

MAHDI KHORASANCHI

Current position Assistant Professor

Address Room 440, Department of Mechanical Engineering
 Sharif University of Technology
 Tehran, Iran
 t: +98 (0)21 66165686
 e: khorasanchi@sharif.edu
 w: sharif.edu/~khorasanchi

Employment

10/2017 – Present Assistant Professor, Department of Mechanical Engineering, Sharif University of Technology

11/2013 – 08/2017 Lecturer, Department of Naval Architecture, Ocean & Marine Engineering, University of Strathclyde, UK

11/2009 – 10/2013 Research Fellow, Department of Naval Architecture, Ocean & Marine Engineering, University of Strathclyde, UK

Qualification

Education

2005 – 2009 PhD, Offshore Engineering (Sponsored by University of Strathclyde)
Universities of Glasgow & Strathclyde (Jointly), Glasgow, UK

2003 – 2004 MPhil equivalent, Civil Engineering
University of Tehran, Tehran, Iran

2000 – 2003 MSc, Civil Engineering (GPA: 91.00, Top Graduate)
University of Tehran, Tehran, Iran

1996 – 2000 BSc, Civil Engineering (GPA: 86.20, Holder of Top Graduate Diploma)
University of Tehran, Tehran, Iran

Seminars / Training Courses

2016 Flexcom Training Course
Wood Group, Glasgow

2015 Orcaflex Training Course
Orcina, Ulverstone

2011 Virtual Towing Tank in Star-ccm+
CD-Adapco, London

Honours & Scholarships

2008 Society of Petroleum Engineers (SPE) Bursary Award.

2007 Mac Robertson Travelling Scholarship, Universities of Glasgow & Strathclyde.

2007 Prize Winner of Research Presentation Day – University of Strathclyde.

2005 Three-year Stanley Gray Fellowship, Institute of Marine Eng., Science & Technology (IMarEST).

2005 Full PhD Scholarship for Three Years, Universities of Glasgow & Strathclyde.

2000 Top Graduate Diploma, University of Tehran.

1999	Hami Bursary Award, Iranian Society of Civil Engineers.
1996	Rank 10 th among 900,000 applicants in Nationwide Entrance Exam (Konkour) of Iranian state universities.

Research

Research Interests

- Ship performance monitoring
- Aquaculture equipment
- Marine renewable energy convertors
- Support structures of offshore wind farm
- Hydrodynamics and CFD
- Marine Risers, VIV suppression devices particularly riser fairing
- Offshore Engineering and Subsea Technologies
- Hydrodynamic Energy Saving Devices for ships

Grants & Contracts

Principal investigator

2021 Sponsor	Multi-purpose Floating Solar Power Plant (FloSoWer) MSRT/TUBITAK Joint Research Project Fund, IRR 600,000,000
2020 Sponsor	Smart Ship Management Iran Science & Technology Institute (ISTI), \$50'000.00
2019 Sponsor	Ship Fuel Monitoring System, National Elites Foundation, \$15'000.00
2016 Sponsor	PhD studentship, Rigid-Flexible Riser Systems for Deep Waters McDermott Marine Construction, £49,500.00
2016 Sponsor	Mobile Marine Barrier System for Manhattan Intelligent Organics Limited, £20,000.00
2013 Sponsor	Duct Design Glafcos Marine Ltd., £18,000.00

Co-investigator

2017 Sponsor	Competitive Oil & Gas Development with Floater Technology Oil & Gas Technology Centre (OGTC), £300,000.00
2017 Sponsor	Tension Leg Buoy Analysis Axis Energy, £20,000.00
2017 Sponsor	Cavitation Noise Mitigation Oscar Propulsion Limited, £100,000.00
2015 Sponsor	PhD studentship on Biofouling Lloyds Register of Shipping, £25,000.00
2015 Sponsor	TRAINMOS II European Commission, £1,122,006.30

2015 Sponsor	On the MOS Way Network European Commission, £562,875.00
2014 Sponsor	PhD studentship, Trim Optimisation Lloyds Register of Shipping, £25,000.00
2014 – Present Sponsor	Doctoral training centre for Computational Fluid-Structure Dynamics in Offshore Oil and Gas, Renewable & Marine Technology (FORMAT) University of Strathclyde

