019, Pakhuis Willem de Zwijger, Amsterdam, NL (15.09.2019)
16. **Keynote**, Science Night 2019, Amsterdam UMC, Pakhuis Willem de Zwijger, Amsterdam, NL (12.04.2019)
17. **[N.B. Lectures until April 2019 cancelled due to health issues]**
18. **Public lecture**. *Miracles of Music Show*, w. Prof. Erik Scherder & Prof. Dick Swaab, De Doelen, Rotterdam, NL (02.12.2018)
19. **Keynote**. *Publieksdag 'Daar zit muziek in'*, LIBC, UL, Leiden, , NL (30.11.2018)
20. **Keynote**. *Miracles of Music Congress*, VU, Amsterdam, NL (15.11.2018)
21. **Theatercollege**. *Miracles of Music Show*, w. Prof. Erik Scherder & Prof. Dick Swaab, Stadsgehoorzaal, Leiden, NL (10.06.2018)
22. **[N.B. Lectures from February to November 2018 cancelled due to health issues]**
23. *Debat: Is muziek echt zo uniek?* Universiteitsdag, UvA, Amsterdam, NL (09.06.2018)
24. **Public lecture**. *Miracles of Music Show*, w. Prof. Erik Scherder & Prof. Dick Swaab, Concertgebouw, Amsterdam, NL (17.01.2018)
25. Lezing over muzikaliteit, Utrecht University, Utrecht, NL (22.11.2017)
26. Lecture at KNAW Diversity Congress, Getrudikapel, Utrecht, NL (21.11.2017)
27. Lezing over muzikaliteit, De Buren, Brussel, B (20.10.2017)
28. Lezing over muzikaliteit, Publieksdag Hersenstichting, De Doelen, Rotterdam, NL (12.10.2017)
29. **Public lecture**. *Miracles of Music Show* (try-out) w. Prof. Erik Scherder & Prof. Dick Swaab, Schouwburg Amstelveen, NL (11.10.2017)
30. Lecture on Musicality, Utrecht University, NL (28.08.2017)
31. Lecture on Musicality, Université de Genève, S (21.08.2017)
32. Lecture at Summerschool on Music, Language and Cognition, Lake Como, I (26.07.2017)
33. **Keynote**. Symposium on the biological basis of musicality, Neuroscience & Music VI, Boston, MA, US (17.06.2017)
34. **Keynote**. What makes us musical animals, UMC Groningen, Groningen, NL (02.06.2017)
35. **Public lecture**. *Iedereen is muzikaal*, Zuiderstrandtheater, Scheveningen, NL (26.05.2017)
36. Lezing *Kunst als leermeester van de wetenschap?*, KNAW, Amsterdam, NL (23.05.2017)
37. Lezing *Muziek als medicijn?*, Spui25, Amsterdam, NL (18.05.2017)
38. **Public lecture**. *Iedereen is muzikaal*, Theater de Meervaart, Amsterdam, NL (14.02.2017)
39. **Keynote** Address. What makes us musical animals, Barenboim–Said Academy for music and the humanities, Berlin, G (23.11.2016) 2017
40. **Public lecture**. *Iedereen is muzikaal*, Leidse Schouwburg, Leiden, NL (07.11.2016)
41. Lezing *Iedereen is muzikaal*, Theater de Meervaart, Amsterdam, NL (01.11.2016)
42. Conversation with Colin Benders, Trippenhuis, Academie voor de Kunsten, Amsterdam, NL (31.10.2016)
43. Lecture on 'Beat Deafness', Symposium on Congenital Amusia, Belle van Zuylenzaal, Amsterdam, NL (27.10.2016)
44. Member Forum on "Musicality and Technology", Elizabeth Wirth, New Music Building, Montréal, CA (21.10.2016)
45. **Keynote**, Distinguished Lecture on Musicality, Tanna Schulich Hall, New Music Building, Montréal, CA (20.10.2016)
46. Lecture on Musicality, TU Dresden, Dresden, G (11.10.2016)
47. **Public lecture**. *Iedereen is muzikaal*, Schouwburg De Lawei, Drachten, NL (05.10.2016)
48. Lezing over muzikaliteit, Kaap Doorn Conferentiecentrum, Doorn, NL (23.08.2016)
