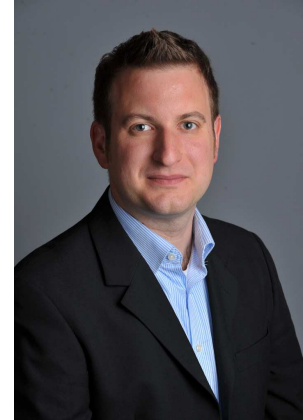


Curriculum Vitae

Cyrill Stachniss

June 1, 2015

Prof. Dr. Cyrill Stachniss
University of Bonn
Inst. of Geodesy and Geoinformation
Dept. of Photogrammetry
Nussallee 15
53115 Bonn, Germany
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Areas of Interest

Probabilistic robotics; photogrammetry; perception and state estimation; simultaneous localization and mapping; mobile sensing; navigation; multi-robot coordination; learning techniques for autonomous systems

Education

- Habilitation and *venia legendi* in computer science 11/2009
University of Freiburg, Germany
Habilitation thesis: *Spatial Modeling and Robot Navigation*
- Dr. rer. nat. (Ph.D.) in computer science—*summa cum laude (with distinction)* 04/2006
University of Freiburg, Germany
Ph.D. thesis: *Exploration and Mapping with Mobile Robots*
1st Reviewer: Prof. Dr. Wolfram Burgard, University of Freiburg
2nd Reviewer: Prof. Dr. Dieter Fox, University of Washington, WA
- Diplom (M.Sc.) in computer science—*summa cum laude (with distinction)* 08/2002
University of Freiburg, Germany
Diploma thesis: *Goal-directed Obstacle Avoidance for Mobile Robots in Dynamic Environments*
- Vordiplom in computer science 03/2000
University of Marburg, Germany
- Vordiplom in physics 11/1999
University of Marburg, Germany

Academic Positions

- Full professor and chair for Photogrammetry since 04/2014
University of Bonn, Institute of Geodesy and Geoinformation
- University lecturer (Privatdozent und Akademischer Rat) 10/2010-03/2014
University of Freiburg, Institute for Computer Science
- Deputy professorship at the Autonomous Intelligent Systems Lab 10/2009-09/2010
during the sabbatical of Prof. Dr. Wolfram Burgard (W3-Lehrstuhlvertretung)
University of Freiburg, Institute for Computer Science
- Guest lecturer spring 2009
University of Zaragoza (Spain), Dipartamento Informática e Ingeniería de Sistemas
- Akademischer Rat 10/2007-09/2009
University of Freiburg, Institute for Computer Science
- Postdoc 11/2006-09/2007
University of Freiburg, Institute for Computer Science, Lab for Autonomous Intelligent Systems
headed by Prof. Dr. Wolfram Burgard
- Senior researcher 05/2006-10/2006
Eidgenössische Technische Hochschule (ETH) Zurich, Department of Mechanical and Process
Engineering, Autonomous Systems Lab headed by Prof. Dr. Roland Siegart
- Ph.D. student and research associate 12/2002-04/2006
University of Freiburg, Institute for Computer Science, Lab for Autonomous Intelligent Systems
headed by Prof. Dr. Wolfram Burgard

Citation Indices

h-index: 36, i10-index: 79, citations: 6063 (determined using “Google Scholar” on Jun 1)

Honors and Awards

- ICRA 2015 Best Service Robotics Paper Finalist 2015
for the work *Robot, Organize my Shelves! Tidying up Objects by Predicting User Preferences*
- Faculty Teaching Award (Fakultätslehrpreis) 2013
for my lecture *Robot Mapping* taught in winter term 2012/13
- IEEE RAS Early Career Award 2013
for my contributions to mobile robot exploration and simultaneous localization and mapping
- ICRA 2013 Best Associate Editor Award 2013
- ICRA 2013 Best Student Paper Finalist 2013
for the work *Robust Map Optimization Using Dynamic Covariance Scaling*
- Robotics: Science and Systems Early Career Spotlight 2012
- Microsoft Research Faculty Fellow 2010
- EURON Georges Giralt Award 2008
for the best robotics thesis in Europe defended in 2006
- Wolfgang-Gentner Award 2006
for the Ph.D. thesis *Exploration and Mapping with Mobile Robots*