Participation in Research Projects

12/2011 – 11/2014	FOUL-X-SPEL EU
08/2011 – 10/2011	Propeller Performance Modelling for The Ring Propeller Anderson Casting, Scottish Enterprise
10/2011 – 02/2013	Investigation of Resistance Reduction of LNG Carrier (Phases 1-4) Shell Shipping Co.
04/2010 – 07/2013	Low Carbon Shipping – A Systems Approach. EPSRC
01/2005 – 06/2005	Verification Study on OrcaFlex Riser Interference Module BP

PhD Supervision

Lead supervisor

06/2017 – 08/2017	Michael Achoyamen Subject: Rigid-Flexible Riser System for Deep Waters
02/2017 – 08/2017	Ahmed Babaleye Subject: Subsea Decommissioning of Pipelines, Flexible Risers and Umbilicals
11/2016 – 08/2017	Mohammed Baba Shehu Subject: Installation of subsea hardware: Solution to the effect of line weight during development of various subsea hardware in deep/ultra-deep water
05/2016 – 08/2017	John McDowell Subject: Assessment of Moorings for Taut-Moored Tidal Platforms
04/2015 – 08/2017	Khaled Mohamed Elsherbiny Subject: Ship squat in The New Suez Canal
10/2015 – 08/2017	Naz Yilmaz Investigation of Cavitation Influence on Rudder-Propeller-Hull Interaction
09/2015 – 08/2017	Arash Hemmati Topkanloo Subject: reliability analysis of fixed support structures for offshore wind farms
06/2015 – 08/2017	Emil Filipov Shivachev Subject: trim optimisation of ships in waves
10/2014 – 08/2017	Xiaosong Zhang

Subject: optimisation of variable pitch vertical axis tidal turbines

12/2014 – 09/2016 Milad Armin
Subject: wake and vortex induced vibrations of two circular cylinders in tandem arrangement

Co-supervisor

01/2016 – 08/2017 Yan Gao
Subject: peridynamic modelling of fire damage prediction in marine composites

12/2015 – 08/2017 Dogancan Uzun
Subject: Ship Hydrodynamics

10/2015 – 08/2017 Lionel L. Wamba
Subject: Operability of Floating Liquefied Natural gas (FLNG) Unit

02/2015 – 08/2017 Lampros Nikolopoulos
Subject: Holistic Optimization in Ship Design and Operation

10/2014 – 08/2017 Matthias Maasch
Subject: The retrofitting of ships with energy saving devices

10/2014 – 08/2017 Ademolu Richard
Subject: Health monitoring of subsea structures for offshore renewable applications

10/2014 – 08/2017 Bozo Vazic
Subject: Ice-structure interaction modelling- peridynamics

12/2013 – 09/2016 Elif Oguz
Subject: Selection and Optimisation of a Floating Wind Turbine

10/2013 – 08/2017 Xue Xu
Subject: Analysis of offshore floating wind turbines with mooring optimization

01/2012 – 12/2016 Ajun Wang
Subject: Analysis of mooring lines

10/2010 – 06/2016 Xue Wang
Subject: CFD Modelling for flutter based energy device

Internal examiner

2015 – Present 3 PhD students

Teaching

Teaching

2024 – Present Maritime Economics
2020 – Present Computational Fluid Dynamics (CFD)
2017 – Present Advanced Hydrodynamics
2017 – Present Strength of Materials I & II

2017 – Present	Ocean Engineering
2017 – Present	English for Naval Architects
2014 – Present	Marine Pipelines
2015 – 2017	Risers & Mooring lines
2014 – 2017	Introduction to Naval Architecture and Marine Engineering
2013 – 2017	Offshore Engineering Practice
2013 – 2017	Offshore Oil & Gas Production Systems
2013 – 2015	Design and Analysis of Marine Structures I
2011 – 2013	Marine Propulsion

UG & PGT Supervision

2013 – Present	MSc individual projects 4 students (2021), 4 students (2020), 5 Students (2019), 4 Students (2018), 6 students (2017), 10 students (2016), 14 students (2015), 5 students (2014)
2013 – 2017	MEng Group projects
2013 – 2017	MSc Group projects in Renewables
2013 – 2017	BSc individual projects 3 students (2017), 3 students (2016), 4 students (2015), 3 students (2014)

