ALEXEY PAVLOV

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PROFESSOR IN PETROLEUM CYBERNETICS

AUTOMATION | OPTIMIZATION | DIGITALIZATION

Highly skilled and dedicated **Research & Development Professional** with developed expertise in control and optimization through **15+ years** of professional experience in industrial and academic positions. Proven and highly recognised track record of accomplishments in research and development of innovative technologies.

CORE COMPETENCIES

- Modelling & Simulations
- Automatic control systems
- Model- & data-based optimization
- Estimation & fault detection
- Drilling automation
- Production optimization
- Artificial lift systems
- Heavy oil
- Research & Development
- R&D project management
- Technical product management
- Cross-functional skills

PROFESSIONAL EXPERIENCE

NORWEGIAN UNIVERSITY OF SCIENCE AND TECHNOLOGY (NTNU), Trondheim, Norway 2017 – present
Professor in Petroleum Cybernetics

STATOIL ASA RESEARCH & TECHNOLOGY, Porsgrunn, Norway 2009 – 2016
Principal Researcher/ Project Leader - automatic control and optimization

- Developed 2 automatic optimization technologies from concept to qualification, with business impact of $16-34M. Developed automatic control technology for drilling, which resulted in licensing out and in a spin off company.
- Initiated more than 5 R&D projects and ensured timely delivery as per budget, technical specifications, and corporate decision-gate process; led development teams (5-7 people); ensured technology implementation.
- Planned, coordinated and executed 7 large scale experiments and field trials of new technologies.
- Supervised 3 PhD projects and coordinated collaboration with multiple academic and industrial research partners.
- Finalist for 2014 Statoil innovation prize; achieved award from International Federation of Automatic Control, 2011; Filed 4 patent applications (pending); delivered 58 professional publications.

NORWEGIAN UNIVERSITY OF SCIENCE AND TECHNOLOGY (NTNU), Trondheim, Norway 2005 – 2009
Assistant professor – Full professor substitute (2007-2009), Post Doctor (2005-2007)

- Developed control algorithms for autonomous marine vehicles.
- Developed control methods for high-performance motion control systems. The technology is implemented and commercialized in photolithography systems (ASML), optical storage drives (Philips) and electron microscopes (FEI).
- Supervised 2 PhD and 20+ MSc projects, gave 2 courses on automatic control and estimation, delivered 45+ publications and presentations, and attained Control Systems Technology Award from IEEE Control Systems Society, 2015.

EINDHOVEN UNIVERSITY OF TECHNOLOGY, Eindhoven, The Netherlands 2004 – 2005
PostDoctor, Department of Mechanical Engineering, Dynamics and Control Group

- Steered research on advanced nonlinear control systems.
- Published a book: A. Pavlov, N. van de Wouw, H. Nijmeijer, Uniform Output Regulation of Nonlinear Systems: a Convergent Dynamics Approach, Birkhauser, 2005.

FORD MOTOR COMPANY, RESEARCH AND INNOVATION CENTER, Dearborn, MI, USA 2000 – 2000
Visiting Researcher

- Developed signal processing and automatic control systems for induction motors. The technology was successfully tested in Ford Research Labs for vibration reduction in diesel engines.
- Received 2 patents, delivered 4 publications and presentations at international conferences.

EDUCATION

PhD in Mechanical Engineering, specialized in nonlinear control systems
Eindhoven University of Technology, The Netherlands
Postgraduate courses, Dutch Institute of Systems and Control, The Netherlands
MSc in Applied Mathematics, Diploma with Honors, St. Petersburg State University, Russia

PROFESSIONAL DEVELOPMENT

Associate Editor, IEEE Transactions on Control Systems Technology, 2017-present
Chairman of the Board, research project Enabling High-Performance Safety-Critical Automatic Control Systems using Embedded Optimization, NTNU, 2012–2016
Key researcher, research project Automated Underbalanced Drilling Operations, NTNU, 2011–2014
Member of International Program Committees for international conferences:
IFAC Workshop on Automatic Control in Offshore Oil and Gas Production, Brazil, 2015 and Denmark, 2018
IFAC Int. Workshop on Adaptation and Learning in Control and Signal Processing, The Netherlands, 2016
IFAC Symposium on Nonlinear Control Systems, France, 2013 and Italy, 2010
IFAC Conference on Analysis and Control of Chaotic Systems, UK, 2009

