CURRICULUM VITAE

Professor Kristin Y. Pettersen

Present positions:	Professor, Department of Engineering Cybernetics, NTNU Adjunct Professor, Norwegian Defence Research Establishment (FFI)
Affiliation:	Norwegian University of Science and Technology Department of Engineering Cybernetics N-7491 Trondheim Norway Tel: (+47) 73 59 43 76 E-mail: Kristin.Y.Pettersen@ntnu.no
Web pages:	NTNU: https://www.ntnu.edu/employees/kristin.y.pettersen Home page: https://folk.ntnu.no/kyp
Orcid:	https://orcid.org/0000-0002-3897-0315
Google scholar:	https://scholar.google.com/citations?user=a58cNycAAAAJ&hl=en
LinkedIn:	

Academic degrees

1996	PhD Engineering Cybernetics, Norwegian University of Science and Technology (NTNU)
1991	MSc Engineering Cybernetics, Norwegian Institute of Technology (NTH)

Work experience

2015-2016	CEO and co-founder	Eelume AS
2014-2026	Adjunct Professor	Norwegian Defence Research Establishment (FFI)
2013-2023	Key scientist	CoE Autonomous Marine Operations and Systems (NTNU AMOS)
2011-2013	Head of Department	Dept. Engineering Cybernetics, NTNU
2009-2011	Vice-head of Department	Dept. Engineering Cybernetics, NTNU
2010-2013	Director	NTNU Strategic Area ICT Programme of Robotics
2008	Guest Professor	Section for Automation and Control, Aalborg University
2002-	Professor	Dept. Engineering Cybernetics, NTNU
2001-2013	Scientific Advisor	SINTEF ICT
1999	Visiting Fellow	Dept. Mech. and Aerospace Eng., Princeton University
1997-2002	Associate Professor	Dept. Engineering Cybernetics, NTNU
1996-1997	Assistant Professor	Dept. Engineering Cybernetics, NTNU
1993-1996	Research scholar	Dept. Engineering Cybernetics, NTNU/ Research Council of Norway
1992	Teaching assistant	Dept. Engineering Cybernetics, NTNU

Board/Council work

2025-	Deputy board member	Simula
2023-2024	Vice-President Member Activities	IEEE Control Systems Society
2023-2024	Member	IEEE Control Systems Society - Executive Committee
2022-	Board member	Eelume AS
2022-2024	Board member (Elected)	IEEE Control Systems Society - Board of Governors
2020-2023	Vice-chair	IFAC Membership Committee
2019-2023	Member	European Control Association (EUCA) Council
2017-2023	Member	IFAC Council
2017-2020	Vice-chair	IFAC Administrative & Finance Committee
2016-2021	Board member	Eelume AS

2012-2014	Board member (Elected)	IEEE Control Systems Society - Board of Governors
2011-2013	Vice-chair	Norwegian Defence Research Establishment (FFI)
2011-2013	Deputy board member	Norwegian Smartgrid Centre
2010-2013	Deputy council member	SINTEF
2010-2017	Board member	NTNU Applied Underwater Robotics Laboratory
2007-2011	Board member	Norwegian Defence Research Establishment (FFI)
2008-2015	Council member	SINTEF Information and Communication Technology
2007-2011	Board member	NTNU/SINTEF Gemini centre of Advanced Robotics
2005-2009	Chair	KEE Control Systems Technology AS (KEEtech)
2005-2009	Council member	Faculty of Information Tech., Math. and Electrical Eng.,NTNU
2005-2009	Council member	Dept. Engineering Cybernetics, NTNU
2004-2007	Board member	SINTEF Information and Communication Technology
1999-2005	Board member	Dept. Engineering Cybernetics, NTNU
2002-2005	Board member	Faculty of Information Tech.,Math. And Electrical Eng., NTNU

