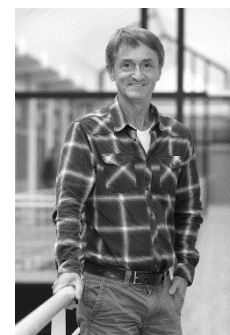


## CURRICULUM VITAE, UPDATED APR 26, 2023

NAME	LAST POSITION TITLE
<b>MEIJER, Peter Bartus Leonard</b>	senior mechatronic system engineer



## EDUCATION/TRAINING

INSTITUTION AND LOCATION	DEGREE	YEAR	FIELD OF STUDY
Delft University of Technology, The Netherlands	BSc	1982	Physics
Delft University of Technology, The Netherlands	MSc	1985	Physics
Eindhoven University of Technology, The Netherlands	PhD	1996	Electrical Engineering

Born on June 5, 1961. Nationality: Dutch. Location: Eindhoven, The Netherlands. Contact: [feedback@seeingwithsound.com](mailto:feedback@seeingwithsound.com)

## Profile

I am a researcher with a strong and broad interest in vision technologies, computer vision, mobile devices, neural engineering, artificial neural networks, neuroscience and neural plasticity, analog modeling and simulation, sensory substitution, brain-computer interfaces and medical devices in general. I enjoy inventing and developing new concepts, demonstrating their use through actual implementations and applications, and I love working internationally with – and learning from – multidisciplinary research teams that are recognized global leaders in their respective fields. I feel drawn to disruptive technologies aimed at improving quality of life.

### Areas of expertise and experience

- Physics (MSc) and electronics (PhD)
- Low temperature physics, superconductivity, photolithography
- Analog device and circuit modeling, analog circuit simulation, numerical mathematics
- Artificial neural networks, (biological) neuroscience, artificial intelligence
- Computer vision, image processing, augmented reality
- Software
  - Programming: FORTRAN, Xetal C (XTC), C/C++, Java, Android+NDK, OpenCV, python
  - Platform/OS: UNIX (HP-UX and Linux), Microsoft Windows, Symbian, Android, TensorFlow
  - Website development: HTML, JavaScript, WebRTC, Java (applet), PHP, python
  - Simulator programming: SpectreHDL, Verilog-A, VHDL-A, Pstar (Philips), OpenModelica
- International interdisciplinary cooperation (computer science, neuroscience, psychology)
- Novel concept development, and follow-up to demonstrator/implementation/release
- Global (remote) end user support, user community, ecosystem development, mass media
- Fluent in Dutch and English, passive fluency in German

### Professional experience (summary)

- |             |  |
|-------------|--|
| 2019 – 2023 | Data scientist, algorithm designer and image processing specialist at Demcon advanced mechatronics BV, Best, The Netherlands   |
| 2018 – 2019 | Data scientist, algorithm designer and image processing specialist at Demcon Hemics BV, Best, The Netherlands  |
| 2011 – 2018 | Principal scientist at Hemics BV, Eindhoven, The Netherlands   |
| 2006 – 2010 | Senior scientist at Central R&D of NXP Semiconductors, Eindhoven, The Netherlands <ul style="list-style-type: none"> <li>▪ R&amp;D computer vision, massively parallel SIMD programming</li> <li>▪ R&amp;D image processing algorithms</li> </ul>                    |
| 1985 – 2006 | Senior scientist at Philips Research Laboratories, Eindhoven, The Netherlands <ul style="list-style-type: none"> <li>▪ R&amp;D automatic modeling for analog circuit simulation</li> <li>▪ R&amp;D neural networks, modeling of nonlinear dynamic systems</li> </ul> |

## Semi-professional experience (summary)

- 2011 – present Founder, owner and director of Metamodal BV, Eindhoven, The Netherlands
- 1985 – present Inventor and developer of artificial vision for the blind through auditory-to-visual sensory substitution ([www.seeingwithsound.com](http://www.seeingwithsound.com), [www.metamodal.com](http://www.metamodal.com))

## Experience (in more detail)

- 2019 – 2023 *Demcon advanced mechatronics BV, Best*  
(AI & ML expert, data scientist and image processing specialist)

In November 2019 I joined Demcon advanced mechatronics BV to perform R&D on topics ranging from artificial intelligence and machine learning to image and signal processing.

