

# Thomas Wiegand

**Thomas Wiegand** (born 6 May 1970 in Wismar) is a German electrical engineer who substantially contributed to the creation of the H.264/MPEG-4 AVC and H.265/MPEG-H HEVC video coding standards. For H.264/MPEG-4 AVC, Wiegand was one of the chairmen of the Joint Video Team (JVT) standardization committee that created the standard and was the chief editor of the standard itself. He was also an active technical contributor to both standards. Wiegand also holds a chairmanship position in the ITU-T VCEG and previously in ISO/IEC MPEG standardization organizations. In July 2006, the video coding work of the ITU-T jointly led by Gary J. Sullivan and Wiegand for the preceding six years was voted as the most influential area of the standardization work of the CCITT and ITU-T in their 50-year history.<sup>[1]</sup>

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## Current work

Wiegand is Professor at the Technical University of Berlin and executive director of the Fraunhofer Heinrich Hertz Institute,<sup>[2]</sup> Berlin, Germany. He heads research teams working on

- Video processing and coding
- Multimedia transmission
- Applied machine learning
- Mobile Communications (management)
- Computer Vision (management)

## Early background

Thomas Wiegand was born in and spent his early life in East Germany, where he decided to make an apprenticeship as an electrician instead of studying, because everyone who wanted to go to the university had to serve for three years in the National People's Army which he chose to avoid. After the "Wende" he started to study electrical engineering at the Technical University of Hamburg, where he earned his Diplom in 1995. In the same year Wiegand stayed for some time as

**Thomas Wiegand**



<b>Born</b>	Thomas Wiegand May 6, 1970 Wismar, Bezirk Rostock, East Germany
<b>Citizenship</b>	German
<b>Alma mater</b>	Technical University of Hamburg, University of Erlangen-Nuremberg
<b>Known for</b>	H.264/MPEG-4 AVC video coding standard
<b>Awards</b>	Primetime Emmy Engineering Award (2008), Karl Heinz Beckurts Award (2011), IEEE Masaru Ibuka Consumer Electronics Award (2012)
<b>Scientific career</b>	
<b>Fields</b>	Electrical engineering
<b>Institutions</b>	Berlin Institute of Technology

# Standardization

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- Since 2000: Associated Rapporteur of VCEG (Video Coding Experts Group - ITU-T SG16 Q.6)
- Since 2001: Associated Rapporteur / Co-Chair of JVT
- Since 2002: Editor of the H.264/AVC video coding standard and its extensions (FRExt and SVC)
- 2005-2009: Associated Chair of MPEG Video (Moving Pictures Experts Group - ISO/IEC JTC1/SC29/WG11)
- Since 2018: Chair of the ITU/WHO Focus Group on Artificial Intelligence for Health (FG-AI4H)<sup>[3]</sup>