Selected Research Projects

2025-2030	Key Scientist	Project title: Norwegian Centre for Embodied AI (NCEI). Funded by the Research Council of Norway. Project owner: NTNU, with 18 partners from academia, industry, research institutes, and the public sector. Budget: 255 MNOK.
2025	Core Team Member	Project title: Robot for Optimal Ocean Energy Harvesting (ROOEH) Funded by NTNU Discovery: 250 000 NOK.
2024-2026	Principal Investigator	Project title: ERC PoC Underwater Robots for efficient ocean energy harvesting (UR4energy). Funded by The European Research Council. Budget: 150 000 EUR.
2021-2026	Principal Investigator	Project title: ERC AdG Control of light vehicle-manipulator systems (CRÈME). Funded by the European Research Council. Budget: 2.5 MEUR.
2020-2025	Principal Investigator	Project title: NTNU VISTA Center for autonomous robotic operations subsea (CAROS). Funded by The Norwegian Academy of Science and Letters and Equinor. Total budget: 45 MNOK.
2020-2024 2023-2025	Key Scientist	Project title: Autonomous Underwater Fleets: from AUVs to AUFs through adaptive communication and cooperation schemes. FRIPRO project funded by the Research Council of Norway. Budget 2020-2023: 14.6 MNOK. NFR Complementary funding project 2023-2025: 4 MNOK
2019-2025	Project manager	Project title: Autonomous Robots for Ocean Sustainability (AROS) IKTPLUSS project funded by the Research Council of Norway. Project owner: NTNU Total Budget: 21.5 MNOK
2013-2023	Key scientist	Project title: Autonomous Marine Operations and Systems (NTNU AMOS). Centre of Excellence funded by the Research Council of Norway. Project Manager for the project “Marine robotic platforms”, 2018 – 2023. Project Manager for Project 4: “Autonomous underwater robotics for mapping, monitoring and intervention”, 2013 – 2017. Coordinator for Area 3: Autonomous unmanned vehicles and operations (Projects 3,4,5), 2013 – 2017. Project partners: NTNU, SINTEF, Statoil, DNV. Total Budget 600 MNOK
2011-2015	Project manager	Project title: Snake Locomotion in Challenging Environments (SLICE) FRITEK project funded by the Research Council of Norway Project partners: NTNU and SINTEF Budget: 13.9 MNOK
2009-2014	Project manager	Project title: Control, Information and Communication Systems for Environmental and Safety Critical Systems (CICS) SUP project funded by the Research Council of Norway Budget: 15 MNOK
2009-2014	Key scientist	Project title: Next Generation Robotics for Norwegian Industry (NextGenRob) Project partners: SINTEF, NTNU, Statoil, Hydro, Tronrud Engineering, Glen Dimplex Nordic, SbSeating (HÅG) and RobotNorge Budget: 36 MNOK

2006-2009	Project manager	Project title: Underwater vehicles for synchronization of formations of advanced autonomous underwater vehicles and satellites (AUVSAT) NTNU AVIT project Budget: 1 MNOK
2006-2010	NTNU Project leader	$FREE_{sub}$NET: A European Research Training Network on Key Technologies for Intervention Underwater Autonomous Vehicles EU Marie Curie Research Training Network, FP6-2005-Mobility-1/RTN Budget NTNU: 2 MNOK
2004-2009	Key scientist	Computational Methods in Nonlinear Motion Control (CM-in-MC) SUP project funded by the Research Council of Norway Budget: 25 MNOK

Editorial work

2022	Co-Editor-in-Chief for Robotics Mechatronics
2021-2022	Associate Editor Field Robotics
2021	Section Editor of "Control of Marine Vessels", Encyclopedia of Systems and Control, Eds. J. Baillieul and T. Samad, Springer Nature Switzerland AG2021, 2nd edition 2021 ISBN 978-3-030-44183-8.
2021	Co-editor of “Advanced Control Methods in Marine Robotics”, *Frontiers in Robotics and AI*, 2021. Editors: Fabio Bonsignorio, Enrica Zereik, Marco Bibuli, Kristin Y. Pettersen and Oussama Khatib.
2019-2022	Senior Editor IEEE Transactions on Control Systems Technology.
2015-2018	Review Editor Robotic Control Systems, Frontiers in Robotics and AI.
2015	Section Editor of "Control of Marine Vessels", Encyclopedia of Systems and Control, Eds. J. Baillieul and T. Samad, Springer-Verlag, London, 2015. ISBN 978-1-4471-5057-2.
2012-2015	Associate Editor IEEE Control Systems Magazine.
2010-2015	Associate Editor IEEE Transactions on Control Systems Technology.
2008-2009	Member of the Editorial Board Simulation Modelling Practice and Theory.
2009-2011	Associate Editor IEEE International Conference on Robotics and Automation, Shanghai, China, 2011, Anchorage, Alaska, 2010, and Kobe, Japan, 2009.
2009	Associate editor IEEE/RSJ International Conference on Intelligent Robots and Systems, St. Louis, USA, 2009.