AWARDS & ACHIEVEMENTS

Senior member of IEEE, 2017
IEEE Control Systems Technology Award, for "the development of variable gain nonlinear control methods and their application to multiple motion control problems all the way to commercialization", 2015
Finalist for Askeladd award – Statoil's innovation award in Porsgrunn R&D centre, 2014
IFAC Best Application Paper Award at World Congress of International Federation of Automatic Control (IFAC), 2011
Outstanding reviewer for Automatica, the journal of IFAC, 2004, 2007
Personal scholarship from the government of Russian Federation, 1999
Diploma for scientific contribution, 6th Int. Student Olympiad on Automatic Control, Russia, 1998

PUBLICATIONS

More than 100 professional publications in the field of control, optimization, and estimation,
with applications in Oil & Gas, Automotive, Marine, Electronics and Semiconductor industries,
as well as with fundamental theoretical developments

LANGUAGE PROFICIENCIES

English: Fluent**, Norwegian:** Business proficiency**, Russian:** Native**, Dutch:** Basic

TECHNICAL PROFICIENCIES

Proficiency in MATLAB/Simulink, MS Office

SUPERVISED PHD PROJECTS

1. eMPC for ESP lifted wells, Benjamin Julian Tømte Binder, NTNU, in progress.
2. Pressure control for offshore MPD, Hessam Mahdianfar, NTNU, defended in 2016.
3. Model-based diagnosis of drilling incidents, Anders Willersrud, NTNU, defended in 2015.
4. Disturbance rejection using conditional integrators, Mernout Burger, NTNU, defended in 2011.
5. Nonlinear control and synchronization of mechanical systems, Even Børhaug, NTNU, defended in 2008.

STUDENT AWARDS

1. Runa Linn Egeland, Astrid Lescoeur, Martin Aagaard Olsen, Mayuran Vasantharajan (co-supervised with prof. Sigve Hovda), **2nd place in international Dillbotics competition –** an SPE student competition in automatic drilling, 2017
2. Ingar Skyberg Landet (co-supervised with prof. O.M. Aamo), awarded **Best Master thesis award from Norwegian Society of Automation** (NFA) for his Master thesis "Modelling and Control for Managed Pressure Drilling from Floaters", 2011
3. Øystein Engelhardtsen (co-supervised with prof. K.Y. Pettersen), awarded **Best Master thesis award by Norwegian Society of Automation** (NFA) for his Master thesis "3D AUV Collision Avoidance", 2007

PUBLICATIONS

Book

1. A Pavlov, N van de Wouw, H Nijmeijer, Uniform output regulation of nonlinear systems: a convergent dynamics approach, Birkhauser, 2006
   Reviews of this book:
   -Book review by C.I. Byrnes, IEEE Transactions on Automatic Control, Volume 52, No. 10, pp. 2013 - 2014 , 2007
   -Book review by L. Marconi, International Journal of Robust and Nonlinear Control, Volume 20, Issue 11, pages 1306–1307, 2010

Book chapters

1. A Pavlov, N van de Wouw, Convergent systems: nonlinear simplicity, In Nonlinear Systems, Techniques for Dynamical Analysis and Control , Lecture Notes in Control and Information Sciences, Vol. 470, pp. 51-77, Springer, 2017
2. N van de Wouw, A Pavlov, H Nijmeijer, Controlled synchronisation of continuous PWA systems, In Group coordination and cooperative control / Ed. KY Pettersen, JT Gravdahl, H Nijmeijer, Springer, 2006
3. E Børhaug, A Pavlov, KY Pettersen, Cross-track formation control of underactuated autonomous underwater vehicles, In Group coordination and cooperative control / Ed. K.Y. Pettersen, J.T. Gravdahl, H. Nijmeijer, Springer, 2006
4. A Pavlov, N van de Wouw, H Nijmeijer, Convergent systems: analysis and synthesis, In Control and observer design for nonlinear finite and infinite dimensional systems / Ed. T. Meurer, K. Graichen, E.-D. Gilles, Springer, 2005

