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## Journal Articles

Dahl, S., Stella, A., & Bjørner, T. (2023). Tell me what you see: An exploratory investigation of visual mental imagery evoked by music. *Musicae Scientiae*, 27(3), 717–740. <https://doi.org/10.1177/10298649221124862>

Kantan, P. R., Dahl, S., Rovsing Møller Jørgensen, H., Khadye, C., & Spaich, E. G. (2023). Designing Ecological Auditory Feedback on Lower Limb Kinematics for Hemiparetic Gait Training. *Sensors*, 23(8), Article 3964. <https://doi.org/10.3390/s23083964>

Kantan, P. R., Spaich, E. G., & Dahl, S. (2022). An Embodied Sonification Model for Sit-to-Stand Transfers. *Frontiers in Psychology*, 13, Article 806861. <https://doi.org/10.3389/fpsyg.2022.806861>

Kantan, P. R., Spaich, E. G., & Dahl, S. (2022). A Technical Framework for Musical Biofeedback in Stroke Rehabilitation. *IEEE Transactions on Human-Machine Systems*, 52(2), 220-231. <https://doi.org/10.1109/THMS.2021.3137013>

González Sánchez, V. E., Dahl, S., Hatfield, J., & Godøy, R. I. (2019). Characterizing movement fluency in musical performance: Toward a generic measure for technology enhanced learning. *Frontiers in Psychology*, 10, Article 84. <https://doi.org/10.3389/fpsyg.2019.00084>

Erkut, C., & Dahl, S. (2019). Incorporating Virtual Reality with Experiential Somaesthetics in an Embodied Interaction Course. *Journal of Somaesthetics*, 4(2), 25-39. <https://doi.org/10.5278/ojs.jos.v4i2.2399>

Dahl, S., Huron, D., Brod, G., & Altenmüller, E. (2014). Preferred Dance Tempo: Does Sex or Body Morphology influence how we groove? *Journal of New Music Research*, 43(2), 214-223. <https://doi.org/10.1080/09298215.2014.884144>

Petrini, K., Pollick, F. E., Dahl, S., McAleer, P., McKay, L., Rocchesso, D., Waadeland, C. H., Love, S., Avanzini, F., & Puce, A. (2011). Action expertise reduces brain activity for audiovisual matching actions: An fMRI study with expert drummers. *NeuroImage*, 56(3), 1480-1492. <https://doi.org/10.1016/j.neuroimage.2011.03.009>

Huron, D., Dahl, S., & Johnson, R. (2009). Facial expression and vocal pitch height: Evidence of an intermodal association. *Empirical Musicology Review*, 4(3), 93-100. <http://emusicology.org/v4n3/target.html>

Petrini, K., Dahl, S., Rocchesso, D., Waadeland, C. H., Avanzini, F., Puce, A., & Pollick, F. E. (2009). Multisensory integration of drumming actions: musical expertise affects perceived audiovisual asynchrony. *Experimental Brain Research*, 198(2-3), 339-352. <https://doi.org/10.1007/s00221-009-1817-2>

Dahl, S., & Friberg, A. (2007). Visual perception of expressiveness in musicians' body movements. *Music Perception*, 24(4), 433-454.

Dahl, S., & Friberg, A. (2004). Expressiveness of musician's body movements in performances on marimba. *Lecture Notes in Computer Science*, 2915, 479-486.

Rinman, M-L., Friberg, A., Bendiksen, B., Cirotteau, D., Dahl, S., Kjellmo, I., Mazzarino, B., & Camurri, A. (2004). Ghost in the Cave: An Interactive Collaborative Game Using Non-verbal Communication. *Lecture Notes in Computer Science*, 2915, 549-556.

Dahl, S. (2004). Playing the accent - comparing striking velocity and timing in an ostinato rhythm performed by four drummers. *Acustica United with Acta Acustica*, 90(4), 762-776.

Dahl, S., & Granqvist, S. (2003). Estimating Internal Drift and Just Noticeable Difference in perception of continuous tempo drift. *Annals of the New York Academy of Sciences*, 999, 161-165.

Dahl, S. (2000). The playing of an accent - Preliminary observations from temporal and kinematic analysis of percussionists. *Journal of New Music Research*, 29(3), 225-234.