49. The Art of Listening, Round table with Olga Neuwirth et al., Holland Festival, Stadsschouwburg, Amsterdam, NL (14.06.2016)

50. **Keynote** Address. Iedereen is muzikaal. Congres Grote Prijs van Nederland. Paradiso, Amsterdam, NL (13.05.2016)
51. **Public lecture**. *Iedereen is muzikaal*, Museumweek, Instituut voor Beeld en Geluid, Hilversum, NL (17.04.2016)
52. What makes us musical animals. Nederlands Instituut in Sint-Petersburg, RU (13.04.2016)
53. What makes us musical animals. Московская высшая школа социальных и экономических, Moscow, RU (11.04.2016)
54. **Keynote** Address. What makes us musical animals. Early Intervention Conference, University Medical Center, Groningen, NL (07.04.2016)
55. **Keynote** Address. Dies speech at the 384th Natalis of the University of Amsterdam, Amsterdam, NL (08.01.2016)
56. **Keynote** Address. What makes us musical animals. Neurorhythm conference, University of Tokyo, JP (18.12.2015)
57. **Public lecture**. *Iedereen is muzikaal*. Nationaal Bibliotheekcongres. Klokgebouw, Eindhoven, NL (09.12.2015)
58. Muziek is meer dan kunst alleen. Maatschappelijke impact van de geestes- en sociale wetenschappen. Adademiegebouw, Utrecht, NL (02.12.2015)
59. Hebben dieren gevoel voor muziek? Eureka! Festival. Wetergasfabriek, Amsterdam, NL (29.11.2015)
60. Breuken, Beats & Beethoven. BètaBreak. Universiteit van Amsterdam, NL (18.11.2015)
61. **Keynote** Address. Voor de muziek uit. Congres Onze Taal. Chassé theater, Breda, NL (07.11.2015)
62. Muziek en het brein. College Club. VondelCS, Amsterdam, NL (21.10.2015)
63. Muziekcognitie. Descartescollege. Universiteit van Utrecht, NL (14.10.2015)
64. Iedereen is muzikaal. Muziekeducatie congres. Haagse Hogeschool, Den Haag, NL (08.10.2015)
65. 24/7 Lecture. European Ig Nobel Show. Science Center Nemo, Amsterdam, NL (03.10.2015)
66. Journalistiek gesprek over muzikaliteit. Ter Gooi Ziekenhuizen, De Vorstin, Hilversum, NL (23.09.2015)
67. Iedereen is muzikaal, Gebroeders Nobel, Leiden, NL (19.09.2015)
68. Musicality. ABC Brain day, Brakke Grond, Amsterdam (01.06.2015)
69. Musicality: Wired for music? Science Café Wageningen, Universiteit van Wageningen, NL (30.04.2015)
70. **Keynote** Address. What makes us musical animals? Conference RIME 2015, Exeter, UK (15.04.2015)
71. Iedereen is muzikaal, Theater Reggehof, Goor, NL (17.03.2015)
72. Iedereen is muzikaal, **Studium Generale**, Universiteit van Twente, Enschede, NL (03.02.2015)
73. What makes us musical animals? MTA, Budapest, HU (09.01.2015)
74. Wat maakt ons muzikale dieren? Theater Diligentia, Den Haag, NL (05.01.2015)
75. Hooked on Music, Top 2000 Symposium, Sound & Vision, Hilversum, NL (20.11.2014)
76. Nacht van de Klassieke muziek, NTR televisie, Amsterdam, NL (19.09.2014)
77. Creativiteit en (het luisteren naar) muziek, KNAW-Muller Seminar, Amsterdam, NL (17.09.2014)
78. Entr' Acte tijdens FGW Opening Academisch jaar, Rode Hoed, Amsterdam, NL (04.09.2014)
79. Muziek in je hoofd. De Nacht van Kunst en Wetenschap, Groningen, NL (24.05.2014)
80. Verstand van Muziek. Filmtheater, Hilversum, NL (20.05.2014)
81. **Keynote** Address. Musical Animals. Can there be? Are we?. EvoMus during EvoLang, Vienna, AU (14.04.2014)