Patents / Patent applications

1. A Pavlov, K Fjalestad, Method and system for the optimisation of the addition of diluent to an oil well comprising a downhole pump, Patent application WO2017069633A1, 2015
2. A Pavlov, K Fjalestad, Method for inverting oil continuous flow to water continuous flow, Patent application WO2016173617A1, 2015
3. EM Berghiem Aske, M Fredriksen, A Pavlov, K Fjalestad, D Krishnamoorthy, Y Turkyilmaz, P Tøndel, Well Control System, Patent application US20160290077A1, 2013
4. A Pavlov, Pump for lifting fluid from a wellbore, Patent application GB2513861A, 2013
5. A Pavlov, AT Zaremba, Method for controlling torque in a rotational sensorless induction motor control system with speed and rotor flux estimation, US Patent 6,683,428, 2004
6. A Pavlov, AT Zaremba, Sensorless control system for induction motor employing direct torque and flux regulation, US Patent 6,433,506, 2002

Refereed journal papers

1. H Mahdianfar, A Pavlov, Adaptive output regulation for offshore managed pressure drilling, International Journal of Adaptive Control and Signal Processing 31 (4), 652-673, 2017
2. H Mahdianfar, N Hovakimyan, A Pavlov, OM Aamo, L1 adaptive output regulator design with application to Managed Pressure Drilling, Journal of Process Control 42, 1-13, 2016
3. A Willersrud, M Blanke, L Imsland, A Pavlov, Drillstring washout diagnosis using friction estimation and statistical change detection, IEEE Trans. Control Systems Technology, 23 (5), 1886-1900, 2015
4. A Willersrud, M Blanke, L Imsland, A Pavlov, Fault diagnosis of downhole drilling incidents using adaptive observers and statistical change detection, Journal of Process Control 30, 90-103, 2015
5. A Albert, OM Aamo, JM Godhavn, A Pavlov, Suppressing Pressure Oscillations in Offshore Drilling: Control Design and Experimental Results, IEEE Trans .Control Systems Technology, 23 (2), 813-819, 2015
6. UJF Aarsnes, MS Gleditsch, OM Aamo, A Pavlov, Modeling and Avoidance of Heave-Induced Resonances in Offshore Drilling, SPE Drilling & Completion 29 (04), 454-464, 2014

7. A Nikoofard, TA Johansen, H Mahdianfar, A Pavlov, Design and comparison of constrained mpc with PID controller for heave disturbance attenuation in offshore managed pressure drilling systems, Marine Technology Society Journal 48 (2), 90-103, 2014
8. IS Landet, A Pavlov, OM Aamo, Modeling and Control of Heave-Induced Pressure Fluctuations in Managed Pressure Drilling, IEEE Trans. Control Systems Technology 21 (4), 1340-1351, 2013
9. A Pavlov, BGB Hunnekens, N Wouw, H Nijmeijer, Steady-state performance optimization for nonlinear control systems of Lur'e type, Automatica 49 (7), 2087-2097, 2013
10. JM Godhavn, A Pavlov, GO Kaasa, New automatic control solutions for the drilling industry, Transactions on control and mechanical systems 2 (2), 2013
11. A Pavlov, N Van de Wouw, Steady-state analysis and regulation of discrete-time nonlinear systems, IEEE Trans. Automatic Control, 57 (7), 1793-1798, 2012
12. A Pavlov, GO Kaasa, Statoil: Automatic MPD a coming reality, Drilling contractor 67 (4), 2011
13. E Børhaug, A Pavlov, E Panteley, KY Pettersen, Straight line path following for formations of underactuated marine surface vessels, IEEE Trans. Control Systems Technology 19 (3), 493-506, 2011
14. M Burger, A Pavlov, KY Pettersen, Curved trajectory tracking for surface vessels under constant external disturbances, Intelligent Autonomous Vehicles 7 (1), 467-472, 2010
15. A Pavlov, KY Pettersen, A new perspective on stable inversion of non-minimum phase nonlinear systems, Modeling, Identification and Control 29(1), 29-35, 2008
16. N van de Wouw, A Pavlov, Tracking and synchronisation for a class of PWA systems, Automatica 44 (11), 2909-2915, 2008
17. A Pavlov, L Marconi, Incremental passivity and output regulation, Systems & Control Letters 57 (5), 400-409, 2008
18. N van de Wouw, HA Pastink, MF Heertjes, AV Pavlov, H Nijmeijer, Performance of convergence-based variable-gain control of optical storage drives, Automatica 44 (1), 15-27, 2008
19. A Pavlov, A Pogromsky, N Van De Wouw, H Nijmeijer, On convergence properties of piecewise affine systems, International Journal of Control 80 (8), 1233-1247, 2007
20. A Pavlov, B Janssen, N Van de Wouw, H Nijmeijer, Experimental output regulation for a nonlinear benchmark system, IEEE Trans. Control Systems Technology, 15 (4), 786-793, 2007
21. A Pavlov, N Van de Wouw, H Nijmeijer, Automatic Control, Frequency response functions for nonlinear convergent systems, IEEE Transactions on 52 (6), 1159-1165, 2007
22. A Pavlov, N van de Wouw, H Nijmeijer, Global nonlinear output regulation: convergence-based controller design, Automatica 43 (3), 456-463, 2007
23. A Pavlov, N van de Wouw, H Nijmeijer, The local approximate output regulation problem: convergence region estimates, International Journal of Robust and Nonlinear Control 15 (1), 1-13, 2005
24. A Pavlov, A Pogromsky, N van de Wouw, H Nijmeijer, Convergent dynamics, a tribute to Boris Pavlovich Demidovich, Systems & Control Letters 52 (3), 257-261, 2004
25. AV Pavlov, AL Fradkov, A controlled closing theorem, Differential Equations 36 (6), 813-818, 2000
26. A Fradkov, P Guzenko, A Pavlov, Adaptive control of recurrent trajectories based on linearization of Poincare map, International Journal of Bifurcation and Chaos 10 (03), 621-637, 2000