- 2018 – 2019 *Demcon hemics BV, Best*  
(data scientist, algorithm designer and image processing specialist)

In December 2018 I joined Demcon hemics BV to continue development of the HandScan as originally developed at Hemics BV (2011-2018).

- 2011 – 2018 *Hemics BV, Eindhoven (principal scientist)*

In October 2011 I joined Akeso Medical Imaging BV, a startup which in April 2013 changed its name to Hemics BV. Hemics was a medical device company active in the field of Rheumatoid Arthritis. It aimed to improve the quality of life of patients by creating imaging devices that support the rheumatologist in monitoring and treatment of this disease. This resulted in the HandScan imaging device for monitoring inflammation. I developed and implemented the algorithms used in the Hemics HandScan medical device. This involves methods, algorithms and software for localization, quantification, visualization and classification of inflammation in rheumatoid arthritis, based on hemodynamic response modeling and parameter extraction from diffuse optical transmission measurements consisting of sequences of visible light and near-infrared (NIR) transmission images. The work spans medical imaging, image processing, algorithm development, medical image analysis, machine learning and multivariate modeling. Work on the HandScan nowadays continues at Demcon Hemics BV.



- 2011 – present *Metamodal BV, Eindhoven (founder, owner and director)*

Consultancy.

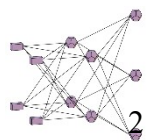
- 2006 – 2010 *Central R&D of NXP Semiconductors Eindhoven (senior scientist)*

In October 2006 I joined the Central R&D organization of NXP Semiconductors, to work in the field of computer vision research, programming a massively parallel SIMD-based hardware platform for real-time low-power video processing ("pixel crunching" with the 320-core Xetal chip, as a member of the Xetal team). Applications and library components that I developed or helped develop included real-time body-tracking and automatic camera calibration for nonlinear lens and visual perspective distortion, and real-time stereo vision. In September 2008 the focus of my work shifted towards image processing for improved picture quality in digital television (DTV), for which I developed novel texture synthesis techniques.



- 1985 – 2006 *Philips Research Laboratories Eindhoven (senior scientist)*

From September 1985 until August 2006 I worked as a research scientist at Philips Research Laboratories in Eindhoven, The Netherlands, initially focusing on black-box modeling techniques for analog circuit simulation. I developed two different classes of highly nonlinear



multivariate interpolation techniques (published in IEEE Transactions on Circuits and Systems, 1990), and later I generalized the multilayer perceptron networks (AKA feedforward neural networks) for learning in the time and frequency domain. Separately, I developed an accelerated reliability simulator for hot-carrier degradation in CMOS circuits (presented at ESREF 1993). In May 1996 I received my PhD from Eindhoven University of Technology, Department of Electrical Engineering, on the subject of dynamic neural networks for device and subcircuit modeling for circuit simulation. Dynamic neural networks were applied by me in modeling bipolar and MOS transistors, analog video filters (one-chip TV), folding AD converters, intermodulation distortion in mixers, two-port resonance in BNC connectors with leads, frequency-domain transformer modeling, heatflow in IC packages, and a variety of other cases. After being project leader of the analog CAD team for several years, I was from 1999 until 2003 project leader of the Future Design Technologies team within the research group Digital Design & Test at Philips Research, while personally working on novel nanotechnology design options and the simulation and modeling of RF effects in high-speed analog and digital circuits. I applied a combination of FDTD (a 4D discretization technique for solving Maxwell's equations in space and time) and dynamic neural networks to model cross-talk in ultra-high frequency interconnect (200 GHz). My work on nanoimprint techniques was part of a cooperation between Philips and ASML.