IPC/Conference organization

2025 IPC member of the *13th IFAC Symposium on Nonlinear Control Systems (NOLCOS)*, Reykjavik, Iceland.

2024 Task Force Co-Chair of the IEEE Control Systems Society *CSS Day* 2024.

2022 Awards Co-chair and Senior Program Committee member of the *2022 IEEE/RSJ international conference on Intelligent Robots and Systems (IROS),* Kyoto, Japan.
The IROS 2022 Organizing Committee was awarded the Distinguished Service Award (KOROSHO) by the Robotics Society of Japan (RSJ).

2021 Invited sessions chair of *2021 European Control Conference,* Rotterdam, the Netherlands.

2020 Industry chair of the *2020 European Control Conference,* Saint Petersburg, Russia.

2019 Senior member of the International Program Committee of the *European Control Conference,* Naples, Italy.

2019 IPC member of the *2019 IFAC Conference on Control Applications in Marine Systems, Robotics and Vehicles,* South Korea.

2018 Senior member of the Program Committee of the *IEEE Conference on Decision and Control,* Miami, Florida.

2018 Program chair of the *2018 IEEE Conference on Control Technology and Applications (CCTA),* Copenhagen, Denmark.

2017 Co-organizer of Workshop on Sensing and Control for Autonomous Vehicles, Ålesund, Norway.

2015 IPC member *14th European Control Conference*, Linz, Austria.

2014 IPC member and Associate Editor *22nd Mediterranean Conference on Control & Automation*, Palermo, Italy.

2014 IPC member *13th European Control Conference,* Strasbourg, France.

2011 IPC member *50th IEEE Conference on Decision and Control and European Control Conference,* Orlando, Florida.

2010 IPC member *7th IFAC Symposium on Intelligent Autonomous Vehicles*, Lecce, Italy.

2010 IPC member *1st Virtual Control Conference.*

2009 IPC member *8th IFAC Conference on Manoeuvring and Control of Marine Craft,* Guarujá, Brazil.

2006 IPC member *7th IFAC International Conference on Manoeuvring and Control of Marine Craft,* Lisbon.

2006 Co-organizer of Workshop on Group Coordination and Cooperative Control, Tromsø, Norway.

Awards/Honours

2025 Fellow of the International Federation of Automatic Control (IFAC), elected for the period 2023 - 2026.

2025 Appointed member of the Norwegian Academy of Science and Letters (DNVA).

2024 IFAC CAMS 2024 Best Paper Award for the paper:
E. Tveter, K.Y. Pettersen and J.T. Gravdahl, "Power-Based Safety Constraint for Redundant Robotic Manipulators", *Proc. 15th IFAC Conference on Control Applications in Marine Systems, Robotics and Vehicles*, Blacksburg, Virginia, USA, Sep. 3-5, 2024.

2023 Fellow of the AAIA.

2021 European Research Council Advanced Grant, ERC-2020-AdG.

2021 Recipient of the triennial NTNU Award for Outstanding Research and Artistic Activities

2020 Recipient of the 2020 IEEE CSS Hendrik W. Bode Lecture Prize, for leadership in fundamental research, development and commercialization of marine robotics.

2020 Årets DigIT-kvinne (DigIT Woman of the Year).