Refereed conference publications

1. D Krishnamoorthy, A Pavlov, Q Li, Robust Extremum Seeking Control with Application to Gas Lifted Oil Wells, Proc. 12th IFAC International Workshop on Adaptation and Learning in Control and Signal Processing, 2016
2. D Krishnamoorthy, EM Bergheim, A Pavlov, M Fredriksen, K Fjalestad, Modelling and Robustness Analysis of Model Predictive Control of Electrical Submersible Pump Lifted Heavy Oil Wells, Proc. 11th IFAC Symposium on Dynamics and Control of Process Systems, including Biosystems, DYCOPS-CAB, 2016
3. H Mahdianfar, N Hovakimyan, A Pavlov, OM Aamo, Robust Regulation of Heave-Induced Pressure Oscillations in Offshore MPD, Proc. 2nd IFAC Workshop on Automatic Control in Offshore Oil and Gas Production, 2015
4. BJT Binder, A Pavlov, TA Johansen, Estimation of Flow Rate and Viscosity in a Well with an Electric Submersible Pump using Moving Horizon Estimation, Proc. 2nd IFAC Workshop on Automatic Control in Offshore Oil and Gas Production, 2015
5. A Willersrud, L Imsland, M Blanke, A Pavlov, Early Detection and Localization of Downhole Incidents in Managed Pressure Drilling, SPE/IADC Managed Pressure Drilling and Underbalanced Operations Conference, 2015
6. Z Yang, BH Sannæs, TK Kjeldby, A Pavlov, L Amundsen, Experimental study of multiphase viscous oil transport solutions, IV Journeys in Multiphase Flows, Campinas, Brazil, 2015
7. A Pavlov, D Krishnamoorthy, K Fjalestad, E Aske, M Fredriksen, Modelling and model predictive control of oil wells with electric submersible pumps, Proc. IEEE Conference on Control Applications, 586-592, 2014
8. BJT Binder, DKM Kufoalor, A Pavlov, TA Johansen, Embedded model predictive control for an electric submersible pump on a programmable logic controller, Proc. IEEE Conference on Control Applications, 579-585, 2014
9. A Albert, OM Aamo, JM Godhavn, A Pavlov, Disturbance rejection by feedback control in offshore drilling: Experimental results, Proc. IFAC World Congress, Cape Town, South Africa, 2014
10. UJF Aarsnes, H Mahdianfar, OM Aamo, A Pavlov, Rejection of heave-induced pressure oscillations in Managed Pressure Drilling, Proc. 3rd International Colloquium on Nonlinear Dynamics and Control of Deep Drilling Systems; Minneapolis, USA
11. A Willersrud, L Imsland, A Pavlov, GO Kaasa, A framework for fault diagnosis in managed pressure drilling applied to flow-loop data, Proc. Dynamics and Control of Process Systems (DYCOPS), Mumbai, India, 625-630, 2013
12. H Mahdianfar, A Pavlov, OM Aamo, Joint unscented kalman filter for state and parameter estimation in managed pressure drilling, Proc. European Control Conference, 2013