82. Debat muziek en het brein. Handelsbeurs, Gent, B (07.10.2013)
83. **Keynote** Address. World Science Festival Preview, Amsterdam, NL (04.10.2013)
84. **Keynote** Address. Managing Your Talents Symposium, Amsterdam, NL (29.08.2013)
85. **Keynote** Address. Modelling rhythm perception. Logic & Music workshop, Florence, I (16.06.2013)
86. Cognitie en de geesteswetenschappen. KNAW symposium, Amsterdam, NL (10.06.2013)
87. Iedereen is muzikaal i.s.m. Yuri Honing. Concertgebouw, Amsterdam, NL (30.05.2013)
88. Het fascinerende brein. Spui25, Amsterdam, NL (29.05.2013)
89. IgNobel 24/7 lecture competition, Leiden, NL (28.05.2013)
90. Muzikale Dieren. NRC/Spui25, Food for Thought. Amsterdam, NL (08.05.2013)
91. What makes us musical animals. Barcelona, S (26.04.2013)
92. What makes us musical animals (public lecture). Darwin Day 2013, Oslo, N (11.02.2013)
93. Music, Cognition and the Origins of Music (scientific lecture). Darwin Day 2013, Oslo, N (11.02.2013)
94. Muziek en evolutie, Science Café Tilburg, NL (15.01.2013)

95. Bouwstenen van muziek en muzikaliteit, NWO/KNAW Paradisolezing, Amsterdam, NL (06.01.2013)
96. KNAW tweegesprek over muziek, muzikaliteit en Afrika, Spui25, Amsterdam, NL (04.12.2012)
97. Iedereen is muzikaal, Ziggo Dome, Amsterdam, NL (20.11.2012)
98. Iedereen is muzikaal, Muziek Telt congres, Verensmederij, Amersfoort, NL (07.11.2012)
99. What makes us musical animals, Montesorri congres, Rome, I (27.10.2012)
100. What makes us musical animals, Congo congres, Amsterdam, NL(17.10.2012)
101. Iedereen is muzikaal, Leerkrachten congres, Nemo science center, Amsterdam, NL (26.09.2012)
102. Muziekcognitie, Koninklijke Hollandsche Maatschappij Wetenschap, Haarlem, NL (23.09.2012)
103. Wat ons muzikale dieren maakt, mini-college Glazenhuis op het Spui, A'dam, NL (03.09.2012)
104. What makes us musical animals. Copenhagen, DK (19.04.2012)
105. Twaalfde Van Foreest Publiekslezing, Alkmaar, NL (17.04.2012)
106. Jaarlijkse Kunst- en Wetenschapslezing, **Studium Generale** Utrecht, NL (10.04.2012)
107. Stand van de Wetenschap, John A. Michon en Henkjan Honing. Spui25, Amsterdam, NL (16.01.2012)
108. What makes humans unique? Introduction to lecture by Daniel Dennett. Aula UvA, Amsterdam, NL (07.01.2012)
109. What makes us musical animals. TEDx, Amsterdam, NL (25.11.2011)
110. Muziek, hersenen en stress. Debat met René Kahn en Marian Joëls. Aula, Amsterdam, NL (21.11.2011)
111. Wat ons muzikale dieren maakt. Congres Podiumkunsten, Enschede, NL (26.09.2011)
112. Iedereen is muzikaal. Conferentie Kinderen maken Muziek, Kaap Doorn, NL (23.09.2011)
113. Ons muzikale brein. Science Café Nijmegen, NL (12.09.2011)
114. Wat ons muzikale dieren maakt. Symposium Muziek Telt!, Amsterdam, NL (22.06.2011)
115. Beat-induction as a fundamental musical skill. Music and Neurosciences, Edinburgh, UK (10.06.2011)
116. Iedereen is muzikaal. Academische Club, Amsterdam, NL (21.04.2011)
117. Iedereen is muzikaal. Studiedag Gehrels Muziekeducatie, Utrecht, NL (26.03.2011)
118. Iedereen is muzikaal. **Studium Generale**, TUE Eindhoven, NL (17.11.2010)
119. Wanneer ben je muzikaal? Illustre School, kinderlezing, Amsterdam, NL (16.10.2010)