## Book chapters

### **The Effect of Auditory Pulse Clarity on Sensorimotor Synchronization**

Kantan, P. R., Stefan Alecu, R. & Dahl, S., 10 Mar 2021, *Perception, Representations, Image, Sound, Music - 14th International Symposium, CMMR 2019, Revised Selected Papers*. Kronland-Martinet, R., Ystad, S. & Aramaki, M. (eds.). Springer, Vol. 12631. p. 379-395 17 p. (Lecture Notes in Computer Science).

### **Movements, timing and precision of drummers**

Dahl, S., 2018, *Handbook of Human Motion*. Müller, B., Wolf, S., Brueggemann, G-P., Deng, Z., McIntosh, A., Miller, F. & Selbie, W. S. (eds.). Springer

### **The challenge of a lifetime**

Dahl, S., 2018, *Celebrity for the Curious : Why Study Celebrity, Music, and Film Studies? : (A Guide to University Major for Students, Their Career Advisors and Teachers)*. Vaidya, K. (ed.). The Curious Academic Publishing

### **Gestures in performance**

Dahl, S., Bevilacqua, F., Bresin, R., Clayton, M., Leante, L., Poggi, I. & Rasamimanana, N., 2009, *Musical Gestures: Sound, Movement, and Meaning*. Godøy, R. I. & Leman, M. (eds.). Routledge

Movements and analysis of drumming.

Dahl, S., 2006, *Music, Motor Control and the Brain..* Altenmüller, E., Wiesendanger, M. & Kesselring, J. (eds.). New York: Oxford University Press, p. 125 -138

## Conference publications and proceedings

### **HearWalk: Co-designing and Building a Sound Feedback System for Hemiparetic Gait Training**

Kantan, P. R., Dahl, S., Rovsing Møller Jørgensen, H., Lanther, M. B. & Spaich, E. G., 2 Nov 2023.

### **Applying Concurrent Auditory Feedback on Swing Phase Kinematics in Hemiparetic Gait Training**

Kantan, P. R., Dahl, S., Rovsing Møller Jørgensen, H., Khadye, C. & Spaich, E. G., 24 Sept 2023.

### **User-Centered Design of Auditory Feedback for Hemiparetic Gait Rehabilitation**

Kantan, P. R., Dahl, S., Rovsing Møller Jørgensen, H., Khadye, C. & Spaich, E. G., 24 Sept 2023.

### **Sonifying Gait Kinematics Using the Sound of Wading: A Study on Ecological Movement Representations**

Kantan, P. R., Dahl, S., Serafin, S. & Spaich, E. G., Jun 2023, *The 28th International Conference on Auditory Display (ICAD 2023)*. 8 p. 5049

### **Sound-Guided 2-D Navigation: Effects of Information Concurrency and Coordinate System**

Kantan, P. R., Dahl, S. & Spaich, E. G., 8 Oct 2022, *Participative Computing for Sustainable Futures - Proceedings of the 12th Nordic Conference on Human-Computer Interaction, NordiCHI 2022*. Association for Computing Machinery, 11 p. 40

### **Designing Sonified Feedback on Knee Kinematics in Hemiparetic Gait Based on Inertial Sensor Data**

Kantan, P. R., Dahl, S., Rovsing Møller Jørgensen, H., Khadye, C. & Spaich, E. G., Sept 2022, *Proceedings of the SoniHED Conference on Sonification of Health and Environmental Data, 2022*. Paulett, S., Monach, S. D. & Selfridge, R. (eds.). Zenodo

**Performers' Use of Space and Body in Movement Interaction with A Movement-based Digital Musical Instrument**

Cavdir, D. & Dahl, S., 22 Jun 2022, *Proceedings of 2022 8th International Conference on Movement and Computing, MOCO 2022*. Association for Computing Machinery, p. 1-12 1. (ACM International Conference Proceeding Series, Vol. Par F180475).

**Sonifying Walking: A Perceptual Comparison of Swing Phase Mapping Schemes**

Kantan, P. R., Dahl, S., Spaich, E. G. & Bresin, R., 2022, *Proceedings of ISON 2022, 7th Interactive Sonification Workshop, BSCC, University of Bremen, Germany, September 22–23, 2022*. 8 p.

**Beat precision and perceived danceability in drum grooves**

Ganis, F., Dahl, S., Schmidt Câmara, G. & Danielsen, A., 24 Jun 2021.

**A Metaphor-Based Technical Framework for Musical Sonification in Movement Rehabilitation**

Kantan, P. R., Spaich, E. G. & Dahl, S., Jun 2021, *The 26th International Conference on Auditory Display*. 8 p.