1985 – present      *The vOICe (inventor, developer, media contacts, user support)*

In parallel with my work in the medical and electronics industry, and in line with my interests in neuroscience and human perception, I developed an image-to-sound conversion system known as "The vOICe", aimed at the development of a synthetic vision device (artificial vision system) for the blind. Starting with the design and implementation of a 5-stage pipelined special purpose computer, I later developed software versions for Microsoft Windows ([The vOICe for Windows](#)), Nokia Symbian camera phones (The vOICe MIDlet, Java ME), Android smartphones and augmented reality glasses ([The vOICe for Android](#)), and a device and platform independent HTML5/WebRTC progressive web app ([The vOICe Web App](#)). A blind user of The vOICe for Android running on smart glasses won the Neurothon 2018 competition in Russia, beating two blind Argus II retinal implant recipients.



1983 – 1985      *Delft University (MSc student work)*

As part of research on non-equilibrium superconductivity and sub-micron photolithography in the Solid State Physics group (nowadays Quantum Transport group), I did vapor deposition (Al, Nb, Au, Pt), submicron photolithography and cryogenic work with liquid nitrogen and liquid helium, designed a mask set for e-beam lithography and was one of the first three e-beam lithography clients of the newly established Delft Center for Submicron Technology.

1982      *Delft University (BSc student work)*

I did hands-on work on sputtering of transparent conducting films of In-Sn oxide, measuring conductivity changes as a function of temperature while heating the films in situ.

## Patents

P. B. L. Meijer, "Visual Prosthesis Implant," *WIPO Application* WO/2010/035173, filing date September 16, 2009, published April 1, 2010.

A. Y. Kolesnychenko, H. van Santen, Y. Kruijt-Stegeman and P. B. L. Meijer, "Imprint lithography," *USPTO Application* 20060144814, filing date December 30, 2004, published July 6, 2006.

P. B. L. Meijer and A. Y. Kolesnychenko, "Imprint lithography," *USPTO Application* 20060230959, filing date April 19, 2005, published October 19, 2006.

P. B. L. Meijer, "Method for manufacturing a crossbar circuit device," *WIPO Application* WO/2006/131838, *USPTO Application* 20100052177, filing date May 24, 2006, published March 4, 2010.

R. P. Kleihorst, P. B. L. Meijer and M. J. R. Op De Beeck, "Handheld device with a display screen," *WIPO Application* WO/2004/063914, *USPTO Application* 20060055678, filing date December 10, 2003, published March 16, 2006.

P. B. L. Meijer, "Signal generator for modelling dynamical system behaviour," *U.S. Patent* No. 5,790,757, filing date June 29, 1995, granted August 4, 1998.

P. B. L. Meijer, "Dynamic neural net," *U.S. Patent* No. 5,553,195, filing date September 29, 1994, granted September 3, 1996.

P. B. L. Meijer, "Image-audio transformation system," *U.S. Patent* No. 5,097,326, filing date July 27, 1990, granted March 17, 1992.

### Scientific publications (in chronological order)

P. van den Hamer, E. A. Montie and P. B. L. Meijer, "Self-aligning resist techniques for shadow evaporation of a superconducting three-terminal device," *Proc. of the international conference on microlithography, Microcircuit Engineering*, Vol. 3, No. 1-4, pp. 427-433, 1985. [https://dx.doi.org/10.1016/0167-9317\(85\)90053-X](https://dx.doi.org/10.1016/0167-9317(85)90053-X)

P. van den Hamer, E. A. Montie, P. B. L. Meijer, J. E. Mooij and T. M. Klapwijk, "Enhancement of superconductivity by quasiparticle injection. II. Critical current experiments," *Journal of Low Temperature Physics*, Vol. 69, No. 3-4, pp. 287-311, November 1987. <https://dx.doi.org/10.1007/BF00682663>

