



Dr Torø Graven

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Current position(s)

- 2019 – Principal Investigator. (*Research project: "How children describe city soundscapes".*)
– The Norwegian Association of the Blind and Partially Sighted (Oslo), Norway.
- 2018 – TORCH Research Fellow. (*Knowledge exchange and research project: "The Oxford Sound Album".*)
– TORCH | The Oxford Research Centre in the Humanities, University of Oxford (Oxford), England.

Previous positions

- 2017 – 2020 Principal Investigator. (*Innovation project: "Multisensory Access – bringing visual art to life through touch and sound".*)
– Oxford University Museums, University of Oxford (Oxford), England.
- 2018 – 2019 Specialist Research Consultant (headhunted).
– The Norwegian Defence University College (Oslo), Norway.
- 2015 – 2017 Marie Skłodowska-Curie Fellow. (*Research project: "InSight: Information from Symbols and Illustrations: how to get it without vision".*)
– Department of Experimental Psychology, University of Oxford (Oxford), England.
- 2014 – 2015 &
2008 – 2010 Consultant and teacher for individuals with visual impairment.
– NAV (the national work and welfare system in Norway [Oslo]), Norway.
- 2010 – 2014 Post-doctoral fellow. (*Research project: "Attentive glimpse as retrieval associate: Components of objects' shape property-shape cue and recognition proficiency".*)
– Department of Special Needs Education, University of Oslo (Oslo), Norway.
- 2005 – 2008 Career break due to long-term illness.
- 2002 – 2005 Doctoral student fellow. (*Research project: "Seeing through touch: When touch replaces vision as the dominant sense modality".*)
– Department of Special Needs Education, University of Oslo (Oslo), Norway.
- 1999 – 2002 Consultant and teacher for individuals with blindness.
– STATPED (the national service for special needs education in Norway [Oslo]), Norway.
- 1994 – 1995 Consultant and teacher for individuals with visual impairment.
– STATPED (the national service for special needs education in Norway [Arendal]), Norway and NAV (the national work and welfare system in Norway [Arendal]), Norway.

Education

- 2005 PhD. (*Research project*: "Seeing through touch: When touch replaces vision as the dominant sense modality".)
 – Department of Special Needs Education, University of Oslo (Oslo), Norway.
Name of PhD Supervisors: Snorre A. Ostad (supervisor A, University of Oslo [Oslo], Norway) and Susanna Millar (supervisor B, University of Oxford [Oxford], England).
- 2000 Can. Paed. Spec. Advanced Professional Degree in Special Needs Education. (*Innovation project*: "Promotion of Intelligence Test for Visually Impaired Children [ITVIC]").
 – Department of Special Needs Education, University of Oslo (Oslo), Norway.
- 1998 Master Degree in Special Needs Education (*Master's thesis*: "The flexibility of the information processing system: When changing over from visual to tactile information because of sight loss".)
 – Department of Special Needs Education, University of Oslo (Oslo), Norway.
- 1997 Qualified Teacher of learners with Visual Impairment.
 – Department of Special Needs Education, University of Oslo (Oslo), Norway.
- 1996 Subject: Special Needs Education.
 – Department of Special Needs Education, University of Oslo (Oslo), Norway.
- 1994 Philosophy examination.
 – Folk University of Agder (Arendal), Norway.
- 1994 Subject: Geography, Planning, and Populations; Methods and Statistics; Political Science; Sociology.
 – Hedmark University College (Kongsvinger), Norway.

Organisation of scientific meetings

- 2016 Initiator and organiser: PsyNAppS Seminar with Professor Charles Spence ("How do words and shapes taste"), Psychology and Neuroscience Applications in Society (PsyNAppS) Oxford, (Oxford), England.
- 2012 Initiator and coordinator: Science-meets-art exhibition ("Shaping Shapes: Attentive Glimpse as Retrieval Associate"), Gallery Sverdrup, University of Oslo (Oslo), Norway.
- 2010 Initiator and organiser: Seminar with Professor Morton A. Heller, Department of Special Needs Education, University of Oslo (Oslo), Norway.
- 2009 Organiser: The Tactile Research Group (TRG) meeting (held in collaboration with the 50th Annual Meeting of the Psychonomic Society [Boston]), USA.

Commissions of trust

- 2021 – Editorial Board, the British Journal of Visual Impairment.
- 2019 – Reviewer for international funders; for example, the European Commission, the Marie Skłodowska-Curie Actions, Individual Fellowships, and the Spencer Foundation.
- 2005 – Reviewer for national and international scientific journals; for example, "*Norsk pedagogisk tidsskrift*" (Norwegian journal of pedagogics), *British Journal of Visual Impairment*, *Journal of Visualized Experiments*, *Language Learning and Development*, *Perception*, *Scandinavian Journal of Educational Research*, and *Universal Access in the Information Society*.
 – Specialist consultant on tactile-visual poetry book: Strand, R., & Orvedal, I. (2013). "*Berøringsstrofer*" (*Tangible Stanza*). Oslo: Solum Forlag.

Memberships of professional and scientific societies

- 2022 – International Council for Education and Re/habilitation of People with Visual Impairment, Europe (ICEVI-Europe).
- 2021 – Marie Curie Alumni Association.
- 2016 – EuroHaptics.
- 2005 – Tactile Research Group (TRG).
- 2005 – Psychology and Neuroscience Applications in Society (PsyNAppS [and Vice President for two terms]).