- ICRA 2005 Best Student Paper Finalist 2005
for the work *Supervised Learning of Places from Range Data using AdaBoost*
- ICASE-IROS 2004 Best Paper Award on Application 2005
for the work *Grid-based FastSLAM and Exploration with Active Loop Closing*
- Förderpreis des Vereins Deutscher Ingenieure (VDI) 2003
for the Master's thesis *Goal-directed Obstacle Avoidance for Mobile Robots in Dynamic Environments*

Research Project Coordination Activities

- Coordinator (Sprecher) of the DFG funded research unit “Mapping on Demand” 2015-2017
- Coordinator of the EC funded FP7 project ROVINA 2013-2016
- Vice-Coordinator of the EC funded FP7 project EUROPA2 2013-2014
- “Vorstandsmitglied” in the SFB-TR/8 “Spatial Cognition” 2013-2014
- Vice-Coordinator and scientific project manager of the FP7 project First-MM 2010-2013
- Vice-Coordinator and scientific project manager of the FP7 project EUROPA 2009-2012

Funded Projects

- Principal investigator of the project “Exploration for Micro Aerial Vehicles” 2015-2017
Funded by the DFG with in the Research Unit “Mapping on Demand”.
- Principal investigator of the project “Incremental Mapping from Image Sequences”. 2015-2017
Funded by the DFG with in the Research Unit “Mapping on Demand”.
- Principal investigator of the project “Robust Direct Georeferencing” 2015-2017
of Lightweight UAV. Funded by the DFG with in the Research Unit “Mapping on Demand”.
- Principal investigator of the project Flourish 2015-2018
Flourish—Aerial Data Collection and Analysis, and Automated Ground Intervention for Precision Farming. Funded by the European Commission, H2020.
- Principal investigator of the project RobDREAM 2015-2018
RobDREAM—Optimising Robote Performance While Dreaming. Funded by the European Commission, H2020.
- Principal investigator of the project AdvancedEDC 2014-2015
AdvancedEDC—Advanced Intracortical Neural Probes with Electronic Depth Control. Funded by the DFG with in the cluster of excellence BrainLinks–BrainTools.
- Vice-Coordinator and principal investigator of the EU project EUROPA2 2013-2016
EUROPA2—European Robotic Pedestrian Assistant 2.0. Funded by the European Commission, FP7.
- Principal investigator of the EU project STAMINA 2013-2017
STAMINA—Sustainable and Reliable Robotics for Part Handling in Manufacturing Automation. Participation ended with the move to the University of Bonn, FP7.
- Coordinator and principal investigator of the EU project ROVINA 2013-2016
ROVINA—Mobile Robots for Exploration, Digital Preservation and Visualization of Archeological Sites. Evaluated in the FP7-ICT-Call 9 with 15/15 points. Funded by the European Commission, FP7.

- Principal investigator of a project with ifm automotive on the automatic evaluation of an obstacle detection systems for cars. Funded by ifm automotive GmbH. 2012
- Principal investigator of a project in 3rd phase of the SFB/TR-8 SFB/TR-8 “Spatial Cognition”, Project A3-MultiBot, funded by the German Research Foundation (DFG). 2011-2014
- Principal investigator of the EU project TAPAS TAPAS—Robotics-enabled Logistics and Assistive Services for the Transformable Factory of the Future. Funded by the European Commission. 2010-2014
- Vice-Coordinator and principal investigator of the EU project First-MM First-MM—Flexible Skill Acquisition and Intuitive Robot Tasking for Mobile Manipulation in the Real World. Funded by the European Commission, FP7. 2010-2013
- Vice-Coordinator and principal investigator of the EU project EUROPA EUROPA—European Robotic Pedestrian Assistant. Funded by the European Commission. The proposal has been evaluated as the best among all STREP and IP proposals in the April 2008 FP7-ICT-Call 3 on robotics and cognitive systems 2009-2012
- Principal investigator of a project on service robotics in industrial applications Funded by the MT Robotik AG. 2008-2010
- Principal investigator of a project in the 2nd phase of the SFB/TR-8 SFB/TR-8 “Spatial Cognition”, Project A3-MultiBot, funded by the German Research Foundation (DFG). 2007-2010
- Principal investigator of the EU project RAWSEEDS RAWSEEDS—Robotics Advancements through Web-publishing of Sensorial and Elaborated Extensive Data Sets. Funded by the European Commission. 2007-2009
- Principal investigator of a project on navigation and service robotics Funded by Toyota Europe. 2007-2009
- Principal investigator of a project on robust simultaneous localization and mapping Funded by Toyota Europe. Involved in the acquisition and realization of this project. 2006
- Contributions to projects without being a principal investigator
 - EU project BACS 2006-2009
 - BMBF project DESIRE 2006-2009
 - EU project CoSy 2004-2008
 - SFB/TR-8 “Spatial Cognition”, 1st phase 2003-2006
 - EU project WebFAIR 2001-2003