P. B. L. Meijer, "Table Models for Device Modelling," *Proc. ISCAS-88 (International Symposium on Circuits and Systems)*, June 1988, Espoo, Finland, pp. 2593-2596. <https://doi.org/10.1109/ISCAS.1988.15472>

P. B. L. Meijer, "Fast and Smooth Highly Nonlinear Table Models for Device Modeling," *IEEE Trans. Circuits and Systems*, Vol. 37, pp. 335-346, March 1990. <https://dx.doi.org/10.1109/31.52727>

P. B. L. Meijer, "An Experimental System for Auditory Image Representations," *IEEE Trans. Biomedical Engineering* Vol. 39, No. 2, pp. 112-121, Feb 1992. <https://dx.doi.org/10.1109/10.121642>

P. B. L. Meijer, "An Experimental System for Auditory Image Representations," *1993 IMIA Yearbook of Medical Informatics*, International Medical Informatics Association, pp. 291-300, 1993.

M. M. Lunenburg, P. B. M. Wolbert, P. B. L. Meijer, T. Phat-Nguyen and J. F. Verweij, "PRESS - A Circuit Simulator With Built-In Reliability Model For Hot-Carrier Degradation," *ESREF 1993 (4<sup>th</sup> European Symposium on Reliability of Electron Devices, Failure Physics and Analysis)*, pp.157-161.

P. B. L. Meijer, "[Neural Network Applications in Device and Circuit Modelling for Circuit Simulation](#)," *PhD thesis*, Eindhoven University of Technology, May 2, 1996. ISBN 90-74445-26-8.

E. Bruls, M. Verstraelen, T. Zwemstra and P. Meijer, "Analogue fault simulation in standard VHDL," *Circuits, Devices and Systems, IEE Proceedings*, Vol. 143, No. 6, pp. 380-385, December 1996. <https://dx.doi.org/10.1049/ip-cds:19960954>

P. B. L. Meijer, "[Neural Networks for Device and Circuit Modelling](#)," *Proc. SCEE-2000, (Scientific Computing in Electrical Engineering)*, August 20-23, 2000, Warnemünde, Germany. Springer-Verlag, 2001, pp. 251 - 258. ISBN 3-540-42173-4.