120. Wanneer ben je muzikaal? AUV, kinderlezing, Amsterdam, NL (06.11.2010)
121. Iedereen is muzikaal. Vredenburg, Utrecht, NL (13.10.2010 & 20.10.2010)
122. Iedereen is muzikaal, Lochem, NL (08.10.2010)
123. Iedereen is muzikaal. Krisis, Amsterdam, NL (01.10.2010)
124. Iedereen is muzikaal. Studentenvereniging Congo, Amsterdam, NL (08.06.2010)
125. Iedereen is muzikaal. Music & Science festival, Zutphen, NL (17.04.2010)
126. Iedereen is muzikaal. EPTA, Nunspeet, NL (13.11.2010)
127. Is beat induction a fundamental musical skill? Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig, G (07.07.2010)
128. Iedereen is muzikaal. Nemo zondagmiddaglezing, NEMO, Amsterdam, NL (23.05.2010)
129. Beat-induction as a fundamental musical skill. Music Meets Science festival, Burgerzaal, Zutphen, NL (17.04.2010)
130. Kunstencongres Jouw brein achter de kunst; kunst vanuit een neurologische invalshoek, Huis de Beurs, Groningen, NL (14.04.2010)
131. Iedereen is muzikaal, Series of public lectures organized by the Illustere School, University of Amsterdam, Amsterdam, NL (30.03.2010, 13.04.2010, 27.04.2010)
132. Iedereen is muzikaal, Noorderslag Science with prof. Tom ter Bogt and others, Eurosonic festival, Oosterpoort, Groningen, NL (15.01.2010)
133. Iedereen is muzikaal, presentation with Mariecke van der Linden (piano/zang), Stadschouwburg, Amsterdam, NL (07.01.2010)
134. Do newborn infants have a sense of rhythm? European Society for Cognitive and Affective Neuroscience (ESCAN), Amsterdam, NL (11.12.2009)
135. De onoplettende luisteraar: wat we weten over het luisteren naar muziek (zelfs als we iets anders doen) , Universiteit van Maastricht i.s.m. Nederlands Instituut voor Beeld en Geluid, Hilversum, NL (20.11.2009)
136. Iedereen is muzikaal, Studievereniging VSPA, Amsterdam, NL (18.11.2009)
137. Is beat induction innate or learned? Workshop entrainment and synchronization in music and speech, Université Libre de Bruxelles, B (14.11.2009)



138. Iedereen is muzikaal. Studiedag muziektherapie "ritme, hersenen en wetenschap", Nederlandse Vereniging voor Muziektherapie (NvMT), Nijmegen, NL (12.11.2009)
139. We zijn allemaal muzikale dieren, De stelling van..., Universiteit van Amsterdam | Spui 25, NL (12.10.2009)
140. Is beat induction innate or learned? Workshop at Institute of Cognitive Neuroscience, University College London, UK (11.07.2009)
141. Is beat induction innate or learned? Annual Meeting of the Experimental Psychology Society, York, UK (09.07.2009)
142. On the origins of music: Is beat induction innate or learned? BCN Symposium 'In Time: clocks in the brain and concepts of time', Universiteit van Groningen (11.06.2009)
143. 'Iedereen is muzikaal', Universiteitsdag Universiteit van Amsterdam (06.06.2009)
144. 'Wanneer ben je muzikaal?' Wakker Worden Kinderlezing, NEMO ism UvA en het Parool (24.05.2009)
145. 'Muziek en geheugen', Festival Het Geheugenhuis De Waag ism Rathenau en het Parool (18.04.2009)
146. Swing and groove: How does it work? Lustrum **Studium Generale**, Universiteit van Groningen (07.04.2009)
147. 'Is beat induction uniquely human? And why might that be relevant?' Colloquium Behavioural Biology, Universteit van Leiden (27.01.2009)
148. 'Heb je ritmegevoel?', Festival Noorderslag, Groningen (17.01.2009)