Scientific publications (2000-current/2022)

- Graven, T. (2003). Aspects of object recognition: When touch replaces vision as the dominant sense modality. *Visual Impairment Research*, 5(2), 101-112.
- Graven, T. (2004). Recognising tactile representations of familiar objects: The influence of pre-cuing when touch replaces vision as the dominant sense modality. *Visual Impairment Research*, 6(2-3), 99-110.
- Graven, T. (2005). Mental manipulation, thus recognition of familiar shapes: The influence of pre-cuing when touch replaces vision as the dominant sense modality. *Visual Impairment Research*, 7(2-3), 63-69.
- Graven, T. (2009). *Seeing Through Touch: When Touch Replaces Vision as the Dominant Sense Modality*. Saarbrücken: VDM Verlag Dr. Müller AG & Co.
- Graven, T. (2015). How blind individuals discriminate braille characters: An identification and comparison of three discrimination strategies. *British Journal of Visual Impairment*, 33(2), 80-95.
- Graven, T. (2016). How attention is allocated when using haptic touch: Shape feature distinction and discrimination strategy. In F. Bello, H. Kajimoto, and Y. Visell (Eds.) *EuroHaptics 2016, Part 1. Lecture Notes in Computer Science*, 9774, (pp. 380-393). Heidelberg: Springer International Publishing AG Switzerland.
- Graven, T. (2016). When the discrimination strategy fails: Revisiting the figure identity strategy, the global characteristics strategy, and the touch vision strategy. *British Journal of Visual Impairment*, 34(2), 121-129.
- Graven, T. (2018). How individuals who are blind locate targets. *British Journal of Visual Impairment*, 36(1), 57-74
- Graven, T., & Desebrock, C. (2018). Bouba or kiki with and without vision: Shape-audio regularities and mental images. *Acta Psychologica*, 188(July), 200-212.
- Emsley, I., Graven, T., Bird, N., Griffiths, S., Shaw, L., & Suess, J. (2019). Please Touch the Art: Experiences in Developing for the Visually Impaired. *Journal of Open Research Software*, 7(4). doi: <https://doi.org/10.5334/jors.231>
- Graven, T., & Desebrock, C. (2019). Investigating the Effect of Visual Imagery and Learning Shape-Audio Regularities on Bouba and Kiki. *Journal of Visualized Experiments*, (151)e59954, doi: [10.3791/59954](https://doi.org/10.3791/59954)
- Graven, T., Emsley, I., Bird, N., & Griffiths, S. (2020). Improved access to museum collections without vision: How museum visitors with very low or no vision perceive and process tactile-auditory pictures. *British Journal of Visual Impairment*, 38(1), 79-103.
- Heller, M. A., Adams, N., Shuemaker, J., & Graven, T. (2020). The effects of Familiarity and Orientation in the Haptic Change Task. *Attention, Perception, & Psychophysics*, 82(4), 2119-2136.
- Graven, T., & Desebrock, C. (2021). Touching and hearing the shapes: How auditory angular and curved sounds influence proficiency in recognising tactile angle and curve shapes when experienced and inexperienced in using haptic touch. *British Journal of Visual Impairment*, doi: <https://doi.org/10.1177/02646196211003114>

Awarded prizes

Humanities Innovation Challenge Competition, Oxford University Innovation 2017 (Oxford), England. *Innovation project*: "Sensory Access to Art. Or, Please Touch the Art" (Emsley, Graven, Bird, Griffiths, & Suess).

Awarded Project Funding (2000-current/2022)

- 1999 – 2000 STATPED-project: "Promotion of Intelligence Test for Visually Impaired Children (ITVIC)".
– Funded by STATPED (the national service for special needs education in Norway).
- 2002 – 2005 Doctoral student grant: "Seeing through touch: When touch replaces vision as the dominant sense modality".
– Funded by the Department of Education, University of Oslo and the Norwegian Association of the Blind and Partially Sighted (and "Stiftelsen Helse og Rehabilitering").

- 2010 – 2014 Post-doctoral grant: "Attentive glimpse as retrieval associate: Components of objects' shape property-shape cue and recognition proficiency".
– Funded by The Research Council of Norway and the Norwegian Association of the Blind and Partially Sighted.
- 2014 – 2014 "KIS Sårkornmidler" (i.e., seed conr funding for preparing and submitting application to the Horizon 2020, Marie Sklodowska-Curie Actions, Individual Fellowship).
– Funded by the Department of Teacher Education and Social Research, University of Oslo, "EU - EUREKA", University of Oslo/The Research Council of Norway, and the Norwegian Association of the Blind and Partially Sighted.
- 2015 – 2017 Marie Sklodowska-Curie Actions, Individual Fellowship: "InSIght: Information from Symbols and Illustrations: how to get it without vision".
– Funded by the Marie Sklodowska-Curie Actions and the Norwegian Association of the Blind and Partially Sighted.
- 2016 – 2018 Oxford University Innovation – Staff Innovation Fund: "Multisensory Access – bringing visual art to life through touch and sound".
– Funded by IT INNOVATION, University of Oxford.
- 2018 – 2020 GLAM-project: "Multisensory Access – bringing visual art to life through touch and sound".
– Funded by Gardens, Libraries, and Museums (GLAM), University of Oxford.
- 2019 – 2019 Video article: "Investigating the Effect of Visual Imagery and Learning Shape-Audio Regularities on Bouba and Kiki".
– Funded by the Norwegian Association of the Blind and Partially Sighted.
- 2018 – "The Oxford Sound Album".
– Funded by TORCH | The Oxford Research Centre in the Humanities, University of Oxford.
- 2019 – "How children describe city soundscapes".
– Funded by the Norwegian Association of the Blind and Partially Sighted.