- P. Stoerig, E. Ludowig, P. B. L. Meijer and A. Pascual-Leone, "Seeing through the ears?," poster presentation at the *4th Forum of European Neuroscience (FENS Forum 2004)* in Lisbon, Portugal, July 10-14, 2004. Poster 229 abstract A224.14 published in *FENS Forum Abstracts*, Vol. 2, 2004.
- P. Stoerig, E. Ludowig, T. Mierdorf, A. Oros-Peusquens, J. N. Shah, P. B. Meijer and A. Pascual-Leone, "Seeing through the ears? Identification of images converted to sounds improves with practice," poster presentation at the *34th Annual Meeting of the Society for Neuroscience (SfN 2004)* in San Diego, USA, October 23-27, 2004.
- A. Amedi, F. Bempohl, J. Camprodon, S. Fox, L. Merabet, P. Meijer and A. Pascual-Leone, "Neural correlates of visual-to-auditory sensory substitution in proficient blind users," poster presentation at the *12th Annual Meeting of the Cognitive Neuroscience Society (CNS 2005)* in New York, USA, April 11, 2005, and at the *57th Annual Meeting of the American Academy of Neurology (AAN 2005)*, Miami Beach, Florida, USA, April 10 and 12, 2005.
- A. Amedi, F. Bempohl, J. Camprodon, L. Merabet, P. Meijer and A. Pascual-Leone, "LO is a meta-modal operator for shape: fMRI study using auditory-to-visual sensory substitution," poster presentation at the *12th Annual Meeting of the Organization for Human Brain Mapping (HBM 2006)* in Florence, Italy, June 11-15, 2006.
- A. Amedi, J. Camprodon, L. Merabet, P. Meijer and A. Pascual-Leone, "Towards closing the gap between visual neuroprostheses and sight restoration: Insights from studying vision, cross-modal plasticity and sensory substitution," *Journal of Vision*, Vol. 6, No. 13, 12a, 2006. <https://dx.doi.org/10.1167/6.13.12>
- A. Amedi, W. Stern, J. A. Camprodon, F. Bempohl, L. Merabet, S. Rotman, C. Hemond, P. Meijer and A. Pascual-Leone, "Shape conveyed by visual-to-auditory sensory substitution activates the lateral occipital complex," *Nature Neuroscience*, Vol. 10, No. 6, pp. 687 - 689, June 2007. <https://dx.doi.org/10.1038/nn1912>
- A. Amedi, W. Stern, J. A. Camprodon, F. Bempohl, L. Merabet, P. Meijer and A. Pascual-Leone, "Extracting shape and location information conveyed by visual-to-auditory sensory substitution activates the lateral occipital complex and dorsal visual stream respectively in blind and sighted individuals," poster presentation at the *8th Annual Meeting of the International Multisensory Research Forum (IMRF 2007)*, Sydney, Australia, July 5-7, 2007. <http://imrf.mcmaster.ca/2007/viewabstract.php%3Fid=115.html>
- P. B. L. Meijer, C. Leistner and A. Martinière, "Multiple view camera calibration for localization," *First ACM/IEEE International Conference on Distributed Smart Cameras (ICDSC-07)*, Vienna, Austria, September 25-28, 2007. <https://dx.doi.org/10.1109/ICDSC.2007.4357528>
- S. O. Ershov and P. Meijer (С. О. Ершов и П. Майер), "[Системы технического зрения с не визуальным представлением пространственной информации](#)," *Известия вузов. Приборостроение*, Т. 51, № 1. С. 42-47, January 2008 (in Russian).
- L. Merabet, D. Poggel, W. Stern, E. Bhatt, C. Hemond, S. Maguire, P. Meijer and Alvaro Pascual-Leone, "Activation of visual cortex using crossmodal retinotopic mapping," poster presentation at the *14th Annual Meeting of the Organization for Human Brain Mapping (HBM 2008)* in Melbourne, Australia, June 15-19, 2008.
- A. Amedi, W. Stern, L. Merabet, E. Striem, U. Hertz, P. Meijer and A. Pascual-Leone, "Audio-visual integration for objects, location and low-level dynamic stimuli: novel insights from studying sensory substitution and topographical mapping," poster presentation at the *9th Annual Meeting of the International Multisensory Research Forum (IMRF 2008)*, Hamburg, Germany, July 16-19, 2008.
- L. Merabet, D. Poggel, W. Stern, E. Bhatt, C. Hemond, S. Maguire, P. Meijer and A. Pascual-Leone, "Retinotopic visual cortex mapping using a visual-to-auditory sensory-substitution device," oral presentation at the *10th International Conference on Cognitive Neuroscience (ICON 2008)*, September 1-5, 2008, Bodrum, Turkey. <https://dx.doi.org/10.3389/conf.neuro.09.2009.01.273>

A. Amedi, E. Striem, U. Hertz, W. Stern, P. Meijer, L. Merabet and A. Pascual-Leone, "Audio-visual integration for objects, location and low-level dynamic stimuli: novel insights from studying sensory substitution and topographical mapping," oral presentation at the *10th International Conference on Cognitive Neuroscience* (ICON 2008), September 1-5, 2008, Bodrum, Turkey.

<https://dx.doi.org/10.3389/conf.neuro.09.2009.01.019>

X. Gao, R. Kleihorst, P. Meijer and B. Schueler, "Self-rectification and depth estimation of stereo video in a real-time smart camera system," *2nd ACM/IEEE International Conference on Distributed Smart Cameras* (ICDSC-08), Stanford, USA, September 7-11, 2008. <https://dx.doi.org/10.1109/ICDSC.2008.4635721>

A. Amedi, W. Stern, E. Striem, U. Hertz, P. Meijer and A. Pascual-Leone, "fMRI study of visual-to-auditory sensory substitution: Can blind hear shapes and locations using artificial vision?" presentation at the Materials and Sensations 2008 workshop (ms2008), IPREM - Pau, France, October 22-24, 2008.