Consulting for Industry

- KUKA Roboter/KUKA Laboratories, Augsburg, Germany 2008-2014
- Numovis Inc., Menlo Park, CA, USA 2010-2011
- MT Robotik AG, Zwingen, Switzerland 2008-2010

Invited Talks

- Tag der Geodäsie 2015 (Geodesy Day 2015), Bonn, Germany 05/2015
Vermessung mit Oktokoptern
- DVW Seminar on Multi-Sensor-Systems, Hamburg, Germany 09/2014
Tutorial on Particle Filters for State Estimation
- Abschlusskolloquium SFB/TR-8 Spatial Cognition, Bremen, Germany 09/2014
Localization, Mapping, and Exploration – Achievements and Open Challenges
- Plenary talk at the Int. Conf. on Intelligent Autonomous Systems, Padua, Italy 07/2014
Flexible Longterm Navigation for Mobile Robots Operating in the Real World
- Tag der Geodäsie 2014 (Geodesy Day 2014), Bonn, Germany 05/2014
Wie Roboter die Welt verstehen
- University of Stuttgart, Germany 02/2014
Autonomous Navigation for Mobile Robots in the Real World
- KUKA Tec Camp, Augsburg, Germany 02/2014
Probabilistic State Estimation
- Forum für Mathematik und Naturwissenschaften, Freiburg, Germany 05/2013
Robots and Probabilities – A Success Story
- Meeting of the German National Academy of Sciences Leopoldina, Section 2 02/2013
Robots in Urban Environments
- Technical University of Cottbus, Germany 02/2013
Probabilistische Methoden für die Roboternavigation
- Radboud University Nijmegen, The Netherlands 02/2013
Towards Lifelong Navigation for Mobile Robots
- University of Bonn, Germany 01/2013
Probabilistische Methoden für die Perzeption und Entscheidungsfindung – von grundlegenden Problemen zu realen Systemen
- Robotics: Science and Systems Early Career Spotlight, Sydney, AUS 07/2012
Towards Lifelong Navigation for Mobile Robots
- RSS Workshop on Stochastic Motion Planning, Sydney, AUS 07/2012
Mutual Information for Effective Localization, Mapping and Exploration
- University of Stuttgart, Germany 11/2011
Probabilistische Methoden für Autonome Roboter – von grundlegenden Problemen zu realen Systemen
- University of Amsterdam, The Netherlands 10/2011
Probabilistic Techniques for Intelligent, Robust, and Autonomous Robots
- DGR-Tage 2011, Karlsruhe, Germany 10/2011
Autonomous Intelligent Systems
- Georgia Tech, Atlanta, GA 09/2011
Probabilistic Techniques for Autonomous Intelligent Robots
- Int. Symposium on Robotics Research (ISRR), Flagstaff, AZ 08/2011
Pose Graph Compression for Laser-based SLAM

