

CURRICULUM VITAE

Mark H. Overmars

August 30, 2006

Personal facts:

Prof.dr. Mark H. Overmars
Department of Computer Science, Utrecht University
Padualaan 14, P.O. Box 80.089
3508 TB Utrecht, the Netherlands

Born: 29 September 1958 in Zeist (the Netherlands).
Nationality: Dutch.
Marital status: Married.

Education:

1970-1976 Gymnasium-B "De Breul" in Zeist.

1976-1980 Study in mathematics with emphasis on computer science. Thesis on computational geometry and dynamic data structures.

1980-1983 Work on PhD.

1983 PhD with title *The design of dynamic data structures*.

Professional Experience:

1977-1980 Student assistant at a number of courses.

1980-1983 Wetenschappelijk assistent (Research assistant) at the Department of Computer Science, Utrecht University.

1983-1987 Universitair docent (Assistant professor) at the Department of Computer Science, Utrecht University.

1987- 1990 Universitair hoofddocent (Associate professor) at the Department of Computer Science, Utrecht University.

1990- now Full professor at the Department of Computer Science, Utrecht University.

1990- 2005 Head of the *Center for Geometry, Imaging and Virtual Environments*.

2006- now Scientific Director *Center for Advanced Gaming and Simulation*.

Teaching experience:

- Courses:
 - Fundamental Algorithms
 - Data Structures

- Computer Graphics
- Geometric Algorithms
- Robotics
- Communicating computer science
- Computer Game Design
- Seminars:
 - Animation
 - Dynamic data structures
 - Computational geometry
 - Computational aspects of robotics
 - Motion planning problems
 - Hidden surface removal
 - Assembly planning

Main research interests:

- Computer game design and technology
- Motion and manipulation planning

Other research interests:

- Computational geometry
- Computer graphics
- Virtual environments
- Simulation and visualization
- Computational aspects of robotics
- Algorithms
- Data structures
- Implementation of geometric algorithms
- Shape matching and image databases

Grants

- NWO grant for my own PhD work, 1980–1983 (applied for by J. van Leeuwen).
- SION (NWO) grant for a PhD position on hidden surface removal, 1989–1991.
- co-partner in ESPRIT II BRA 3075 (ALCOM) grant, 1989–1992.
- SION (NWO) grant for a PhD position on motion planning, 1990–1994.
- PIONIER grant (NWO) to set up a research group in computational geometry, with a total budget of 2060 Kf (810 Kf by the university), 1991–1995.
- co-partner in ESPRIT III BRA 7141 (ALCOM II) grant, 1992–1995.

- site leader in ESPRIT III BRA 6546 (PROMotion) grant for a postdoc and a PhD student on robot motion planning, 1992–1995.
- SION (NWO) grant for a three year postdoc position on robotic manipulation, 1995-1998. (Changed in a PhD position in 1996.)
- NATO Collaborative Research Grant, with Prof K. Goldberg, Berkeley, 1996-1997.
- Grant from Philips Research for a PhD position for research on multimedia, 1996-2000 (together with R. Veltkamp).
- SION (NWO) grant for a postdoc and a PhD position on algorithms for label placement (changed into two PhD students), 1996-2000 (together with M. van Kreveld and D. Thierens).
- Prime contractor of ESPRIT IV LTR project 21957 (CGAL) grant for a scientific programmer and a PhD student on implementing geometric algorithms, 1996-1998.
- SION (NWO) grant for a postdoc for research on indexing image databases (part of the larger AMIS project), 1997-1999.
- SION (NWO) grant for extra multimedia equipment as part of the AMIS project (110 Kf), 1997.
- NATO Collaborative Research Grant, with Prof K. Goldberg, Berkeley, 1998-1999.
- site leader in ESPRIT IV LTR 28155 (GALIA) grant for a scientific programmer on a computational geometry library, 1999–2000.
- site leader in ESPRIT IV project 28226 (MOLOG) grant for a postdoc and a PhD student on motion planning for logistics, 1999-2002.
- SION (NWO) grant for two PhD students on motion planning in complex CAD models, 1999-2005 (together with Mark de Berg).
- grant by Microsoft Research for a graphics lab (about 125 Kf), 1999.
- SION (NWO) grant for a PhD student on shape decomposition, 2000-2003 (together with Remco Veltkamp).
- grant for a PhD student by Cornelis Lely Stichting for research on visualisation of traffic and transport, 2000-2004 (together with Marc van Kreveld).
- STW (NWO) grant for a PhD student, a postdoc and a scientific programmer for creating a software library of shape matching routines, 2000-2005 (together with Remco Veltkamp).
- grant by Microsoft Research for a graphics lab (EURO 15.000), 2002.
- NWO-EW grant for a PhD student on motion planning for multiple entities, 2002-2006.
- Prime contractor of EU LTR project MOVIE grant for a scientific programmer and a PhD student on motion planning in virtual environments, 2003-2005.
- Basic project BRICKS, leader subproject Modelling, Simulation and Visualization, grant for 2 PhD students on navigation and manipulation in virtual environments, 2004-2008.
- Lead contractor project GATE: Game Research for Training and Entertainment, Dutch Government, 10 million Euro, 2006–2011.