W. H. A. Schilders, P. B. L. Meijer and E. Ciggaar, "Behavioural modelling using the MOESP algorithm, dynamic neural networks and the Bartels-Stewart algorithm," *Applied Numerical Mathematics*, Vol. 58, No. 12, pp. 1972-1993, December 2008. <https://dx.doi.org/10.1016/j.apnum.2007.11.013>

A. Amedi, W. Stern, E. Striem, U. Hertz, P. Meijer and A. Pascual-Leone, "[A what/where visual-to-auditory sensory substitution fMRI study: Can blind and sighted hear shapes and locations in the visual cortex?](#)," presentation at the *31st European Conference on Visual Perception* (ECPV 2008), Utrecht, The Netherlands, August 24-28, 2008.

L. B. Merabet, L. Battelli, S. Obretenova, S. Maguire, P. Meijer and Pascual-Leone A., "Functional recruitment of visual cortex for sound encoded object identification in the blind," *Neuroreport*, Vol. 20, No. 2, pp. 132-138, January 2009. <https://dx.doi.org/10.1097/WNR.0b013e32832104dc>

M. A. Tehrani, R. P. Kleihorst, P. B. L. Meijer and L. Spaanenburg, "Abnormal Motion Detection in a Real-Time Smart Camera System," *Third ACM/IEEE International Conference on Distributed Smart Cameras* (ICDSC 2009), August 30 - September 2, 2009, Como, Italy. <https://dx.doi.org/10.1109/ICDSC.2009.5289359>

L. Spaanenburg, M. A. Tehrani, R. P. Kleihorst and P. B. L. Meijer, "Behavior Modeling by Neural Networks," *19th International Conference on Artificial Neural Networks* (ICANN 2009), September 14-17, 2009, Limassol, Cyprus. *Lecture Notes in Computer Science*, Vol. 5768, Springer, 2009. [https://dx.doi.org/10.1007/978-3-642-04274-4\\_46](https://dx.doi.org/10.1007/978-3-642-04274-4_46)

J. Ward and P. Meijer, "Visual Experiences in the Blind induced by an Auditory Sensory Substitution Device," *Consciousness and Cognition*, Vol. 19, No. 1, pp. 492-500, March 2010. <https://dx.doi.org/10.1016/j.concog.2009.10.006>.

S. O. Ershov, P. Meijer and E.L. Baki-Borodov (С. О. Ершов, П. Мейер и Е. Л. Баки-Бородов) "[Локальные и глобальные программно-аппаратные средства позиционирования и навигации для слепых](#)" (Local and global software means of positioning and navigation for the blind), *Информатизация и связь*, № 1, 2011 (in Russian).

E. Striem-Amit, O. Dakwar, U. Hertz, P. Meijer, W. Stern, A. Pascual-Leone and A. Amedi, "[The Neural Network of Sensory-Substitution Object Shape Recognition](#)," *Functional Neurology, Rehabilitation, and Ergonomics*, Vol. 1, No. 2, pp. 271-278. Nova Science Publishers, 2011. (Proceedings of the Annual Conference of the International Association of Functional Neurology and Rehabilitation, IAFNR 2011, May 12-15, Orlando, Florida.)

M. J. Proulx, D. J. Brown, A. Pasqualotto and P. Meijer, "Multisensory perceptual learning and sensory substitution," *Neuroscience and Biobehavioral Reviews*, Vol. 41, April 2014, pp. 16-25. <https://dx.doi.org/10.1016/j.neubiorev.2012.11.017>

A. Haigh, D. J. Brown, P. Meijer and M. J. Proulx, "How well do you see what you hear? The acuity of visual-to-auditory sensory substitution," *Frontiers in Cognitive Science*, June 2013.