2019 Distinguished Lecturer of the IEEE Control Systems Society, Jan 2019 – Dec. 2022.

2018 Member of the Academy of the Royal Norwegian Society of Sciences and Letters (DKNVS).

2017 Fellow of the IEEE.

2017 IEEE Transactions on Control Systems Technology Outstanding Paper Award, 2017 for the paper: W. Caharija, K.Y. Pettersen, M. Bibuli, P. Calado, E. Zereik, J. Braga, J.T. Gravdahl, A.J. Sørensen, M. Milovanovic and G. Bruzzone, "Integral Line-of-Sight Guidance and Control of Underactuated Marine Vehicles: Theory, Simulations and Experiments", *IEEE Transactions on Control Systems Technology*, Vol. 24, No. 5, 2016, pp. 1623-1642.

2017 IEEE-ROBIO 2017 Best Conference Paper Award for the paper:
A.M. Kohl, S. Moe, E. Kelasidi, K.Y. Pettersen and J.T. Gravdahl, "Set-based path following and obstacle avoidance for underwater snake robots", Proc. 2017 IEEE Int. Conf. on Robotics and Biomimetics, Macau, China, Dec. 5-8, 2017.

2016 Eelume AS awarded "Subsea Upcoming Company of the Year", by GCE Subsea.

2013 Appointed member of the Norwegian Academy of Technological Sciences (NTVA).

2006 IEEE Transactions on Control Systems Technology Outstanding Paper Award, for the paper:

K.Y. Pettersen, F. Mazenc and H. Nijmeijer, "Global Uniform Asymptotic Stabilization of an Underactuated Surface Vessel: Experimental Results", *IEEE Transactions on Control Systems Technology,* Vol. 12, No. 6, Nov. 2004.

2004 Senior member of the IEEE.

1993 Personal Doctoral Research Fellowship, Research Council of Norway.

Plenary and Keynote lectures

2026 Articulated AUVs: Toward all-terrain marine robots. Keynote lecture in the *2nd Rosenbrock Lecture Series*, University of Manchester, June 11, 2026.

2026 From bio-inspired motion to all-terrain AUVs: The evolution of articulated marine robots. Distinguished lecture at *Digital Futures*, KTH, Stockholm, Sweden, April 28, 2026.

2025 ERC AdG CRÈME: Articulated marine robots. Keynote lecture at the *Workshop on EU-funded Marine Robotics and Applications (EMRA'25)*, Trondheim, Norway, June 3-5, 2025.

2024 All-terrain AUVs: A new class of marine robots. Plenary lecture at the *18th International Conference on Control, Automation, Robotics and Vision (ICARCV)*, Dubai, UAE, December 12-15, 2024.

2024 Autonomous marine robots. Plenary lecture at the *28th International Conference on System Theory, Control and Computing (ICSTCC 2024)*, Sinaia, Romania, October 10-12, 2024.

2024 Autonomous robots for exploring the vast ocean space. Plenary lecture at the *8th IEEE Conference on Control Technology and Applications*, Newcastle upon Tyne, UK, August 21-23, 2024.

2023 From snake robotics research to a new class of marine robots. *R.T. Chien Distinguished Lecture*, University of Illinois, March 23, 2023.

2023 Snake robots and the power of nonlinear control. Plenary lecture at the *12th IFAC Symposium on Nonlinear Control Systems*, Canberra, Australia, January 4-6, 2023.

2022 Snake robots, and how snake robots research led to a new class of marine robots. *IEEE WiE Extraordinary Women Extraordinary Science Seminar Series*, September 30, 2022.

2021 Snake robots – bioinspiration gives efficient robots for ocean exploration. *IEEE CSS Distinguished Lecture* at the IEEE CSS Colombia Chapter and plenary lecture at the *2021 IEEE Colombian Conference on Automatic Control*, October 19, 2021.

2020 Snake robots. *Bode Lecture* at the *59th IEEE Conference on Decision and Control*, Online/Jeju Island, Republic of Korea, December 14-18, 2020.

2020 Snake robots – bioinspiration gives efficient robots for ocean exploration. *IEEE CSS Distinguished Lecture* at the IEEE CSS Bangalore Chapter, India, September 14, 2020.

2019 Snake robot control. Plenary lecture at the *Indian Control Conference (ICC)*, Hyderabad, India, December 18-20, 2019.

2019 Snake robots moving on land and exploring the oceans. Keynote lecture at the *IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, Macau, China, November 4-8, 2019.