# Awards

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- 1998: SPIE VCIP Best Student Paper Award (together with Eckehard Steinbach, Peter Eisert and Bernd Girod)
- 2004: Fraunhofer Award (together with Detlev Marpe and Heiko Schwarz)
- 2004: ITG Award of the German Society for Information Technology (together with Detlev Marpe and Heiko Schwarz)
- 2006: The video coding work of the ITU-T led by Gary Sullivan and Thomas Wiegand jointly since 2000 was voted as the most influential area of the standardization work of the CCITT and ITU-T in their 50-year history
- 2008: Primetime Emmy Engineering Award (awarded to the JVT standards committee by the Academy of Television Arts and Sciences for development of the High Profile of H.264/MPEG-4 AVC, for which Wiegand served as associated rapporteur/co-chair, editor, and technical contributor)
- 2009: Paired Technology & Engineering Emmy Awards (one awarded to VCEG and one to MPEG ([https://web.archive.org/web/20090327025620/http://www.emmyonline.org/mediacenter/tech\\_2k8\\_winners.html](https://web.archive.org/web/20090327025620/http://www.emmyonline.org/mediacenter/tech_2k8_winners.html)) by the National Academy of Television Arts and Sciences for development of the H.264/MPEG-4 AVC standard)
- 2009: Group Technical Achievement Award of EURASIP (European Association for Signal Processing) for active contributions to video coding research and standardization activities
- 2009: Best Paper Award of IEEE Transactions on Circuits and Systems for Video Technology (together with Heiko Schwarz and Detlev Marpe)
- 2009: Innovation Award of Vodafone Foundation for Research in Mobile Communications
- 2010: Technology Award of Eduard Rhein Foundation (together with Jens-Rainer Ohm)<sup>[4]</sup>
- 2011: Fellow of the IEEE for contributions to video coding and its standardization
- 2011: Best Paper Award of EURASIP (European Association for Signal Processing) (together with Karsten Müller, Aljoscha Smolic, Kristina Dix, Philipp Merkle and Peter Kauff)
- 2011: Karl Heinz Beckurts Award (together with Heiko Schwarz and Detlev Marpe)
- 2012: IEEE Masaru Ibuka Consumer Electronics Award - IEEE Technical Field Award
- 2013: Best Paper Award of IEEE Transactions on Circuits and Systems for Video Technology (together with Gary Sullivan, Jens-Rainer Ohm, and Woo-Jin Han)<sup>[5]</sup>
- 2013: Best Journal Paper Award of the IEEE Communications Society MMTC (together with Patrick Ndjiki-Nya, Martin Koppel, Dimitar Doshkov, Haricharan Lakshman, Philipp Merkle and Karsten Müller)
- 2013: International Multimedia Telecommunications Consortium (IMTC) Leadership Award
- 2013: Research Award for Technical Communication of Alcatel Lucent Foundation
- 2014: Best Paper Award of EURASIP (European Association for Signal Processing) (together with P. Merkle, Y. Morvan, A. Smolic, D. Farin, K. Müller and P.H.N. de With)
- 2014: Richard Theile Medal of the German Television and Cinema Technology Society
- 2015: ITU150 Award<sup>[6]</sup> (the other ITU 150 awards went to Bill Gates, Robert E. Kahn, Mark I. Krivocheev, Martin Cooper, and Ken Sakamura)
- 2016: Elected member of the German National Academy of Engineering (Acatech)
- 2017: Primetime Emmy Engineering Award (awarded to the JCT-VC standards committee of VCEG and MPEG by the Academy of Television Arts and Sciences for development of the H.265/MPEG-H HEVC standard, for which Wiegand served as associated rapporteur of VCEG and technical contributor)
- 2018: Elected member of the German National Academy of Sciences (Leopoldina)

# Other positions held

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- 1997–1998: Visiting Researcher, [Stanford University, California, USA](#)
- 1997–1998: Consultant to 8x8, Inc., [Santa Clara, California, USA](#)
- Since 2006: Member of technical advisory board, [Vidyo, Inc., Hackensack, New Jersey, USA](#)
- 2006–2008: Member of technical advisory board, [Stream Processors, Inc., Sunnyvale, California, USA](#)
- 2007–2009: Consultant, Skyfire, Inc. (acquired by [Opera Software ASA](#)), [Mountain View, California, USA](#)
- 2011–2012: Visiting Professor, [Stanford University, USA](#)

## References

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1. "Video Coding Work Voted Most Influential" (<https://web.archive.org/web/20070930155432/http://www.itu.int/ITU-T/newslog/Video+Coding+Work+Voted+Most+Influential.aspx>). *ITU-T Newslog*. International Telecommunication Union. October 2, 2006. Archived from the original (<http://www.itu.int/ITU-T/newslog/Video+Coding+Work+Voted+Most+Influential.aspx>) on 30 September 2007. Retrieved 11 April 2012.
2. Fraunhofer Heinrich Hertz Institute (<http://www.hhi.fraunhofer.de>) official web site.
3. ITU/WHO Focus Group on Artificial Intelligence for Health (FG-AI4H) (<https://www.itu.int/en/ITU-T/focusgroups/ai4h/Pages/default.aspx>)
4. *Technology Award of Eduard Rhein Foundation 2010* ([http://www.eduard-rhein-stiftung.de/html/hauptseite\\_e.html](http://www.eduard-rhein-stiftung.de/html/hauptseite_e.html)) Archived ([https://web.archive.org/web/20081120123056/http://www.eduard-rhein-stiftung.de/html/hauptseite\\_e.html](https://web.archive.org/web/20081120123056/http://www.eduard-rhein-stiftung.de/html/hauptseite_e.html)) 2008-11-20 at the [Wayback Machine](#)
5. CSVT Transactions – Best Paper Award (<http://ieee-cas.org/about/awards/csvt-transactions-best-paper-award>) Archived (<https://web.archive.org/web/20130623002814/http://ieee-cas.org/about/awards/csvt-transactions-best-paper-award>) 2013-06-23 at the [Wayback Machine](#), [IEEE Circuits and Systems Society](#) web site.
6. *ITU150 Award* (<http://itu150.org/awards/ITU150Awards>)

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