<https://dx.doi.org/10.3389/fpsyg.2013.00330>

M. van Onna, D. F. Ten Cate, K.-L. Tsoi, A. J. L. Meier, J. W. G. Jacobs, A. A. A. Westgeest, P. B. L. Meijer, M. C. van Beek, W. H. J. Rensen and J. W. J. Bijlsma, "Assessment of disease activity in patients with rheumatoid arthritis using optical spectral transmission measurements, a non-invasive operator independent imaging technique," poster presentation at the *Annual European Congress of Rheumatology 2013* (EULAR 2013), Madrid, Spain, June 12-15, 2013. <https://dx.doi.org/10.1136/annrheumdis-2013-eular.2225>

M. van Onna, D. F. Ten Cate, K.-L. Tsoi, A. J. L. Meier, J. W. G. Jacobs, A. A. A. Westgeest, P. B. L. Meijer, M. C. van Beek, W. H. J. Rensen and J. W. J. Bijlsma, "Assessment of disease activity in patients with rheumatoid arthritis using optical spectral transmission measurements, a non-invasive imaging technique," *Ann. Rheum. Dis.* 2015. <https://dx.doi.org/10.1136/annrheumdis-2015-207315>

E. Striem-Amit, O. Dakwar, U. Hertz, P. Meijer, W. Stern, A. Pascual-Leone and A. Amedi, "The Plasticity of Neural Network Sensory-Substitution Object Shape Recognition," in G. Leisman and J. Merrick (eds.) *Neuroplasticity in Learning and Rehabilitation*, Chapter 11, Nova Science Publishers, 2016. ISBN 978-1-63484-306-5.

N. Besselink, P. van der Meijde, A. Marijnissen, P. Meijer, W. Rensen, J. van Laar, F. Lafeber and J. Jacobs, "Influence of joint pathology on optical spectral transmission imaging, assessing inflammation in hand and wrist joints of rheumatoid arthritis patients," poster presentation at the *Annual European Congress of Rheumatology 2017* (EULAR 2017), Madrid, Spain, June 14-17, 2017. <https://dx.doi.org/10.1136/annrheumdis-2017-eular.2461>

N. Besselink, P. van der Meijde, W. Rensen, P. Meijer, A. Marijnissen, J. van Laar, F. Lafeber and J. Jacobs, "Optical spectral transmission to assess inflammation in hand and wrist joints of rheumatoid arthritis patients," *Rheumatology*, 2018, kex531. <https://doi.org/10.1093/rheumatology/kex531>

### **Invited talks (in chronological order)**

P. B. L. Meijer, invited presentation at *The Rank Prize Funds Symposium* on Technology to Assist the Blind and Visually Handicapped, Grasmere, United Kingdom, March 25-28, 1996.

P. B. L. Meijer, "Cross-Modal Sensory Streams," Conference Abstracts and Applications, *ACM SIGGRAPH 98*, p. 184, invited panel presentation and demonstration at SIGGRAPH '98, July 19-24, 1998, Orlando, Florida, USA.

P. B. L. Meijer, "Seeing with Sound for the Blind: Is it Vision?," invited lecture at the *VSPA conference on Consciousness* at the University of Amsterdam, Amsterdam, The Netherlands, June 1, 2001.

P. B. L. Meijer, "Seeing with Sound: Wearable Computing for the Blind," invited presentation at *NIC2001* (Nordic Interactive Conference), Copenhagen, Denmark, Thursday November 1, 2001.

P. B. L. Meijer, invited presentation titled "Seeing with Sound: Development of a Camera-Based Sensory Bypass for the Blind" in the "*Oberseminar: Grundlagen der Physiologischen Psychologie*" at the Institute of Experimental Psychology, University of Düsseldorf (Heinrich-Heine University), Germany, February 8, 2002.