13. A Nikoofard, TA Johansen, H Mahdianfar, A Pavlov, Constrained mpc design for heave disturbance attenuation in offshore drilling systems, OCEANS-Bergen, 2013 MTS/IEEE, 1-7, 2013
14. UJF Aarsnes, OM Aamo, E Hauge, A Pavlov, Limits of Controller Performance in the Heave Disturbance Attenuation Problem, Proc. European Control conference. Zurich, Switzerland, 2013
15. A Pavlov, BH Sannæs, Experimental studies of ESP performance with two-phase fluids with live viscous oils , World Heavy Oil Congress, Aberdeen, Scotland, 2012
16. UJF Aarsnes, OM Aamo, A Pavlov, Quantifying error introduced by finite order discretization of a hydraulic well model, Proc. Australian Control Conference, 54-59, 2012
17. H Mahdianfar, OM Aamo, A Pavlov, Attenuation of heave-induced pressure oscillations in offshore drilling systems, Proc. American Control Conference, 2012, 4915-4920, 2012
18. IS Landet, A Pavlov, OM Aamo, H Mahdianfar, Control of heave-induced pressure fluctuations in managed pressure drilling, Proc. American Control Conference, 2270-2275, 2012
19. H Mahdianfar, OM Aamo, A Pavlov, Suppression of Heave-Induced Pressure Fluctuations in MPD, Proc. IFAC Workshop on Automatic Control in Offshore Oil and Gas Production, 2012
20. IS Landet, H Mahdianfar, A Pavlov, OM Aamo, Modeling for mpd operations with experimental validation, IADC/SPE Drilling Conference and Exhibition, 2012
21. A Pavlov, GO Kaasa, Managed Pressure Drilling: achievements and challenges in automatic control and estimation, Proc. 2nd International Colloquium on Nonlinear Dynamics and Control of Deep Drilling Systems, Eindhoven, The Netherlands, 2012
22. JM Godhavn, A Pavlov, GO Kaasa, NL Rolland, Drilling seeking automatic control solutions, Proc. 18th IFAC World Congress, 10, 2011
23. A Pavlov, GO Kaasa, L Imsland, Experimental disturbance rejection on a full-scale drilling rig, Proc. 8th IFAC Symposium on Nonlinear Control Systems, 1338-1343, 2010
24. A Pavlov, E Steur, N Van de Wouw, Controlled synchronization via nonlinear integral coupling, Proc. IEEE Conference on Decision and Control, 2009
25. A Pavlov, H Nordahl, M Breivik, MPC-based optimal path following for underactuated vessels, Proc. 8th IFAC International Conference on Manoeuvring and Control of Marine Craft, 2009
26. M Burger, A Pavlov, K Pettersen, Conditional integrators for path following and formation control of marine vessels under constant disturbances, Proc. 8th IFAC International Conference on Manoeuvring and Control of Marine Craft, 2009
27. M Burger, A Pavlov, E Børhaug, KY Pettersen, Straight line path following for formations of underactuated surface vessels under influence of constant ocean currents, Proc. American Control Conference, 3065-3070, 2009
28. M Burger, A Pavlov, KY Pettersen, Maritime surveillance and monitoring using autonomous vehicles with conditional integrator-based control, Proc. OCEANS 2009-EUROPE, 1-8, 2009
29. W Heemels, M Lazar, N van de Wouw, A Pavlov, Observer-based control of discrete-time piecewise affine systems: exploiting continuity twice, Proc. IEEE Conference on Decision and Control, 4675-4680, 2008
30. A Pavlov, N van de Wouw, Decision and Control, 2008. Fast computation of frequency response functions for a class of nonlinear systems, Proc. IEEE Conference on Decision and Control, 1180-1186, 2008
31. E Børhaug, A Pavlov, KY Pettersen, Integral LOS control for path following of underactuated marine surface vessels in the presence of constant ocean currents, Proc. IEEE Conference on Decision and Control, 4984-4991, 2008
32. A Pavlov, N Van de Wouw, Convergent discrete-time nonlinear systems: the case of PWA systems, Proc. American Control Conference, 2008, 3452-3457, 2008
33. A Pavlov, N Van De Wouw, A Pogromsky, MF Heertjes, H Nijmeijer, Frequency domain performance analysis of nonlinearly controlled motion systems, Proc. IEEE Conference on Decision and Control, 2007
34. A Pavlov, KY Pettersen, Stable inversion of non-minimum phase nonlinear systems: a convergent systems approach, Proc. IEEE Conference on Decision and Control, 3995-4000, 2007
35. E Børhaug, A Pavlov, KY Pettersen, Straight line path following for formations of underactuated underwater vehicles, Proc. IEEE Conference on Decision and Control, 2905-2912, 2007
36. AA Transeth, N Van de Wouw, A Pavlov, JP Hespanha, KY Pettersen, Tracking control for snake robot joints, Proc. IEEE/RSJ International Conference on Intelligent Robots and Systems, IROS'07, 2007
37. A Pavlov, KY Pettersen, A new perspective on stable inversion of non-minimum phase nonlinear systems, Proc. IFAC Symposium on Nonlinear Control Systems, 527-532, 2007
38. A Pavlov, E Borhaug, E Panteley, KY Pettersen, Straight line path following for formations of underactuated surface vessels, Proc. IFAC Symposium on Nonlinear Control Systems, 521-526, 2007
39. A Pavlov, N van de Wouw, H Nijmeijer, Frequency response functions and Bode plots for nonlinear convergent systems, Proc. IEEE Conference on Decision and Control, 3765-3770, 2006
40. N Van De Wouw, AV Pavlov, KY Pettersen, H Nijmeijer, Output tracking control of PWA systems, Proc. IEEE Conference on Decision and Control, 2006
41. E Borhaug, A Pavlov, KY Pettersen, Cross-track formation control of underactuated surface vessels, Proc. IEEE Conference on Decision and Control, 5955-5961, 2006
42. E Borhaug, A Pavlov, R Ghabcheloo, K Pettersen, A Pascoal, C Silvestre, Formation control of underactuated marine vehicles with communication constraints, Proc. 7th IFAC Conference on Manoeuvring and Control of Marine Craft, 2006
43. H Huijberts, A Pavlov, J Reiss, Boundedness and aperiodicity of commercial sigma delta modulators, Proc. 1st IFAC Conf. Analysis and Control of Chaotic Systems, CHAOS'06, 2006
44. E Børhaug, KY Pettersen, A Pavlov, An optimal guidance scheme for cross-track control of underactuated underwater vehicles, Proc 14th Mediterranean Conference on Control and Automation, 2006