**Auditory biofeedback through real-time generated music for balance and gait training of stroke patients**

Kantan, P. R., Spaich, E. G., Røvsing Møller Jørgensen, H. & Dahl, S., Jun 2021.

**Conveying Sit-to-Stand Kinematics Through Musical Sonification for Stroke Rehabilitation**

Kantan, P. R., Spaich, E. G. & Dahl, S., 2021.

**Characterizing Subtle Timbre Effects of Drum Strokes Played with Different Technique**

Bigoni, F., Grossbach, M. & Dahl, S., Sept 2020, *Proceedings of the 2nd International Conference on Timbre (Timbre 2020), online conference..* Thessaloniki, Greece: Aristotle University of Thessaloniki, 4 p.

**Rhythm Rangers: an evaluation of beat synchronisation skills and musical confidence through multiplayer gamification influence**

Kjærbo, R. E. R., Parpal, R. R., Pérez, M. G., Correia, F. M. S. D. A. R., Guruvayurappan, V., Overholt, D. & Dahl, S., 2020, *Proceedings of the 17th Sound and Music Computing Conference*. Spagnol, S. & Valle, A. (eds.). Torino: Axea sas/SMC Network, p. 220-227 8 p. (Proceedings of the Sound and Music Computing Conference).

**Evaluating movement qualities with visual feedback for real-time motion capture**

Hussain, A., Mødekjær, C., Austad, N. W., Dahl, S. & Erkut, C., 10 Oct 2019, *MOCO 2019 - Proceedings of the 6th International Conference on Movement and Computing*. Association for Computing Machinery, a1

**ADEPT: Exploring the Design, Pedagogy, and Analysis of a Mixed Reality Application for Piano Training**

Gerry, L., Dahl, S. & Serafin, S., 2019, *Proceedings of the 16th Sound & Music Computing Conference SMC 2019*. Sound and Music Computing Network, Vol. 1. p. 241-249 9 p. (Proceedings of the Sound and Music Computing Conference).

**An Interactive Music Synthesizer for Gait Training in Neurorehabilitation**

Kantan, P. R. & Dahl, S., 2019, *Proceedings of the 16th Sound & Music Computing Conference SMC 2019*. Sound and Music Computing Network, p. 159-166 (Proceedings of the Sound and Music Computing Conference).

**Communicating Gait Performance Through Musical Energy: Towards an Intuitive Biofeedback System for Neurorehabilitation**

Kantan, P. R. & Dahl, S., 2019, *Combined proceedings of the Nordic Sound and Music Computing Conference 2019 and the Interactive Sonification Workshop 2019*. Stockholm, Sweden: KTH Royal Institute of Technology, p. 107-114

**Extraction, mapping, and evaluation of expressive acoustic features for adaptive digital audio effects**

Holfelt, J., Csapo, G., Andersson, N., Zabetian, S., Castanieto, M., Overholt, D., Dahl, S. & Erkut, C., 2019, *Proceedings of the 14th Sound and Music Computing Conference 2017, SMC 2017*. Lokki, T., Patynen, J. & Valimäki, V. (eds.). Aalto University, p. 328-335 8 p. (Proceedings of the 14th Sound and Music Computing Conference 2017, SMC 2017).

**Incorporating virtual reality in an embodied interaction course**

Erkut, C. & Dahl, S., 28 Jun 2018, *Proceedings of the 5th International Conference on Movement and Computing, MOCO 2018*. Association for Computing Machinery, 6 p. a45

**Rhythmic recurrency in dance to music with ambiguous meter**

Dahl, S. & Sioros, G., 28 Jun 2018, *Proceedings of the 5th International Conference on Movement and Computing, MOCO 2018*. Association for Computing Machinery, 6 p. 38

**An Expressive Multidimensional Physical Modelling Percussion Instrument**

Tissieres, J. Y., Vaseileiou, A., Zabetian, S., Delgado, P., Dahl, S. & Serafin, S., 2018, *Proceedings of the 15th Sound and Music Computing Conference (SMC2018)*. Georgaki, A. & Andreopoulou, A. (eds.). Zenodo, p. 339-346 (Proceedings of the Sound and Music Computing Conference).

**NordicSMC: A Nordic University Hub on Sound and Music Computing**

Serafin, S., Dahl, S., Bresin, R., Jensenius, A. R., Unnþórsson, R. & Välimäki, V., 2018, *Proceedings of the 15th Sound and Music Computing Conference (SMC2018)*. Sound and Music Computing Network, p. 130-134 (Proceedings of the Sound and Music Computing Conference).