P. B. L. Meijer, "Seeing with Sound for the Blind: Is it Vision?," invited presentation at the *Tucson 2002 conference on Consciousness* in Tucson, Arizona, USA, April 8-12, 2002. Abstract no. 187 in "Toward a Science of Consciousness," p. 83, 2002, *Consciousness Research Abstracts* (Journal of Consciousness Studies).

P. B. L. Meijer, invited presentation at the workshop on *Multimodal Interactions in Perception*, Paris, France, at the Institut Henri Poincaré, Amphi Darboux, April 15-16, 2002.

P. B. L. Meijer, invited presentation at the Department of Functional Neurobiology, Helmholtz Research School, Utrecht University, The Netherlands, February 24, 2003.

P. B. L. Meijer, "Compact behavioural modelling of electromagnetic effects in on-chip interconnect," invited presentation at *MACSI-NET 2003* (Mathematics, Computing and Simulation for Industry), Zürich, Switzerland, May 2-3, 2003.

P. B. L. Meijer, invited presentation at the Institute of Medicine (IME), Research Center Juelich, Germany (Institut für Medizin, Forschungszentrum Jülich), May 7, 2003.

P. B. L. Meijer, invited presentation for USCKI Incognito at the *USCKI symposium "Perceiving is Believing"*, Utrecht University, Utrecht, The Netherlands, May 28, 2003.

P. B. L. Meijer, invited presentation for the *Neuroinformatics Seminar* at the Institute for Neuro- and Bioinformatics at University Luebeck, Germany (Institut für Neuro- und Bioinformatik, Universität zu Lübeck), June 24, 2003.

P. B. L. Meijer, invited participation in Foresight on Information Society Technologies in Europe (FISTE) workshop on "*Converging Technologies for Enabling the Information Society*", Seville, Spain, organized by the Institute for Prospective Technological Studies (IPTs), one of the European Commission Joint Research Centres, October 26-27, 2005.

P. B. L. Meijer, invited presentation at the 4th Dutch *ICT-Kenniscongres* in the Amsterdam RAI in Amsterdam, The Netherlands, April 11, 2006.

P. B. L. Meijer, November 9, 2007, invited plenary closing presentation (in Dutch) at the *Annual Meeting 2007* of the Stichting InZicht (In Sight Foundation), ZonMw, Hooglanderveen, The Netherlands.

P. B. L. Meijer, invited lecture titled "Sensory substitution and synthetic vision for the blind" at the CONGO conference "*CONGRES 2007: Brains, Technology and the Future*", at the University of Amsterdam, The Netherlands, December 12, 2007.

P. B. L. Meijer, invited closing presentation on artificial vision at the *1<sup>st</sup> Eduverse Symposium* in Amsterdam, The Netherlands, February 27, 2008.

P. B. L. Meijer, invited opening keynote at [ACIVS 2011](#) (*Advanced Concepts for Intelligent Vision Systems*) and co-located [ICDSC 2011](#) (*Fifth ACM/IEEE International Conference on Distributed Smart Cameras*), Ghent, Belgium, August 22, 2011.

P. B. L. Meijer, invited lecture titled "Visual soundscapes from your augmented reality glasses" at the CONGO conference "*CONGRES 2012: Sounds in Science*", at the University of Amsterdam, The Netherlands, October 17, 2012.

P. B. L. Meijer, invited presentation at Asia-ARVO 2013 in New Delhi, India, October 31, 2013 (presented by Dr. Aparna Gupta on his behalf), titled "The vOICE system to help the blind".

P. B. L. Meijer, invited lecture on The vOICE at the Art of Neuroscience 2014 symposium, Netherlands Institute for Neuroscience, Amsterdam, The Netherlands, March 11, 2014.

P. B. L. Meijer, invited presentation on The vOICE at HealthPAC Winter School 2015 in Nijmegen, The Netherlands, January 20, 2015.



Further information available on request