45. M Heertjes, N Van de Wouw, E Pastink, A Pavlov, H Nijmeijer, Performance of variable-gain controlled optical storage drives, Proc. American Control Conference, 2006
46. A Pavlov, N van de Wouw, H Nijmeijer, Convergent piecewise affine systems: analysis and design part i: continuous case, Proc. IEEE Conference on Decision and Control and European Control Conference. CDC-ECC'05, 2005
47. A Pavlov, A Pogromsky, N van de Wouw, H Nijmeijer, The uniform global output regulation problem for discontinuous systems, Proc. of 16th IFAC World Congress, 2005
48. A Pavlov, B Janssen, N Van de Wouw, H Nijmeijer, Experimental output regulation for the TORA system, Proc. IEEE Conference on Decision and Control, 1108, 2005
49. A Pavlov, A Pogromsky, N Van de Wouw, H Nijmeijer, K Rooda, Convergent piecewise affine systems: analysis and design. Part II: discontinuous case, Proc. IEEE Conference on Decision and Control, 5397, 2005
50. A Pavlov, NV de Wouw, H Nijmeijer, Global robust output regulation for Lur'e systems, Proc. IEEE Conference on Decision and Control, 4565-4570, 2004
51. A Pavlov, N Van de Wouw, H Nijmeijer, The uniform global output regulation problem, Proc. IEEE Conference on Decision and Control, 4921-4926, 2004
52. A Pavlov, N van de Wouw, H Nijmeijer, The global output regulation problem: an incremental stability approach, Proc. of 6th IFAC Symposium on Nonlinear Control Systems 184, 2004
53. A Pavlov, N van de Wouw, H Nijmeijer, Convergent systems and the output regulation problem, Proc. IEEE Conference on Decision and Control, 2002
54. AT Zaremba, AV Pavlov, Real-time identification of an induction motor using sinusoidal PWM voltage signals, Proc. American Control Conference, 3082-3087, 2002
55. AV Pavlov, AT Zaremba, Real-time rotor and stator resistances estimation of an induction motor , Proc. 5th IFAC Symposium on Nonlinear Control Systems, 2001
56. A Pavlov, A Zaremba, Adaptive observers for sensorless control of an induction motor, Proc. American Control Conference, 1557-1562, 2001
57. A Pavlov, A Zaremba, Direct torque and flux regulation in sensorless control of an induction motor, Proc. American Control Conference, 137-142, 2011