Administrative

2020 – 2021	Manager of CPD programs
2018 – 2021	Advisor of studies for ocean eng. students
2015 – 2017	Representative of the department in “Board of Study”
2014 – 2017	Advisor of studies for second year students
2014 – 2017	Representative of the department in “Faculty Library Team”
2014 – 2017	Research Data Management & Sharing Project (RDMS)
2014 – 2017	Representative of the department in “MyPlace (Moodle) Team”
2013 – 2017	Representative of the department in “High Performance Computer”

Knowledge Exchange

CPD & Lectures

04/2015	CPD in Marine Pipelines for GE Oil & Gas, Glasgow
05/2017, 2014	Marine Technology Education Consortium (MTEC) – Module C11 (Pipelines, Moorings & Risers)
12/2013, 2015	Marine Technology Education Consortium (MTEC) – Module C10 (Design of Fixed and Floating Offshore System)

Internationalisation

External Appointment

2016 – 2017	Invited member of the committee preparing British Standard (BS) for on-bottom stability of marine cables
2015	PhD External Examiner – University of Southampton
2015	Organising committee and session chairman, 9 th International Workshop on Ship and Marine Hydrodynamics (IWSH2015), Glasgow

2015	Session chairman, 12 th International Conference on the Stability of Ships and Ocean Vehicles (STAB), Glasgow
2014 – 2017	Committee member, Specialist Committee on Energy Saving Methods, International Towing Tank Conference (ITTC)
2013 – 2017	Supervisor for EngD Student, Industrial Doctoral Centre for Offshore Renewable Energy (IDCORE)

Membership of Professional Bodies

2017	Iranian Society of Mechanical Engineers (ISME)
2008	Society of Petroleum Engineers (SPE)
2005	Institute of Marine Engineering, Science and Technology

Journal & Conference Review

2008	Journal of Ocean Engineering
2008	27 th International Conference on Ocean, Offshore and Arctic Engineering (OMAE)

Awards

2014	Award of the Best Application Paper, Transport Research Arena (TRA), Paris
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Publications

Journals

1. Ziyaei, P., Khorasanchi, M., (2025) Effect of cost elements on optimum layout of an offshore wind farm, *Applied Ocean Research*.
2. Ranjbar, N., Khorasanchi, M., Mehsigholi, H. (2024) Smart steaming for just-in-time-arrival, using modified particle swarm optimization (MPSO) algorithm, *Journal of Ocean Engineering and Marine Energy*.
3. Deveci, A.B.M., Okmener, S., O˘guz, E. , Haspolat, E., Khorasanchi, M. (2024) Fuzzy Einstein-based decision-making model for the evaluation of site selection criteria of floating photovoltaic system, *Ocean Engineering* 249.
4. Shahrami, M., Khorasanchi, M. (2023) Development of a climbing robot for ship hull inspection, *Journal of Survey in Fisheries Sciences*.
5. Ziyaei, P., Khorasanchi, M., Sayyadi, H. (2022) Minimizing the leveled cost of energy in an offshore wind farm with non-homogeneous turbines through layout optimization, *Ocean Engineering* 249.
6. Armin, M., Day, S., Karimirad, M., Khorasanchi, M. (2021) On the development of a nonlinear time-domain numerical method for describing vortex-induced vibration and wake interference of two cylinders using experimental results, *Nonlinear Dynamics*.
7. Shivachev, E., Khorasanchi, M., Day, S., Turan, O. (2020) Impact of trim on added resistance of KRISO container ship (KCS) in head waves: An experimental and numerical study, *Ocean Engineering* 211.
8. Hemmati, A., Oterkus, E., Khorasanchi, M. (2019) Vibration Suppression of Offshore Wind Turbine Foundations using Tuned Liquid Column Dampers and Tuned Mass Dampers, *Ocean Engineering* 172, pp. 286-295.
9. Hosseinzadeh, S., Khorasanchi, M., Seif, M.S. (2019) Investigation of Planing Vessels Motion using Nonlinear Strip Theory – an Experimental and Numerical study, *Ships and Offshore Structures* 14(7), pp. 684–697.