- University of Stuttgart, Germany 05/2011
Probabilistische Techniken für intelligente, robuste und autonome Roboter
- Università La Sapienza, Rome, Italy 03/2011
Articulation Models for Mobile Manipulation Tasks
- PAIL Seminar, Stanford University, Palo Alto, CA 10/2010
Modeling Articulated Objects for Mobile Manipulation
- Microsoft Research, Redmond, WA 04/2010
Probabilistic Robotics
- USC Distinguished Lecture Day of Robotics, University of Southern California (USC), Los Angeles, CA 03/2010
Hierarchical Optimization on Manifolds
- Technical University of Munich, Germany 04/2009
Probabilistic Approaches for Cognitive Robots
- University of Oxford, UK 03/2009
Learning Kinematic Models for Articulated Objects
- Kolloq. Mathematik und Informatik, Philipps University, Marburg, Germany 09/2008
Building Maps with Mobile Robots
- Kolloq. Mechatronik und Intelligente Sensorik, University of Bielefeld, Germany 02/2008
Extracting Semantic Information About the Environment from Sensor Data Using Machine Learning Techniques
- Invited Tutorial at ECMR 2007, Freiburg, Germany 09/2007
Mapping with Rao-Blackwellized Particle Filters
- RSS Workshop on Sensor Networks, Atlanta, GA 06/2007
Cooperative Multi-Robot Exploration
- German-American Frontiers of Engineering, Hamburg, Germany 04/2007
Probabilistic Techniques for Robot Navigation
- Fraunhofer IPA, Stuttgart, Germany 10/2006
Vision-Based Localization for Mobile Robots
- University of Southern California (USC), Los Angeles, CA 04/2006
Improving Robot Navigation by Using Semantic Place Information
- Massachusetts Institute of Technology (MIT), Boston, MA 04/2006
Information Gain-based Exploration for Mobile Robots Using Rao-Blackwellized Particle Filters
- IROS 2005 Advanced Tutorial on SLAM, Edmonton, Canada 08/2005
Rao-Blackwellized Particle Filters and Loop Closing
- Università La Sapienza, Rome, Italy 06/2005
Mapping and Exploration Using Rao-Blackwellized Particle Filters
- Carnegie Mellon University (CMU), Pittsburgh, PA 07/2002
Goal-Directed Obstacle Avoidance in Dynamic Environments Under Dynamic Constraints

Teaching Activities

- Lecturer for *Photogrammetry I* Summer 2015
Lecture, 5 h/week
- Lecturer for *Introduction to C++ for Image Processing* Summer 2015
Großes Wahlpflichtmodul, 4 h/week
- Lecturer for *Mobile Mapping with Multi-Sensor Systems* Summer 2015
Master Project, 5 h/week
- Lecturer for *Photogrammetry and Remote Sensing* Winter 2014/15
Lecture, 3 h/week
- Lecturer for *Photogrammetry II* Winter 2014/15
Lecture, 4 h/week
- Lecturer for *Autonomous Exploration for 3D Reconstruction* Winter 2014/15
Großes Wahlpflichtmodul, 4 h/week
- Lecturer for *Photogrammetry I* Summer 2014
Lecture, 5 h/week
- Lecturer for *Exploration of Unknown Environments with Mobile Platforms* Summer 2014
Großes Wahlpflichtmodul, 4 h/week
- Lecturer for *Robot Mapping* Winter 2013/14
Lecture, 4 h/week
- Lecturer for *Einführung in die Informatik (Introduction to CS)* Summer 2013
Lecture, 4 h/week
- Lecturer for *Introduction to Mobile Robotics* Summer 2013
Lecture, 4 h/week, shared teaching
- Lecturer for *Robot Mapping* Winter 2012/13
Lecture, 4 h/week
- Lecturer for *People Localization* Winter 2012/13
Practical Course, 4 h/week
- Lecturer for *Introduction to Mobile Robotics* Summer 2012
Lecture, 4 h/week, shared teaching
- Lecturer for *Einführung in die Informatik (Introduction to CS)* Summer 2012
Lecture, shared teaching
- Lecturer for *Humanoid Robots* Summer 2012
Seminar, 2 h/week, 9 students, shared teaching
- Lecturer for *Advanced Techniques for Mobile Robotics/Robotics II* Winter 2011/12
Lecture, 4 h/week, approx. 20 students, shared teaching
- Lecturer for *Introduction to Mobile Robotics* Summer 2011
Lecture, 4 h/week, approx. 35 students, shared teaching
- Lecturer for *Einführung in die Informatik (Introduction to CS)* Summer 2011
Lecture, 4 h/week, approx. 140 students
- Lecturer for *Probabilistic Graphical Models* Summer 2011
Seminar, 2 h/week, 10 students, shared teaching