2019 Snake robot control. Plenary lecture at the joint *IFAC Conference on Control Applications in Marine Systems, Robotics, and Vehicles (CAMS)* and *IFAC Workshop on Robot Control (WROCO)*, Daejeon, Korea, September 18-20, 2019.

2019 Snake robots exploring the oceans. Keynote lecture at the *Big Challenge Festival*, Trondheim, Norway, June 17-19, 2019.

2018 Underwater swimming manipulators. Keynote lecture at the *5th Workshop on EU-funded Marine Robotics and Applications (EMRA'18)*, Limerick, Ireland, June 12-13, 2018.

2017 Snake robots: From biology, through university, towards industry. Plenary lecture at *IFAC World Congress*, Toulouse, France, July 9-14, 2017.

2016 Snake robots – swimming snake robots – a bio-inspired solution for subsea inspection and intervention. Plenary lecture at *IEEE International Symposium on Safety, Security, and Rescue Robotics (SSRR)*, Lausanne, Switzerland, October 23-27, 2016.

2015 Snake robots – a solution for firefighting, search and rescue, and subsea IMR operations. *Distinguished Lecture Speaker* at University of Toronto, Canada, October 22, 2015.

2015 Swimming manipulators – a bio-inspired underwater robotic solution. Plenary lecture at the *10th IFAC Conference on Manoeuvring and Control of Marine Craft (MCMC)*, Copenhagen, Denmark, August 24-26, 2015.

2013 Snake robots – from biology to nonlinear control. Semi-plenary lecture at *IFAC Symposium on Nonlinear Con* Toulouse, France, September 4-6, 2013.

Membership in Academic and Professional Organizations and Committees

2026 Expert Evaluator, European Innovation Council (EIC) Advanced Innovation Challenge (AIC), Accelerating Physical AI: Embodied Intelligence for the Next Frontier of AI-powered Robotics, European Commission

2026 Member of the Accreditation panel of the academic master´s programmes in Systems and Control in the Netherlands

2026	Member of the 2026 IEEE Control Systems Society Nominating Committee
2025	Member of the Norwegian Academy of Science and Letters Election Committee for the Mathematical-Natural Sciences Class
2025	Expert Evaluator, European Innovation Council (EIC) Pathfinder Challenges, European Commission
2023-26	Member of the IFAC Giorgio Quazza Medal Award Selection Committee
2023-26	Member of the IFAC Manfred Thoma Medal Award Selection Committee
2023-26	Member of the Award Committee for the European Control Award (Chair in 2026)
2023/24	Member of the Board of Electors for Professorship of Control Engineering, University of Cambridge, UK
2023-24	Member of the IEEE CSS Long Range Planning Committee
2022	Thematic expert in the evaluation of the Vinnväxt Automation Region, Vinnova/SWECO 2022
2022-24	Member of the IEEE CSS Antonio Ruberti Young Researcher Prize Committee
2022-25	Member of SINTEF Digital´s senior research scientist promotion committee
2022	Thematic expert in the evaluation for the competence centre *Linköping Center for Sensor Informatics and Control* (LINK-SIC) at University of Linköping, SWECO, 2022
2021-	Member of IFAC Technical Committee on Nonlinear Control Systems
2021-	Member of the Review Panel of NCCR Automation, The Swiss National Science Foundation (SNSF)
2021	Member of the Review Panel for evaluation of the Department of Information Technology and Electrical Engineering (D-ITET), ETH
2020-23	Member of the Project Council of the Norwegian Defence Research Establishment (FFI) Autonomy Project
2021	Member of the international expert panel of Research Pair proposals, Digital Futures, KTH
2020	Member of the IFAC Harold Chestnut Textbook Prize committee 2018-2020
2018-20	Member of the IFAC Task Force on Robot Control
2018-20	Member of the IFAC Task Force on Diversity & Inclusion
2015-23	Member of IFAC Technical Committee on Mechatronics
2015	Member of the IEEE CSS TCST Outstanding Paper Award Committee
2014	Member of European Research Council Consolidator Grants Evaluation Panel PE7, Systems and Communication Engineering
2014	Member of the Evaluation Committee of the ARGOS challenge Total/Agence Nationale de la Recherche (ANR)
2012-16	Member of the management team of NTNU IME Lighthouse Project Robotics.
2011-16	Member IEEE Robotics and Automation Society Technical Committee on Space Robotics.
2009-13	Member of the management team of NTNU Strategic Area ICT, TSO ICT.
2009 -	Member IEEE Robotics and Automation Society Technical Committee on Marine Robotics.
2006-11	Member of IFAC Technical Committee on Nonlinear Control Systems.
2003/04	Member of Research Council of Norway Committee developing a Strategic Plan for Information and Communication Technology Strategic plan.
1993-	IEEE: Institute of Electrical and Electronics Engineers (Senior member since 2004)
1993-	Norwegian Society of Automation (NFA), the Norwegian branch of the International Federation of Automatic Control (IFAC).
1992-	Member of the Norwegian Society of Chartered Engineers (Tekna)