149. 'Zit muziek tussen je oren of in je hoofd?'. Spinozadebatten, NWO (with Het Paard van Troje, NRC Handelsblad, VPRO en Teleac), Den Haag, NL. (16.12.2008)
150. 'Zonder luisteraar geen muziek', Finals Academic Year Prize, Leiden, NL. (11.07.2008)
151. Musical competence and the role of exposure. Conference Music, Science and the Brain, Plymouth University, UK. (27.09.2008)
152. 'Good Vibrations'. Cheltenham Science Festival, UK. (07.06.2008)
153. 'Magie van de Wetenschap', KNAW, Amsterdam, NL. (29.02.2008)
154. Music cognition. Noorderslag Science, Groningen, NL. (18.12.2007)
155. Music, Neuroscience and Technology, CosmoCAixa Barcelona, S. (16.11.2007)
156. Natuur- en Letterkundig Genootschap Physica. (27.10.2007)
157. Conference of the Gesellschaft fuer Musikforschung. (28.09.2007)
158. UvA Opening Academisch jaar. (03.09.2007)
159. UvANacht Wetenschap van het luisteren. (16.06.2007)
160. On the growing role of observation, formalization and experimental method in musicology. Utrecht Colloquia in the Musicologies, University of Utrecht, NL (21.03.2007)
161. Towards a science of listening. Composers seminar series. Stichting Walter Maas Huis, Bilthoven, NL (23.02.2007)
162. Hersendialogen on the Brainspotting Festival. Rathenau Institute, Amsterdam (08.12.2006).
163. Muziek de maat genomen. Seminar on Karl R. Popper in relation to music research. DocARTES program, Orpheus Institute Ghent, BE (23.11.2006)
164. Virtual Rhythm Space. Presentation at the opening of the Virtual Knowledge Studio on e-science with 2006 Boy Edgar Prize winner Benjamin Herman, Royal Academy of Arts and Sciences (KNAW), Amsterdam, NL (11.10.2006)
165. "Zonder luisteraar geen muziek" Conference on music and education "Harmonie in Gedrag", Haagse Hogeschool, Den Haag, NL (06.10.2006)
166. Symposium. "Music and Cognition: What cognitive science can learn from music cognition." Lecture at symposium during the XXVIII Annual Conference of the Cognitive Science Society (CogSci2006), Vancouver, CA (25.07.2006)
167. Invited professor. Sound and Music Computing Summer School: Course on music cognition, Barcelona, S (24-26.06.2006)
168. "Muziek is geen geluid", UvA/VSPA lezingencyclus "Een andere kijk op psychologie", Amsterdam, NL (22.06.2005).
169. "Rituelen, ritme en cognitie", Facultaire Opening Academic Year 2005/2006, UvA, Amsterdam, NL (08.09.2005).
170. "Muziek, cognitie en wetenschap", Utrechtse Studievereniging voor Cognitieve Kunstmatige Intelligentie (USCKI), Utrecht, NL (18.10.2005).

171. "Mensen zijn muzikaler dan ze denken", Meeting on Cognition and Creation, Royal Academy of Arts and Sciences (KNAW), Amsterdam, NL (02.11.2005).
172. "Computational modeling of rhythm, timing and tempo", Seminar on "New Research Perspectives in Systematic and Comparative Musicology", Musikwissenschaftliches Institut, University of Cologne, G (10.12.2005).
173. "Computational modeling of music cognition : a case study in model selection", Seminar on "Logic & Cognition", University of Amsterdam, NL (16.12.2005).
174. "Nieuwe onderzoeksperspectieven voor de geesteswetenschappen", 3e symposium Geesteswetenschappen en ICT, SURF, Amsterdam, NL (01.10.2004).