- Lecturer for *Simultaneous Localization and Mapping* Winter 2010/11
Practical Course, 4 h/week, 13 students
- Lecturer for *Advanced Techniques for Mobile Robotics/Mobile Robotics II* Winter 2010/11
Lecture, 4 h/week, shared teaching
- Lecturer for *Introduction to Mobile Robotics* Summer 2010
Lecture, 4 h/week, approx. 16 students, shared teaching (main instructor)
- Lecturer for *Einführung in die Informatik für Mikrosystemtechniker* Summer 2010
Lecture, 4 h/week, approx. 100 students
- Lecturer for *Humanoid Robots* Summer 2010
Seminar, 2 h/week, 10 students, shared teaching
- Lecturer for *Advanced Techniques for Mobile Robotics/Mobile Robotics II* Winter 2009/10
Lecture, 4 h/week, 18 students, shared teaching (main instructor)
- Lecturer for *Robot Navigation* Winter 2009/10
Seminar, 2 h/week, 10 students, shared teaching
- Guest lecturer for a Ph.D. course on *Simultaneous Localization and Mapping* at the University of Zaragoza, Spain Summer 2009
- Lecturer for *Introduction to Mobile Robotics* Summer 2009
Lecture, 4 h/week, approx. 35 students, shared teaching
- Lecturer for *Einführung in die Informatik für Mikrosystemtechniker* Summer 2009
Lecture, 4 h/week, approx. 100 students, shared teaching (main instructor)
- Lecturer for *Autonomous Slotcar Racing* Winter 2009/08
Practical Course, 4 h/week, 8 students
- Lecturer for *Introduction to Mobile Robotics* Summer 2008
Lecture, 4 h/week, approx. 35 students, shared teaching
- Lecturer for *Einführung in die Informatik für Mikrosystemtechniker* Summer 2008
Lecture, 4 h/week, approx. 85 students, shared teaching
- Lecturer for *Location-based Services* Winter 2007/08
Practical Course, 4 h/week, 12 students
- Lecturer for *Motion Planning* Winter 2007/08
Seminar, 2 h/week, 12 students, shared teaching
- Lecturer for *Introduction to Mobile Robotics* Summer 2007
Lecture, 4 h/week, approx. 40 students, shared teaching
- Lecturer for *Einführung in die Informatik für Mikrosystemtechniker* Summer 2007
Lecture, 4 h/week, approx. 70 students, shared teaching
- Co-Lecturer for *Informatik I* Winter 2006/07
Lecture, 6 h/week, teaching in case Prof. Dr. Burgard was unavailable
- Co-Lecturer for *Autonomous Mobile Systems* Winter 2005/06
Seminar, 2 h/week, 14 students, shared teaching
- Co-Lecturer for *Informatik I* Winter 2005/06
Lecture, 6 h/week, teaching in case Prof. Dr. Burgard was unavailable
- Co-Lecturer for *Autonomous Mobile Systems* Summer 2005
Seminar, 2 h/week, 12 students, shared teaching

- Co-Lecturer for *Introduction to Mobile Robotics* Summer 2005
Lecture, 4 h/week, approx. 25 students, teaching in case Prof. Dr. Burgard was unavailable
- Co-Lecturer for *The Robot Photographer* Winter 2004/05
Practical Course, 4 h/week, 12 students

External Ph.D. Committee Memberships

- University of Freiburg, Germany 2014, 2015
- University of Oxford, UK 2014
- Queensland University of Technology, Australia 2014
- KTH Stockholm, Sweden 2012
- University of Sydney, Australia 2011
- Polytechnic University of Catalonia, Barcelona, Spain 2011
- University of Zaragoza, Spain 2008