Awards students

2024	Josef Matous, awarded the *Dimitris N. Chorafas Prize 2024.*
2023	Erlend A. Basso, awarded the *IFAC NOLCOS 2022+ Young Author Award,* at the 12th IFAC Symposium on Nonlinear Control Systems.
2022	Markus H. Iversflaten, awarded the *IFAC CAMS 2022 Young Author Award,* at the 14th IFAC Conference on Control Applications in Marine Systems, Robotics and Vehicles.
2019	Erlend A. Basso was awarded *Best Master thesis 2019 by* Norwegian Society of Electrical and Automatic Control, the Norwegian branch of the International Federation of Automatic Control (IFAC), for his Master´s thesis "Dynamic Task Priority Control of Articulated Intervention AUVs. Using Control Lyapunov and Control Barrier Function based Quadratic Programs".
2018	Walter Caharija was awarded the 2017 SINTEF Award for Outstanding Research for his PhD research on marine control systems.

2014 Filippo Sanfilippo, awarded the *2014 IEEE International Conference on Information and Automation Best Student Paper Award* for the paper, "JOpenShowVar: an Open-Source Cross-Platform Communication Interface to Kuka Robots" by F. Sanfilippo, M. Fago, L.I. Hatledal, K.Y. Pettersen and H. Zhang.

2012 Walter Caharija, awarded the *2012 IFAC Conference on Manoeuvring and Control of Marine Craft Best Student Paper Award* for the paper "Relative Velocity Control and Integral LOS for Path Following of Underactuated Surface Vessels" by W. Caharija, M. Candeloro, K.Y. Pettersen and A.J. Sørensen.

2011 Pål Liljebäck, awarded *the 2011 ExxonMobil prize for best doctoral dissertation at NTNU* for his thesis: Modelling, Development, and Control of Snake Robots, NTNU thesis 2011:70.

2007 Øystein Engelhardtsen, awarded *Best Master thesis 2007* by Norwegian Society of Automation (NFA), the Norwegian branch of the International Federation of Automatic Control (IFAC), for his Master´s thesis "3D AUV Collision Avoidance".

2005 Even Børhaug, awarded *Best Master thesis 2005* by Norwegian Society of Automation (NFA), the Norwegian branch of the International Federation of Automatic Control (IFAC) for his Master thesis "Cross-track maneuvering and way-point control of underactuated AUVs in particular and mechanical systems in general".

Orders/Societies

2004 - Grand Master of the Order of the Golden Feedback Loop
1996 - Knight of the Order of the Golden Feedback Loop
1987 - Member of the Sct. Omega fraternity, NTH/NTNU

Patents

Norwegian Patent Office: A. Orucevic, J.T. Gravdahl, K.Y. Pettersen, "Energy harvesting in modular underwater vehicles". Patent pending.

World Intellectual Property Office Patent WO2016120071: K.Y. Pettersen, P. Liljebäck, A. Sørensen, Ø. Stavdahl, J.T. Gravdahl F. Lund and A. Transeth, "Underwater manipulator arm robot", Patent granted in WO EP US JP KR AU BR CA DK ES GB PL PT SG.

European Patent Office Patent EP3204834A1: K.Y. Pettersen, P. Liljebäck, E. Kelasidi and J.T. Gravdahl, "Guidance of underwater snake robots", Patent granted in EU.