175. "Music cognition lectures", Northwestern University (NU), USA (05, 10 and 12.05.2004).
176. "Music cognition: on rhythm, timing and tempo", SARC, Queens University, Belfast, Ireland (28.04.2004).
177. "Muziekcognitie", **Studium Generale**, Thema "Lichaam & Geest", University of Maastricht, NL (29.01.2004).
178. "Een slag in de ritmeruimte: over ritme, timing en tempo in muziek" Winter Meeting Mathematical Association (Koninklijk Wiskundig Genootschap) Utrecht, NL (10.01.2004).
179. Opening **Keynote** Address. "The Final Ritard: On Music and Motion." Conference "Researching Musical Understanding" (SEMPRE). Department of Psychology, Keele University, UK.
180. "On rhythm, timing and tempo". Conference of the International Association of Schools of Jazz (IASJ). Den Haag, NL.
181. "Rhythm and timing: a cognitive approach." Ohio State University, School of Music, Columbus, USA.
182. "Rhythm and timing: a cognitive approach." McGill University, Department of Psychology, Montreal, CA.
183. Invited Tutorial. "Music technology and the role of music cognition research." PhD-seminar, Media Studies, University of Amsterdam, NL.
184. "Rhythm perception and categorization." School of Informatics, City University, London, UK.
185. "Structure and interpretation of rhythm and timing." Music and Arts Professions Department, School of Education, New York University, New York, USA
186. "Rhythm perception and categorization." Institute for Research in Cognitive Science (IRCS), University of Pennsylvania, USA.
187. Invited Tutorial. "Rhythm and timing: a cognitive approach." Music Department, Columbia University, New York, USA.
188. "Structure and interpretation of rhythm and timing." Music Department, New York University, New York, USA
189. "Modeling rhythm perception and quantization." Music and AI Group, University of Edinburgh, UK.
190. Invited Tutorial. "Rhythm perception." University of Padova (DEI), Padova, Italy.
191. Invited Panel Member. "Position statement on music performance research." International conference on "Current directions in computer music." University Pompeu Fabra (IUA-UPF), Barcelona, Spain.
192. "Modeling rhythm perception and quantization." Music Technology Group, Audiovisual Institute, University Pompeu Fabra (IUA-UPF), Barcelona, Spain.
193. "Quantization of temporal patterns for automatic music transcription." Technology Foundation (STW) Board Meeting, Utrecht, NL.
194. "Overview of Music, Mind, Machine research." University of Denmark (DIKU), Copenhagen, Denmark.
195. "Overview of Music, Mind, Machine research." VSNU Board Meeting, Nijmegen., NL.
196. "Over ritme en klonters in de tijdspap." Science and Journalism Symposium, Felix Meritis, Amsterdam, NL.
197. "Modeling vibrato and portamento in music performance." Buys Ballot Laboratories, Utrecht University (RUU), Utrecht, NL.
198. "Computational models of beat-induction." Workshop Language and Music Processing, CNRS, Marseille, France.
199. **Keynote** Address (with P. Desain). "Computational modeling of vibrato and portamento." International Conference on Music Perception and Cognition (ICMPC), Montreal, Canada.
200. "Formalizing timing and tempo." Mathematical Science Department, IBM Thomas J. Watson Center, New York, USA.

## 1.1. Numerical details

Number of PhD dissertations supervised as primary and direct supervisor since full professorship	7
Number of periods abroad longer than 6 months	2
Number of invited lectures	185

### Numbers of output according to the Standard Evaluation Protocol:<sup>20</sup>

Refereed articles	96
Non-refereed articles	47
Books	13
Book chapters	19
PhD theses (primary supervisor)	11
Conference papers	76
Professional publications	35
Publications aimed at the general public	12
<b>Other research output</b>	
Editorships	5
Inaugural lectures	1
Websites (mcg.uva.nl; musicognition.nl) and blog on music cognition (www.musicognition.nl/blog)	3
Media appearances	>200

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<sup>20</sup> <https://www.narcis.nl/personpub/RecordID/PRS1239393>