**Timbre Discrimination for Brief Instrument Sounds**

Bigoni, F. & Dahl, S., 2018, *Proceedings of the 19th International Society for Music Information Retrieval Conference*. dblp Computer Science Bibliography, p. 128-134

**Embodied Interaction through Movement in a Course Work**

Erkut, C. & Dahl, S., 28 Jun 2017, *MOCO 2017 - Proceedings of the 4th International Conference on Movement Computing*. Association for Computing Machinery, 23

**Does Singing a Low-Pitch Tone Make You Look Angrier?**

Ahrendt, P., Bach, C. C. & Dahl, S., 2017, *Proceedings of the 14th Sound and Music Computing Conference 2017*. Aalto University, p. 181-187 (Proceedings of the Sound and Music Computing Conference).

**Exploring Sound-Motion Textures in drum set performance**

Godøy, R. I., song, M. & Dahl, S., 2017, *Proceedings of the 14th Sound and Music Computing Conference*. Aalto University, 8 p. (Proceedings of the Sound and Music Computing Conference).

**Extraction, Mapping, and Evaluation of Expressive Acoustic Features for Adaptive Digital Audio Effects**

Holfelt, J., Csapo, G., Andersson, N. S., Zabetian, S., Castanieto, M. A., Overholt, D., Dahl, S. & Erkut, C., 2017, *Proceedings of the 14th Sound and Music Computing Conference 2017*. Lokki, T., Patynen, J. & Valimäki, V. (eds.). Aalto University, p. 328-335 8 p. (Proceedings of the Sound and Music Computing Conference).

**Exploring felt qualities of embodied interaction with movement and sound**

Erkut, C., Rajala-Erkut, A. & Dahl, S., 2015, *Arts and Technology: Fourth International Conference, ArtsIT 2014, Istanbul, Turkey, November 10-12, 2014, Revised Selected Papers*. Brooks, A. L., Ayiter, E. & Yazicigil, O. (eds.). Springer, p. 77-85 9 p. (Lecture Notes of the Institute for Computer Sciences, Social-Informatics and Telecommunications Engineering, LNICST, Vol. 145).

**Sketches in Embodied Interaction: Balancing Movement and Technological Perspectives**

Erkut, C., Dahl, S. & Triantafyllidis, G., 1 Jan 2014, *HCI International 2014: International Conference, HCI International 2014, Heraklion, Crete, Greece, June 22-27, 2014. Proceedings, Part I*. Springer, p. 30-35 6 p. (Communications in Computer and Information Science, Vol. 434 PART I).

**Sound and music computing at Aalborg University in Copenhagen**

Serafin, S., Dahl, S., Götzén, A. D., Erkut, C., Overholt, D., Purwins, H. & Sturm, B., 1 Jan 2014, *Proceedings - 40th International Computer Music Conference, ICMC 2014 and 11th Sound and Music Computing Conference, SMC 2014 - Music Technology Meets Philosophy: From Digital Echos to Virtual Ethos*. National and Kapodistrian University of Athens, p. 1818-1821 4 p.

**Good playing practice when drumming: Influence of tempo on timing and preparatory movements for healthy and dystonic players**

Dahl, S., Grossbach, M. & Altenmüller, E., Aug 2011, *Proceedings of the International Symposium on Performance Science 2011*. Williamon, A., Edwards, D. & Bartel, L. (eds.). Utrecht, The Netherlands.: European Association of

Conservatoires, p. 237-242

**Effect of dynamic level in drumming: Measurement of striking velocity, force, and sound level**

Dahl, S., Grossbach, M. & Altenmüller, E., 2011, *Proceedings of Forum Acusticum*. Danish Acoustical Society, p. 621-624  
4 p.

**Timing and motor control in drumming: Comparing players with and without focal dystonia.**

Dahl, S., Grossbach, M. & Altenmüller, E., 2010.

**Disturbed moving patterns when drumming - influence of extreme tempi on percussionists with and without focal dystonia**

Dahl, S. & Altenmüller, E., 2009.

**Influences of movement and grip on perceptual and measured tone quality in drumming**

Dahl, S., Grossbach, M. & Altenmüller, E., 2008.

**Motor control in drumming: Influence of movement pattern on contact force and sound characteristics"**

Dahl, S. & Altenmüller, E., 2008. 6 p.

**Sound production in healthy and diseased drummers: an acoustic and movement analysis approach.**

Dahl, S. & Altenmüller, E., 2008.

**High pitch - friendly face.**

Dahl, S., Huron, D. & Johnson, R., 2007.