Advisory Board Membership

- ILIAD – Intra-Logistics with Integrated Automatic Deployment since 2015

Services for Journals

- Senior Editor
 - IEEE Robotics and Automation Letters (RA-L) since 2015
- Associate Editor
 - IEEE Transactions on Robotics (T-RO) 2008-2013
- Guest Editor
 - Journal of Field Robotics for the special issue on Visual Mapping and Navigation Outdoors 2009/2010
- Reviewing
 - Journal of Geodesy (JOGE) 2015
 - ISPRS Journal of Photogrammetry and Remote Sensing 2014
 - IEEE Transactions on Robotics (T-RO) since 2004
 - Autonomous Robots (AuRo) 2004-2008,2010,2011,2014
 - Int. Journal on Robotics Research (IJRR) 2006, 2008, 2009, 2011-2014
 - Robots and Autonomous Systems (RAS) since 2005
 - Journal of Field Robotics (JFR) 2007-2010
 - Artificial Intelligence 2013
 - IEEE Transactions on Mechatronics (T-MECH) 2012
 - IEEE Transactions on Autonomous Mental Development 2012
 - RSJ Advanced Robotics 2005, 2010
 - Ad Hoc Networks 2011

- IEEE Sensors Journal 2010
- IEEE Transactions on Systems, Man, and Cybernetics 2010
- Journal of Artificial Intelligence Research (JAIR) 2008
- Annals of Mathematics and Artificial Intelligence (AMAI) 2007,2013
- Int. Journal of Pattern Recognition and Artificial Intelligence (IJPRAI) 2007

Conference Services

- Program Chair
 - Spatial Cognition (SC) 2012
- Area Chair
 - Robotics: Science and Systems (RSS) 2010, 2012
 - Int. Joint Conf. on Artificial Intelligence (IJCAI) 2013
- Associate Editor
 - IEEE Int. Conf. on Robotics & Automation (ICRA) 2009-2015
 - IEEE/RSJ Int. Conf. on Intelligent Robots and Systems (IROS) since 2011
- Workshop Chair
 - Robotics: Science and Systems (RSS) 2011
- Publicity Chair
 - Spatial Cognition (SC) 2012
 - Robotics: Science and Systems (RSS) 2007
- Publication Chair
 - Robotics: Science and Systems (RSS) 2007
- Local Arrangement
 - IEEE Int. Conf. on Advanced Intelligent Mechatronics (AIM) 2007
- Conference Management System
 - Robotics: Science and Systems (RSS) 2006
 - IEEE Int. Conf. on Advanced Intelligent Mechatronics (AIM) 2007
- Program Committee
 - Robotics: Science and Systems (RSS) since 2005
 - Europ. Conf. on Artificial Intelligence (ECAI) 2012
 - National Conf. on Artificial Intelligence (AAAI) 2006
 - Int. Conf. on Autonomous Agents and Multiagent Systems (AAMAS) 2008
 - Int. Conf. on Advanced Robotics (ICAR) 2007, 2009
 - Int. Conf. on Intelligent Autonomous Systems (IAS) 2012
 - European Conf. on Mobile Robots (ECMR) since 2007 (biannual)
 - Spatial Cognition (SC) 2012, 2014
 - German Conf. on Artificial Intelligence (KI) 2011
 - Int. Conf. on Robot Communication and Coordination (ROBOCOMM) 2007
 - Int. Conf. on Informatics in Control, Automation, and Robotics (ICINCO) 2008
 - ACM Symp. on Applied Computing, Embedded Systems and Robotics track 2008