10. Yilmaz, N., Atlar, M., Khorasanchi, M. (2019), An Improved Mesh Adaption and Refinement Approach to Cavitation Simulation (MARCS) of Propellers, *Ocean Engineering* 171, pp.139-150.
11. Armin, M., Khorasanchi, M. & Day, A. (2018), Wake interference of two identical oscillating cylinders in tandem: An experimental study, *Ocean Engineering* 166, pp. 311–323.
12. Pillai, A., Chick, J., Johanning, L., Khorasanchi, M. (2018), Offshore Wind Farm Layout Optimization Using Particle Swarm Optimization, *Journal of Ocean Engineering and Marine Energy* 4(1), pp. 73–88.
13. Pillai, A., Chick, J., Khorasanchi, M., Barbouchi, S. & Johanning, L. (2017), Application of an offshore wind farm layout optimization methodology at Middelgrunden wind farm, *Ocean Engineering* 139, pp. 287-297.
14. Pillai, A., Chick, J., Johanning, L., Khorasanchi, M. & Pelissier, S. (2016), Optimisation of Offshore Wind Farms Using a Genetic Algorithm, *International Journal of Offshore and Polar Engineering* 26(3), 225–234.
15. Tezdogan, T. Demirel Y. K., Kellett, P., Khorasanchi, M., Incecik, A., Turan, O., (2015), Full-scale unsteady RANS CFD simulations of ship behaviour and performance in head seas due to slow steaming, *Ocean Engineering* 97,186-206.
16. Pillai, A.C., Chick, J., Johanning, L., Khorasanchi, M., de Laleu, V., (2015), Offshore Wind Farm Electrical Cable Layout Optimisation, *Engineering Optimization* 47(12), pp. 1689–1708.
17. Khorasanchi, M., Huang, S., (2014), Instability analysis of deep water riser with fairings, *Ocean Engineering* 79, 26–34
18. Demirel, Y.K., Khorasanchi, M., Turan, O., Schultz, M.P., (2014), A CFD model for the frictional resistance prediction of antifouling coatings, *Ocean Engineering* 89, pp. 21-31
19. Huang, S., Khorasanchi, M., Herfjord, K. (2011) ‘Drag Amplification of Long Flexible Riser Models Undergoing Multi-mode VIV In Uniform Currents’, *Journal of Fluids and Structures*, 27, 342-353.

Conferences

1. Shahrami, M., Khorasanchi, M., Durali, M. (2023) Performance Analysis of a Tracked Wall-Climbing Robot in the Splash Zone, 13th International Congress on Civil Engineering, Tehran, Iran.
2. Pourgholami, H., Khaleghi, A., Khorasanchi, M., Oguz, E. (2023) A Review On Conceptual Design Of Support Structures For Floating Solar Power Plants, 7th Offshore Energy and Storage Symposium, Malta.
3. Shahrami, M., Khorasanchi, M., Durali, M. (2022) Design of Permanent-Magnet Tracks for A Ship Hull Inspection Robot, 10th RSI International Conference on Robotics and Mechatronics (ICROM).
4. Sayyaadi, H., Abbasian, A. Khorasanchi, M. (2020), Development of a software to modeling 3 DOF Non-Linear dynamic of a planing vessel, 26th International Conference of the Iranian Society of Mechanical Engineers (ISME), Tehran, Iran.
5. Khorasanchi, M., Sayyaadi, H., Ziyaei, P., Sadollah, A. (2018), Layout optimization of a wind farm with non-homogenous turbines, 20th Marine Industries Conference, Tehran, Iran.
6. Babaleye, A., Khorasanchi, M., Kurt, R.E., (2018), Dynamic Risk Assessment Of Decommissioning Offshore Jacket Structures, 37th International Conference on Ocean, Offshore and Arctic Engineering (OMAE), Madrid, Spain.
7. Babaleye, A., Khorasanchi, M., Kurt, R.E., (2017), Dynamic risk-based safety analysis of permanent well plugging and abandonment operations, 23rd European Well Intervention Conference (ICoTA Europe), Aberdeen, UK.
8. Maasch, M., Turan, O. & Khorasanchi, M., Fang, I. (2017), Calm water resistance and self propulsion simulations including cavitation for an LNG carrier in extreme trim conditions, International Conference on Shipping in Changing Climates, London, UK.
9. McDowell, J., Jeffcoate, P., Khorasanchi, M., Johanning, L., Bruce, T., (2017), First steps toward a multi-parameter optimisation tool for floating tidal platforms—assessment of an LCoE-

based site selection methodology, European Wave and Tidal Energy Conference (EWTEC), Cork, Ireland.