Invited Lectures:

Only invited talks at large meetings have been listed; not the numerous talks at universities, companies, and small workshops.

- Two invited lectures, NATO Advanced Study Institute on Theoretical foundations of Computer Graphics and CAD, Florence, Italy, June/July 1987.
- Three invited lectures, 14th Czechoslovak Winter School SOFSEM'87, Ostrava, Czechoslovakia, Dec 1987.
- Invited lecture, 1st Scandinavian Workshop on Algorithm Theory, Halmstad, Sweden, Jun 1988.
- One week course on computational geometry, Dept. of Computer Science, University of Turku, Finland, Nov 1988.
- Invited lecture, Summer School on Computational Geometry, Saarbrücken, Germany, Jun 1989.
- One day tutorial on Computational Geometry, Eurographics 1989, Hamburg, Germany, Sep 1989.
- Invited lecture, CSN 89, Utrecht, Nov 1989.
- Invited lecture, Spring School on Motion Planning, Rodez, France, Mar 1993.
- Invited lecture, EDUGRAPHICS'93, Alvor, Portugal, Dec 1993.
- Invited lecture, meeting FNRS-NFWO, Louvaine-la-Neuve, Belgium, May 1994.
- Invited lecture, Summer School on Computational Geometry, Berlin, Germany, Sep 1994.
- Invited lecture, European Workshop on Computational Geometry, Muenster, Germany, Mar 1996.
- Invited lecture, WAFR'96, Toulouse, France, Jul 1996 (with F. van der Stappen and C. Wentink).
- Invited lecture DFG meeting on efficient discrete algorithms and their applications, Dagstuhl, Germany, Nov 1996.
- Invited lecture, Softsem'96, Tsjechie, Nov 1996.
- Invited lecture, bijeenkomst NVTI, Utrecht, Feb 1997.
- One day tutorial on Computational geometry for Robotics during ICRA'98 (together with D. Halperin, F. van der Stappen, and R. Veltkamp).
- Invited lecture, ICALP'98, Jul 1998.
- Invited lecture Upper-Rhine-Region workshop on Algorithms, Bern, Jan, 1999.
- Invited lecture European workshop on computational geometry, Israel, Mar, 2000.
- Invited lecture CIR 2000 (The Challenge of Image Retrieval), United Kingdom, May 2000.
- Invited lecture and workgroup head meeting on Mathematical methods in manufacturing and logistics, Oberwolfach, Dec 2001.
- Invited lecture CGA 2002 (Workshop on Computational Geometry and Applications), Apr 2002.

- Invited lecture ASCI conference, Jun 2002.
- Invited lecture WAFR 2002(Workshop on Algorithmic Foundations of Robotics), Dec 2002.
- Invited lecture CWI in bedrijf, Oct 2003.
- Invited lecture NIOC 2004, Nov 2004.
- Invited lecture IenI conferentie, Nov 2004.
- Keynote speaker CGAIDE 2004 (Computer Games, Artificial Intelligence, Design and Education), Nov 2004.
- Invited lecture Digitainment conferentie, May 2005.
- Keynote speaker Game Convention Developer Conference 2005, Aug 2005.
- Keynote speaker Computer Game Design and Technology Workshop 2005 (CGTW 2005), Nov 2005.
- Panel chairman Computer Game Design and Technology Workshop 2005 (CGTW 2005), Nov 2005.
- Invited lecture SURF onderwijsdagen, Nov 2005.
- Invited lecture IenI conferentie, Nov 2005.
- Invited lecture Panama conferentie, Jan 2006.
- Invited lecture ICT Kenniscongres, Apr 2006.
- Keynote speaker ACM Symposium on Virtual Reality Software and Technology (VRST) 2006, Nov 2006.