Conference presentations & non-refereed publications

1. A Pavlov, N van de Wouw, Convergent systems: nonlinear simplicity, workshop at the University of Eindhoven in honor of Prof. Henk Nijmeijer's 60th birthday, Eindhoven Univ. of Technology, 2016
2. A Pavlov, Advanced control systems for ESP lifted wells, D&W Newsletter Extra well informed, Statoil, 2015
3. A Pavlov, D Krishnamoorthy, EMB Aske, M Fredriksen, K Fjalestad, Modelling and Model Predictive Control of Electrical Submersible Pumps, 19th Nordic Process Control workshop, Trondheim- Bodø, 15-16 Jan, 2015
4. A Pavlov, BH Sannæs, Experimental studies of ESP performance with live viscous oil, Tekna - Separation Technology, Stavanger, 25-26 September 2013
5. H Manum, A Pavlov, iMPD flow-loop testing, D&W Newsletter Extra well informed, Statoil, 2013
6. A Pavlov, D Krishnamoorthy, EMB Aske, M Fredriksen, K Fjalestad, Automatic control system for ESP lifted wells, Statoil RESPRO seminar, Stavanger, 2013
7. A Pavlov, GO Kaasa, A Willersrud, L Imsland, iMPD: intelligent/integratedManaged Pressure Drilling, 26th Kristiansand conference on Drilling and Well technologies, 2013
8. A Pavlov, P Tøndel, Automatic control and production optimization of ESP lifted wells, Increased Oil Recovery seminar, Statoil, Stavanger, 2012
9. A Pavlov, GO Kaasa, I Landet, UJ Aarsnes, OM Aamo, Managed Pressure Drilling with Heave Compensation, Servomøtet, Stavanger, 2012
10. A Pavlov, GO Kaasa, I Landet, OM Aamo, Handling Severe Heave for MPD on Floaters, IADC/SPE MPD/UBO conference & exhibition, Milano, Italy, 2012
11. A Pavlov, GO Kaasa, Statoil: Automatic MPD a coming reality, Drilling contractor 67(4), 2011
12. A Pavlov, GO Kaasa, JM Godhavn, Intelligent control system for precise and user friendly pressure control in MPD, IADC/SPE MPD/UBO conference & exhibition, Denver, USA, 2011
13. A Pavlov, GO Kaasa, Intelligent MPD, presentation for Petroleumstilsunet, Statoil, Trondheim, 2010
14. A Pavlov, Nonlinear output regulation problem. 5th Engineering Mechanics Symposium, The Netherlands, 2002.
15. A Pavlov, A Zaremba, Adaptive estimators for sensorless control of an induction motor,Ford Research Laboratories, Dearborn, Michigan, USA, 2000

Seminars

1. A Pavlov, Convergent systems: nonlinear simplicity, Centre for Research on Complex Automated Systems, University of Bologna, Italy, May 2005
2. A Pavlov, Convergent systems: linear thinking for nonlinear systems, Department of Electrical Engineering and Computer Science, Universite de Liege, Belgium, April 2005
3. A Pavlov, Output regulation of nonlinear systems: from theory to experiments, Department of Engineering, Queen Mary Univ. of London, UK, May 2005
4. A Pavlov, Convergent systems: a new approach to nonlinear control systems, Department of Electronical Engineering, Queen Mary Univ. of London, UK, May 2005

5. A Pavlov, Convergent systems: linear thinking for nonlinear systems. Department of Mathematical Sciences, Queen Mary Univ. of London, UK, May 2005
6. A Pavlov, Frequency response functions for convergent systems, Laboratorie de Signaux et Systemes, CNRS-Supelec, Gif sur Yvette, France, May 2006
7. A Pavlov, Path following and formation control of AUVs. Centre for Research on Complex Automated Systems, University of Bologna, Italy, June 2006
8. A Pavlov, Convergent systems: nonlinear simplicity, Centre of Mechanics, ETH, Zurich, Switzerland, May 2006
9. A Pavlov, A new perspective on stable inversion of non-minimum phase systems. Centre for Research on Complex Automated Systems, University of Bologna, Italy, June 2007
10. A Pavlov, Managed Pressure Drilling: Achievements and challenges in control and estimation, Department of Mathematics, Univ. of Leicester, UK, 2012