10. Hemmati, A., Oterkus E, Khorasanchi, M., Barltrop, N., (2017), Effect of Tuned Mass Dampers on Fixed Offshore Wind Turbine Foundations, Wind Europe Conference, Amsterdam, The Netherlands.
11. Yilmaz, N., Khorasanchi, M., Atlar, M., (2017), An Investigation into Computational Modelling of Cavitation in a Propeller's Slipstream, 5th International Symposium on Marine Propulsion (SMP'17), Espoo, Finland.
12. Hemmati, A., Khorasanchi, M., Barltrop, N., (2017), Analysis of Offshore Wind Turbine Foundations with Soil Damping Models, 36th International Conference on Ocean, Offshore and Arctic Engineering (OMAE), Trondheim, Norway.
13. Shivachev, E., Khorasanchi, M., Day, S., (2017), Trim Influence On Kriso Container Ship (KCS); An Experimental And Numerical Study, 36th International Conference on Ocean, Offshore and Arctic Engineering (OMAE), Trondheim, Norway.
14. Pillai, A., Chick, J., Johanning, L., Khorasanchi, M. & Barbouchi, S., (2016), Comparison of Offshore Wind Farm Layout Optimization Using a Genetic Algorithm and a Particle Swarm Optimizer, 35th International Conference on Ocean, Offshore and Arctic Engineering (OMAE), Busan, Korea.
15. Pillai, A.C., Chick, J., Johanning, L., Khorasanchi, M., Pelissier, S., (2016), Optimisation of Offshore Wind Farms Using a Genetic Algorithm, The 26th International Ocean and Polar Engineering Conference (ISOPE), Rhodes; Greece.
16. Maasch, M., Turan, O. & Khorasanchi, M., (2015), Unsteady RANSE and detached-eddy simulations of cavitating flow, International Conference on Shipping in Changing Climates, Glasgow, UK.
17. Nikolopoulos, L., Boulougouris, E., Khorasanchi, M. (2016), Applications of holistic ship theory for the simulation driven optimization of the design and operation of large bulk carriers, International Conference on Energy Efficient Ships, London, UK.
18. Pillai, A.C., Chick, J., Johanning, L., Khorasanchi, M., Pelissier, S., (2015), Optimisation of Offshore Wind Farms Using a Genetic Algorithm, The 25th International Ocean and Polar Engineering Conference (ISOPE), Hawaii, USA
19. Oguz, E., Incecik, A., Khorasanchi, M., (2014), Optimization of Tension Leg Platform with wind turbine for the selected region in UK, 2nd International Conference on Maritime Technology, Glasgow, UK
20. Demirel, Y.K., Khorasanchi, M., Turan, O., Incecik, A., (2014), Prediction of the Effect of Hull Fouling on Ship Resistance using CFD, 17th International Congress on Marine Corrosion and Fouling (ICMCF), Glasgow, UK
21. Demirel, Y.K., Khorasanchi, M., Turan, O., Incecik, A., (2014), CFD approach to resistance prediction as a function of roughness, Transport Research Arena, Paris, France
22. Khorasanchi, M., Day, S., Turan, O., Incecik, A., Turkmen, S., (2013), What to expect from the hydrodynamic energy saving devices, 3rd International Conference on Technologies, Operations, Logistics and Modelling for Low Carbon Shipping, London, UK.
23. Demirel, Y.K., Khorasanchi, M., Turan, O., Incecik, A., (2013), On the importance of antifouling coatings regarding ship resistance and powering, 3rd International Conference on Technologies, Operations, Logistics and Modelling for Low Carbon Shipping, London, UK.
24. Demirel, Y. K., Khorasanchi, M., O Turan, O., Incecik, A. (2013) 'A Parametric Study: Hull Roughness Effect on Ship Frictional Resistance', Marine Coatings Conference, London, UK.
25. Mylonas, D., Turkmen, S., Khorasanchi, M., (2013) 'Numerical Study of Asymmetric Keel Hydrodynamic Performance Through Advanced CFD', 3rd International Conference on Innovation in High Performance Sailing Yachts (INNOV'SAIL), Lorient, France.
26. Turkmen, S., Mylonas, D., Khorasanchi, M., (2013) 'Smart Materials Application on High Performance Sailing Yachts for Energy Harvesting', 3rd International Conference on Innovation in High Performance Sailing Yachts (INNOV'SAIL), Lorient, France.
27. Kellett, P., Turan, O., Incecik, A., Khorasanchi, M., Godderidge, B. (2011) 'A Comparison of Propeller Representation Methods for Numerical Underwater Noise Prediction', 14th Numerical Towing Tank Symposium (NuTTS'11), Poole, UK.