Dissertations:

promotor

- ir. H. La Poutré, September 5, 1991 (with J. van Leeuwen).
- drs. M.T. de Berg, March 11, 1992.
- drs. E.J. Pol, March 18, 1992 (with F. Peeters, Leiden).
- drs. M.J. van Kreveld, June 1, 1992.
- drs. R. Veltkamp, Nov 19, 1992 (with J. van den Bos, Rotterdam).
- ir F. van der Stappen, Oct 7, 1994.
- drs. J. Vleugels, Mar 5, 1997.
- drs. P. Svestka, Jun 16, 1997.
- drs. C. Wentink, Apr 1, 1998.
- drs. H. Tangelder, Sep 8, 1998 (with I. Horvath, Delft).
- drs. G. van den Bergen, Mar 29, 1999 (with D. Hammer, Eindhoven).
- drs. R. van Oostrum, May 31, 1999.
- drs. M. Hagedoorn, Sep 18, 2000.
- drs. R.-P. Berretty, Dec 4, 2000.
- drs. T. Strijk, Jan 15, 2001.
- drs. S. van Dijk, Nov 26, 2001.

- MSc. H.-K. Ahn, Dec 4, 2001.
- ir. H.-W. Nienhuys, Jun 18, 2003.
- Msc. S. Cabello-Justo, Mar 29, 2004.
- drs. H. Haverkort, May 17, 2004 (with M. de Berg, Eindhoven).
- MSc. M. Tanase, Feb 16, 2005.
- Msc. P. Gianopoulos , Sep 21, 2005.
- drs. R. Geraerts (motion planning), May 8, 2006.
- MSc. I. Reinbacher (geographic information systems), Jun 20, 2006.

co-promotor

- drs. M.H.M. Smid, Univ. of Amsterdam, November 30, 1989.
- M. Corthout, March 18, 1992.

external/opponent outside the Netherlands

- C. Levcopoulos, Linköping, Sweden, February 12, 1987.
- A. Day, University of East Anglia, Norwich, England, April 26, 1991.
- M. Formann, Free University, Berlin, Germany, Dec 16, 1992.
- D. Halperin, Tel Aviv University, Tel Aviv, Israel, Jan 1993.
- K. Dobrindt, INRIA Sophia-Antipolis, France, Feb 1994.
- S. Jadhav, India, fall 1994.
- A. Datta Sharma, India, fall 1994.
- J. Duquesne, INRIA Sophia-Antipolis, France, Sep 1995.
- K. Verbarg, Wuerzburg, spring 1997.

Current PhD-students under my supervision

- MSc. J. Cheong (robotic manipulation), 2000–2005.
- drs. A. Kamphuis (motion planning), 2002-2007.
- drs. J. Houtkamp (virtual environments), 2002-2007.
- drs. J. van den Berg (motion planning), 2003-2007.
- MSc. R. Typke (pattern matching in music), 2003-2007.
- drs. E. Moet (geometric algorithms for graphics and GIS), 2003-2007.
- drs. O. Goemans (robotic manipulation), 2003-2007.
- drs. D. Nieuwenhuisen (motion and manipulation in virtual environments), 2004-2007.
- drs. F. ter Haar (retrieval of 3D shapes), 2004-2008.
- drs. R.H. van Leuken (shape indexing), 2005-2009.
- MSc. M. Vahedi (robotic manipulation), 2005-2009.

Editorships:

- 1988-1993, editor *Journal of Symbolic Computation*.
- 1990-1992, editor-in-chief *Algorithms Review*.
- 1990-2006, editor *Computational Geometry: Theory and Applications*.
- 1994-now, editor *Discrete and Computational Geometry*.
- Oct 1994, Guest Editor vol 12, issue 3 of *Discrete and Computational Geometry*.
- 1995-1996, editor *Journal of Universal Computer Science*.
- 2000-2001, editor *IEEE Transactions on Robotics and Automation*.