- ACM Symp. on Applied Computing, Intelligent Robotics Systems track 2009
- Poster Program Committee
 - IEEE Int. Conf. on Robotics & Automation (ICRA) 2006
- Reviewing
 - Int. Conf. on Computer Vision (ICCV) 2015
 - Conf. on Computer Vision and Pattern Recognition (CVPR) 2015
 - Int. Joint Conf. on Artificial Intelligence (IJCAI) 2003, 2005, 2007
 - National Conf. on Artificial Intelligence (AAAI) 2005, 2006
 - Robotics: Science and Systems (RSS) since 2005
 - IEEE Int. Conf. on Robotics & Automation (ICRA) since 2003
 - IEEE/RSJ Int. Conf. on Intelligent Robots and Systems (IROS) since 2002
 - ACM/IEEE Int. Conf. on Human-Robot Interaction (HRI) 2014
 - Int. Conf. on Field and Service Robotics (FSR) 2007
 - Annual Meeting of the Cognitive Science Society (CogSci) 2013
 - IEEE Conf. on Local Computer Networks (LCN) 2006
 - Int. Conf. on Automation and Robotics (ICAR) 2005, 2007
 - Int. Conf. on Intelligent Autonomous Systems (IAS) 2008
 - European Conf. on Mobile Robots (ECMR) since 2003 (biannual)
 - Int. Conf. on Social Robotics (ICSR) since 2011
 - Mexican Int. Conf. on Artificial Intelligence (MICAI) 2005
 - Intelligent Autonomous Vehicles (IAV) 2004, 2007
 - Spatial Cognition (SC) 2004, 2006, 2008
 - Robotik 2004, 2006

Workshop/Symposia Services

- Organizer
 - ICRA Workshop on “What Sucks in Robotics and How to Fix It - Lessons Learned from Building Complex Systems” 2014
 - FAIM Workshop on Cognitive Technical Systems 2014
 - RSS Workshop on Robotic Exploration, Monitoring, and Information Collection 2013
 - ICRA Workshop on Visual Mapping and Navigation in Outdoor Environments 2009
- Program Committee
 - RSS Workshop on multiple view geometry in robotics (MVGRO) 2014, 2015
 - ICRA Workshop Proposal “Got rejected? Let the community review your paper!” 2015
 - Int. Workshop on the Algorithmic Foundations of Robotics (WAFR) 2012
 - Starting Artificial Intelligence Research Symposium (STAIRS) 2012
 - RSS Workshop on Long-term Operation in Changing Environments 2012
 - ICCV Workshop on Challenges and Opportunities in Robot Perception 2011
 - ICRA Workshop on Intelligent Transportation Systems 2010
 - ICRA Workshop on Visual Mapping and Navigation in Outdoor Environments 2009

- ICRA Workshop on Safe Navigation in Open and Dynamic Environments – Application to Autonomous Vehicles 2009
- RSS Workshop Inside Data Association 2008
- IROS Workshop on Planning, Perception and Navigation for Intelligent Vehicles 2008, 2015

Other Reviewing Services

- U.S.-Israel Binational Science Foundation 2015
- European Commission, ERC Grants 2014
- Deutsche Forschungsgemeinschaft (DFG) 2014
- Alexander von Humboldt Foundation 2014, 2015
- Netherlands Organisation for Scientific Research (NWO) 2010, 2013
- Microsoft Research Faculty Fellowships 2011
- Springer STAR series 2010

Software Project Involvements

- HOG-Man—Hierarchical Optimization for Pose Graphs on Manifolds since 2009
Developer of the open source mapping software HOG-Man, which performs hierarchical optimization on manifolds to estimate accurate models of large-scale 3D environments.
- OpenSLAM.org since 2007
Initiator and developer of the web-based platform OpenSLAM for sharing SLAM algorithms.
- TORO—Tree-based Network Optimizer 2007-2010
Developer of the open source software TORO, which is an efficient approach to learn environment maps that are encoded as constraint networks and it is designed to deal with bad initial configurations.
- SmartTer—Smart All Terrain Vehicle 2006
Joint software project between ETH Zurich, EPFL, and the University of Freiburg for building an instrumented car for mapping and autonomous navigation. Participation in the European Land Rover Trials in 2006. I was coordinating the developments in Freiburg.
- GMapping 2004-2008
Developer of the open source mapping software GMapping, which employs a Rao-Blackwellized particle filter for solving the simultaneous localization and mapping problem in 2D.
- CARMEN 2003-2010
Developer of the open source robot control software CARMEN—Carnegie Mellon Robot Navigation Toolkit.