Current PhD students

1. Marius Nilsen (co-advised). Line-of-sight stabilization of flexible-base robot manipulators subject to forced base motion.
2. Jonas Tønnessen (co-advised). Autonomous underground drilling.
3. Harald Minde Hansen. Hyper-redundant continuum robots for maintenance in Big Science Facilities.
4. Ivan Gushkov. Energy autonomous AIAUVs.
5. Jan Inge Dyrhaug. Interaction control of light vehicle-manipulator systems.
6. Erling Tveter. Interaction control of light-weight vehicle-manipulator systems.
7. Bjørn Kåre Sæbø. Motion planning and control of light-UVMS.
8. Markus H. Iversflaten. Cooperative control for joint observation and intervention tasks.
9. Gianluca d'Antuono. Hyper-redundant robots for maintenance in Big Science Facilities.
10. Eirik Lothe Foseid. Robust motion planning and control of AIAUVs.
11. Hareesh Chitikena (co-advised). Modular multi-terrain self-reconfigurable snake robots.
12. Casper J. Potter (co-advised). Bio-inspired flow sensing for articulated intervention autonomous underwater vehicles.
13. Simon A. Hoff. Communication-aware path planning for autonomous underwater fleets.
14. Irja Gravdahl (co-advised). Hybrid obstacle-aided locomotion control of snake robots.
15. Carina Norvik (co-advised). Bioinspired fins for articulated autonomous underwater vehicles.

Graduated PhD students

1. Mads Erlend Bøe Lysø (2026). Energy Harvesting and Phase-Invariant Locomotion Control for Underwater Snake Robots, NTNU thesis 2026:106.
2. Marianna Wrzos-Kaminska (2025). Nonlinear Control of Articulated Intervention-AUVs and Underwater Snake Robots, NTNU thesis 2025:484.
3. Aurora Haraldsen (2024). Collision Avoidance Strategies for Autonomous Vehicles with Safety Guarantees, NTNU thesis 2024:454.
4. Amer Orucevic (2023) (Co-supervisor). Efficient Propulsion and Practical Stabilization of Underwater Snake Robots, NTNU thesis 2023:429.