28. Khorasanchi, M., Huang, S. (2009) 'Preliminary Instability-Analysis of Deepwater Riser with Fairings', 28th International Conference on Ocean, Offshore & Arctic Eng., Honolulu, USA.

مجلات فارسی

1. زارع، آرمان، فریدونی، جلیل، خراسانچی، مهدی (۱۳۹۸)، مدل سازی عددی شناور پروازی همراه با اینترسپتور، دو فصلنامه مهندسی شناورهای تندرو، ش ۵۴، ص ۴۴-۵۹.
2. خراسانچی، مهدی، برگی، خسرو، دولتشاهی، محرم (۱۳۸۳)، اندرکنش سازه های صلب حجیم و امواج دریا به روش المان مرزی، نشریه دانشکده فنی، ج ۳۸، ش ۶، ص ۷۲۱-۷۳۵.

کنفرانس فارسی

1. سید مهدی مروج، مهدی خراسانچی (۱۴۰۱) بررسی و تحلیل سیستم جرم میراگر (Tuned Mass Damper) برای کاهش نوسانات یک درجه آزادی رول قایق، سی امین همایش سالانه بین المللی انجمن مهندسان مکانیک ایران (ISME2022)
2. میترا میرزا، مهدی خراسانچی (۱۴۰۰) بررسی پارامترهای موثر بر آبستنگی خطوط لوله به روش دینامیک سیالات محاسباتی و المان مجزا، بیست و دومین همایش صنایع دریایی (MIC2022)
3. سید مهدی مروج، مهدی خراسانچی (۱۴۰۰) طراحی و تحلیل سیستم جرم میراگر برای کاهش نوسانات رول قایق، بیست و دومین همایش صنایع دریایی (MIC2022)
4. روزبه شاه ولایتی، مجید عباسپور طهرانی فرد، مهدی خراسانچی (۱۳۹۹) بررسی اثر عمق بر رفتار ابر رسوبات سرریز لایروب از طریق مدلسازی عددی اویلری-لاگرانژی، همایش ملی علوم فن آوری های پیشرفته در انرژی، آب و محیط زیست، تهران، ایران.
5. آرمان زارع، جلیل فریدونی، مهدی خراسانچی (۱۳۹۸)، مدل سازی عددی شناور پروازی همراه با اینترسپتور، ششمین همایش ملی شناورهای تندرو، رشت، ایران.
6. مهدی خراسانچی (۱۳۸۲)، حل تفرق سه بعدی امواج و نیروهای وارد بر سازه به روش المان مرزی در حوزه زمان، دهمین کنفرانس دانشجویی مهندسی عمران، تهران، ایران.

Technical Reports

7. Khorasanchi, M., (2013) 'Performance Modelling of Retrofitting Technologies on Tanker Orthis', Technical Report to Shell Shipping Co.
8. Khorasanchi, M., Turkmen, S. (2012) 'Performance Modelling of Retrofitting Technologies on Twin Skeg LNGC', Technical Report to Shell Shipping Co.
9. Khorasanchi, M., Turkmen, S. (2012) 'Evaluation of Propeller Modelling Methods', Technical Report to Shell Shipping Co.
10. Khorasanchi, M., Turkmen, S. (2012) 'Performance Modelling of Twisted Rudder Technology', Technical Report to Shell Shipping Co.
11. Khorasanchi, M., Turkmen, S. (2011) 'Performance Modelling of The Ring Propeller', Technical Report to Anderson Casting and Scottish Enterprise.
12. Khorasanchi, M., Turkmen, S. (2011) 'Performance Modelling of Thruster Tunnel Drag Reduction Technologies', Technical Report to Shell Shipping Co.
13. Huang, S., Khorasanchi, M. (2008) 'Verification Study on OrcaFlex Riser Interface Module', Technical Report to BP, Doc. No. 2068-RPT-01v1.

Huang, S., Khorasanchi, M. (2005) 'Drag Amplification of A Long Flexible Pipe Due to VIV', Technical Report to Norwegian Deep-water Programme.