**The influence of Body Morphology on Preferred Dance Tempos.**

Dahl, S. & Huron, D., 2007, *International Computer Music Conference -ICMC07*. International Computer Music Association, Vol. 2. p. 1-4

**Production and perception of gestures in music performance.**

Dahl, S., 2006.

**Motor behaviour in drumming with different striking tools: Effects of tempo on control of rebound.**

Dahl, S. & Huys, R., 2005.

## **Activities**

**Movement and Timing Control in Music Performance**

Sofia Dahl (Lecturer)

4 Jun 2021

**Movement qualities in different time frames**

Sofia Dahl (Lecturer)

5 May 2021

**16th Sound and music computing conference**

Sofia Dahl (Participant)

28 May 2019 → 31 May 2019

**NordicSMC Winter School**

Sofia Dahl (Participant)

4 Mar 2019 → 8 Mar 2019

**6th International Conference on Movement and Computing**

Sofia Dahl (Organizer) & Cumhur Erkut (Organizer)

2019 → ...

**The Journal of Somaesthetics (Journal)**

Cumhur Erkut (Editor) & Sofia Dahl (Editor)

2019

**RITMO International Motion Capture Workshop**

Sofia Dahl (Participant)

12 Nov 2018 → 14 Nov 2018

**5th International Conference on Movement and Computing, MOCO 2018**

Sofia Dahl (Organizer)

28 Jun 2018 → 30 Jun 2018

**Journal of Somaesthetics (Journal)**

Sofia Dahl (Editor) & Cumhur Erkut (Editor)

Mar 2018 → Jan 2019

**4th International conference on movement and computing**

Sofia Dahl (Participant)

28 Jun 2017 → 30 Jun 2017

**4th International conference on movement and computing**

Sofia Dahl (Participant)

28 Jun 2017 → 30 Jun 2017

**Workshop: Training, Sharing, and Enacting: Somaesthetics of Rhythmic Interaction**

Cumhur Erkut (Lecturer) & Sofia Dahl (Lecturer)

28 Jun 2017

**First International Workshop on Motor Learning for Music Performance**

Sofia Dahl (Participant), minho song (Participant) & Rolf Inge Godøy (Participant)

15 May 2017

**New Interfaces for Musical Expression 2017**

Sofia Dahl (Organizer)

2017 → ...

**Frontiers in Psychology (Journal)**

Guy Madison (Editor), Jessica Grahn (Editor), Sofia Dahl (Peer reviewer) & Fabien Gouyon (Editor)

2014 → ...

**Research Topic Functions of musical rhythm (Journal)**

Sofia Dahl (Editor)

31 Oct 2013 → 30 Jun 2014

**International symposium on performance science**

Sofia Dahl (Organizer)

28 Aug 2013 → 31 Aug 2013

**SMAC Stockholm Music Acoustics Conference 2013 SMC Sound and Music Computing Conference 2013**

Sofia Dahl (Organizer)

30 Jul 2013 → 3 Aug 2013

**Expression and control in music performance: The role of musicians' movements**

Sofia Dahl (Speaker)

4 Jun 2013

**9th Sound and Music Computing Conference (SMC 2012)**

Sofia Dahl (Organizer)

11 Jul 2012 → 14 Jul 2012

**Sound and Music Computing, Understanding and Practicing in Sweden**

Sofia Dahl (Organizer)

3 Apr 2012 → 4 Apr 2012

**13th International Rhythm Perception and Production Workshop**

Sofia Dahl (Organizer)

13 Jul 2011 → 15 Jul 2011

**ASME 2011 World Conference on Innovative Virtual Reality (WINVR2011)**

Sofia Dahl (Organizer)

27 Jun 2011 → 29 Jun 2011

**Journal of New Music Research (Journal)**

Sofia Dahl (Reviewer)

1 Jan 2011 → ...

**Journal of New Music Research (Journal)**

Sofia Dahl (Peer reviewer)

2011 → ...

**Haptic Audio Interaction Design**

Sofia Dahl (Organizer)

16 Sept 2010 → 17 Sept 2010

**The striking movement:: How do percussionists control timing and dynamic level when drumming?**

Sofia Dahl (Lecturer)

11 Feb 2010

**The striking movement:: How do percussionists control timing and dynamic level when drumming?**

Sofia Dahl (Lecturer)

11 Feb 2010

**Movement and timing control in drummers.**

Sofia Dahl (Lecturer)

20 Nov 2009