Program Committees:

- Member program committee 5th ACM Symp. on Computational Geometry, Saarbrücken, Germany, Jun 1989.
- Member program committee STACS 90, France, Feb 1990.
- Member program committee Eurographics Workshop on Computer Graphics and Mathematics, Italy, Oct 1991.
- Member program committee CSN 91, Utrecht, Nov 1991.
- Member program committee SWAT 92, Helsinki, Finland, Jul 1992.
- Chairman program committee 9th ACM Symp. on Computational Geometry, San Diego, May 1993.
- Member program committee ICALP 93, Lund, Jul 1993.
- Member program committee COMPUGRAPHICS'93, Alvor, Portugal, Dec 1993.
- Co-chair program committee second Workshop on Algorithmic Foundations of Robotics, Toulouse, Feb 1996.
- Member program committee ESA'96, Sep 1996.
- Co-chair Workshop on Geometric Computing, Nice, Jun 1997.
- Member program committee Third Workshop on Algorithmic Foundations of Robotics, 1998.
- Member program committee 14th ACM Symp. on Computational Geometry, Mineapolis, Jun 1998.
- Member program committee IROS'98, Victoria, Oct 1998.
- Member program committee Tool and Methods of Competitive Engineering (TMCE 2000), Apr 2000.
- Member program committee Workshop on Algorithm Engineering (WAE 2000), Sep 2000.
- Member program committee 17th ACM Symp. on Computational Geometry, Jun 2001.
- Member program committee Workshop on Algorithm Engineering (WAE 2001), Sep 2001.
- Member program committee Jaarcongres Nieuwe Media, Jun 2001.
- Member program committee ICT-Kenniscongres, Sep 2001.
- Member program committee ICT-Kenniscongres, Sep 2002.
- Member video program committee 20th ACM Symp. on Computational Geometry, Jun 2004.
- Co-chair program committee sixth Workshop on Algorithmic Foundations of Robotics, Utrecht, Jul 2004.
- Member program committee 3rd International Conference on Entertainment Computing (ICEC 2004), Sept. 2004.
- Member program committee 6th International Conference on Computer Games: AI and Mobile Systems (CGAIMS 2005), Jul 2005.

- Member program committee 7th International Conference on Computer Games: Animation, Mobile and Educational Systems (CGAMES 2005), Nov 2005.
- Member program committee WJogos 2005 / SBGames 2005, Brazil, Nov 2005.
- Member scientific committee GAMES 2006, Portugal, Sep 2006.
- Member program committee special track AI and Ambient Entertainment during FLAIRS 2007, USA, May 2007.

Other services:

Here are some of the larger other services I have done.

- One of the directors, Summer School on Computational Geometry, Saarbrücken, Germany, Jun 1989.
- Organiser 8th European Workshop on Computational Geometry, Utrecht, the Netherlands, Mar 1992.
- Advisor Philips Research, 1999.
- 1993-now, external expert GI Fachgruppe 0.1.2 (Algorithmische Geometrie).
- Member project jury STW, Feb 1994.
- 1995-2000, Member of the board of SION, the committee of NWO dealing with computer science research in the Netherlands.
- 1997-1999, Chair steering committee for the ACM Symp. on Computational Geometry,
- 2000-2003, Chair IPN (Computer Science Research Platform in the Netherlands), that represent all academic computer science research in the Netherlands.
- 2001-2004, Chair ACI (Advisory Committee for Computer Science), the committee of NWO dealing with computer science research in the Netherlands.
- 2002-2004, Member ICT-Forum, the advisory committee of the ministries of Education and Trade dealing with computer science research in the Netherlands.
- 2002-2005, Member board CWI, since 2004 vice chairman.
- 2001-2005, Member Scientific Advisory Board Max-Planck-Institut für Informatik.
- 2005-2006, Chair Utrecht Platform for Game Education and Research(UPGEAR).
- 2005-now, Member Koninklijke Hollandische Maatschappij der Wetenschappen.
- 2006-now, Member program board Lorentz Center Leiden.
- Referee for project proposals from NWO, NSF, the Israeli Science Foundation, ESPRIT, EU, IWT, etc.
- Reviewer for EU projects.
- Referee for numerous journals and conferences.