Publication List

Cyrill Stachniss

Peer-Reviewed Journal/Magazine Articles

- [1] Pratik Agarwal, Wolfram Burgard, and Cyrill Stachniss. A survey of geodetic approaches to mapping and the relationship to graph-based slam. *IEEE Robotics & Automation Magazine*, 2014.
- [2] R. Kümmerle, M. Ruhnke, B. Steder, C. Stachniss, and W. Burgard. Autonomous robot navigation in highly populated pedestrian zones. *Journal of Field Robotics*, 2014.
- [3] B. Frank, C. Stachniss, R. Schmedding, M. Teschner, and W. Burgard. Learning object deformation models for robot motion planning. *Robots and Autonomous Systems*, 2014.
- [4] C. Stachniss and W. Burgard. Particle filters for robot navigation. *Foundations and Trends in Robotics*, 3(4):211–282, 2012. Published 2014.
- [5] W. Burgard and C. Stachniss. Gestatten, Obelix! *Forschung – Das Magazin der Deutschen Forschungsgemeinschaft*, 1, 2013. In German, invited.
- [6] D. Maier, C. Stachniss, and M. Bennewitz. Vision-based humanoid navigation using self-supervised obstacle detection. *The Int. Journal of Humanoid Robotics (IJHR)*, 2013.
- [7] K.M. Wurm, C. Dornhege, B. Nebel, W. Burgard, and C. Stachniss. Coordinating heterogeneous teams of robots using temporal symbolic planning. *Autonomous Robots*, 2013.
- [8] K.M. Wurm, H. Kretschmar, R. Kümmerle, C. Stachniss, and W. Burgard. Identifying vegetation from laser data in structured outdoor environments. *Robots and Autonomous Systems*, 2013.
- [9] A. Hornung, K.M. Wurm, M. Bennewitz, C. Stachniss, and W. Burgard. OctoMap: An efficient probabilistic 3d mapping framework based on octrees. *Autonomous Robots*, 34:189–206, 2013.
- [10] H. Kretschmar and C. Stachniss. Information-theoretic pose graph compression for laser-based SLAM. *The Int. Journal of Robotics Research (IJRR)*, 31:1219–1230, 2012.
- [11] J. Sturm, C. Stachniss, and W. Burgard. A probabilistic framework for learning kinematic models of articulated objects. *Journal on Artificial Intelligence Reserach (JAIR)*, 41:477–526, 2011.
- [12] G. Grisetti, R. Kümmerle, C. Stachniss, and W. Burgard. A tutorial on graph-based SLAM. *IEEE Transactions on Intelligent Transportation Systems Magazine*, 2:31–43, 2010.
- [13] C. Plagemann, C. Stachniss, J. Hess, F. Endres, and N. Franklin. A nonparametric learning approach to range sensing from omnidirectional vision. *Robots and Autonomous Systems*, 58:762–772, 2010.
- [14] H. Kretschmar, G. Grisetti, and C. Stachniss. Lifelong map learning for graph-based SLAM in static environments. *KI – Künstliche Intelligenz (German AI Magazine)*, 24:199–206, 2010.
- [15] K.M. Wurm, C. Stachniss, and G. Grisetti. Bridging the gap between feature- and grid-based slam. *Robots and Autonomous Systems*, 58(2):140 – 148, 2010.

- [16] G. Grisetti, C. Stachniss, and W. Burgard. Non-linear constraint network optimization for efficient map learning. *IEEE Transactions on Intelligent Transportation Systems*, 10(3):428–439, 2009.
- [17] R. Kümmerle, B. Steder, C. Dornhege, M. Ruhnke, G. Grisetti, C. Stachniss, and A. Kleiner. On measuring the accuracy of SLAM algorithms. *Autonomous Robots*, 27:387ff, 2009.
- [18] C. Stachniss, C. Plagemann, and A.J. Lilienthal. Gas distribution modeling using sparse gaussian process mixtures. *Autonomous Robots*, 26:187ff, 2009.
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