5. Josef Matouš (2023). Cooperative Control of Formations of Underwater Vehicles, NTNU thesis 2023:347.
6. Katrine Seel (2023) (Co-supervisor). Learning for Model Predictive Control, NTNU thesis 2023:261.
7. Henrik M. Schmidt-Didlaukies (2023) (Co-supervisor). Modeling and Hybrid Feedback Control of Underwater Vehicles, NTNU thesis 2023:130.
8. Erlend A. Basso (2022). Nonlinear and Hybrid Feedback Control of Marine Vehicles and Multirotors, NTNU thesis 2022:373.
9. Ida-Louise Borlaug (2020). Robust Control of Articulated Intervention-AUVs using Sliding Mode Control, NTNU thesis 2020:345.
10. Martin Syre Wiig (2019). Collision Avoidance and Path Following for Underactuated Marine Vehicles, NTNU thesis 2019:103.
11. Albert Sans-Muntadas (2018). Navigation and Guidance tools for docking underactuated AUVs, NTNU thesis 2018:185.
12. Michael R.P. Ragazzon (2018) (Co-supervisor). Parameter Estimation in Atomic Force Microscopy, NTNU thesis 2018:146.
13. Anna Magdalena Kohl (2017). Guidance and Control of Underwater Snake Robots Using Planar Sinusoidal Gaits, NTNU thesis 2017:292.
14. Claudio Paliotta (2017). Control of Under-actuated Marine Vehicles, NTNU thesis 2017:240.
15. Dennis J.W. Belleter (2016). Control of Underactuated Marine Vehicles in the Presence of Environmental Disturbances, NTNU thesis 2016:337.
16. Signe Moe (2016). Guidance and Control of Robot Manipulators and Autonomous Marine Robots, NTNU thesis 2016:322.
17. Eleni Kelasidi (2015). Modeling, Control and Energy Efficiency of Underwater Snake Robots, NTNU thesis 2015:140.
18. Filippo Sanfilippo (2015). *Alternative and Flexible Control Methods for Robotic Manipulators*, NTNU thesis 2015:192.
19. Daniel de Almeida Fernandes (2015) (Co-supervisor). *An Output Feedback Motion Control System for ROVs: Guidance Navigation and Control*, NTNU thesis 2015:122.
20. Ehsan Rezapour (2015). *Model-based Locomotion Control of Underactuated Snake Robots,* NTNU thesis 2015:46.
21. Walter Caharija (2014). *Integral Line-of-Sight Guidance and Control of Underactuated Marine Vehicles,* NTNU thesis 2014:316.
22. Magnus Christian Bjerkeng (2013). *Sensor-based Control of Industrial Manipulators,* NTNU thesis 2013:240.
23. Johannes Schrimpf (2013) (Co-supervisor). *Sensor-based Real-time control of Industrial Robots*, NTNU thesis 2013:225.
24. Arnfinn Aas Eielsen (2012) (Co-supervisor). *Topics in Control of Nanopositioning Devices,* NTNU thesis 2012:315.
25. Mernout Burger (2011). *Disturbance Rejecton using Conditional Integrators,* NTNU thesis 2011:4.
26. Pål Liljebäck (2011). *Modelling, Development, and Control of Snake Robots,* NTNU thesis 2011:70.
27. Pål Johan From (2010) (Co-supervisor) Off-Shore Robotics – Robust and Optimal Solutions for Autonomous Operations, NTNU thesis 2010:96.
28. Anne Karin Bondhus (2010). Leader-Follower Synchronization of Mechanical Systems, NTNU thesis 2010:58.
29. Even Børhaug (2008). Nonlinear Control and Synchronization of Mechanical Systems, NTNU thesis 2008:298.
30. Jon Erling Gorset Refsnes (2008) (Co-supervisor). Nonlinear Model-Based Control of Slender Body AUVs, NTNU thesis 2008:60.
31. Aksel Andreas Transeth (2008). Modeling and Control of Snake Robots, NTNU thesis 2008:2.
32. Erik Kyrkjebø (2007). Motion Coordination of Mechanical Systems: Leader-Follower Synchronization of Euler-Lagrange Systems using Output Feedback Control, NTNU thesis 2007:60.

Post Docs

1. Aurora Haraldsen, 2024-
2. Josef Matouš, 2023-2026.
3. Henrik M. Schmidt-Didlaukies, 2023-2026.
4. Erlend A. Basso, 2022-2025.
5. Anna Kohl, 2017-2018.
6. Eleni Kelasidi, 2016-2018.
7. Konstantin Amelin, 2015-2016.
8. Pål Liljebäck, 2011-2015.
9. Christian Holden, 2011-2013.

10. Erik Kyrkjebø, 2007-2008.
11. Alexey Pavlov, 2005-2007.

Dissemination

- What´s lurking in the depths? Snake robots! By Emma Steer, The List, March 2023, pp. 36-37
- Snake robots, IEEE Control Systems Society Day, October 19, 2022.
- Snake robots, and how snake robots research led to a new class of marine robots, IEEE WiE Extraordinary Women Extraordinary Science Seminar Series, September 30, 2022.
- A new class of marine robots Trondheim Tech Port Conference, Norway, March 28, 2022.
- Snakes and Ladders - What The Duck?!, By Dr. Ann Jones, ABC Radio National, March 5, 2022.
- 'Eeluminating' careers: Prof. Kristin Y.Pettersen about self-trust, ambition and work-family balance, By Ruxandra Lupu: Women in Blue podcast, November 29, 2021.
- Norwegischer Roboter wird zum Filmstar, Wissen.de, December 9, 2021.
- Slangerobot blir filmhelt, By Live Oftedahl, Gemini, October 26, Forskning.no October 29, 2021.
- Snake robots exploring the oceans, NRK TV, June 19, 2019.
- Slangeroboter utforsker havet, By Thomas Høstad, NTNU Big Challenge Science Festival, Trondheim, Norway, June 16 – 19, 2019.
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Publication list – Kristin Y. Pettersen

All publications by my research group adhere to the Sequence Determines Credit (SDC) authorship convention, whereby author order reflects each author´s relative contribution.

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