B. MUTLU SUMER

CURRICULUM VITAE

AND LIST OF PUBLICATIONS

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Curriculum Vitae and List of Publications of

B. Mutlu Sumer

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BM SUMER Consultancy & Research
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Short Biography of B. Mutlu Sumer

B. Mutlu Sumer was previously Professor at the Technical University of Denmark (Department of Mechanical Engineering, Section for Fluid Mechanics, Coastal and Maritime Engineering) until he retired in 2015. He held the position Professor Emeritus between June 2015 and June 2017 at the same university. Professor Sumer has recently (2017) relocated to Turkey, his native country, and founded a consultancy and research company affiliated with Istanbul Technical University (ITU), BM SUMER, Consultancy & Research, http://bmsumer.com/.

He graduated with MSc (1967) and PhD (1970) from ITU. He was a post-doctoral research fellow at University of Cambridge, UK (1971-1973). He was Professor of Hydraulics at ITU before he moved to Denmark in 1984. He was with the Technical University of Denmark since then until June 2017.

His main fields of research are flow around marine structures –scour, liquefaction, forces, and hydroelastic vibrations– and turbulence and sediment transport. He has coordinated SCARCOST (Scour Around Coastal Structures) (1997-2000) and LIMAS (Liquefaction Around Marine Structures) (2001-2004), two European research programmes financed by the European Community under MAST III, and FP5 programmes, respectively. He has also coordinated EPCOAST (Exploitation and Protection of Coastal Zones), a frame research program financed by Danish Technical Research Council (2005-2008); and Seabed Wind Farm Interaction, another frame research program financed by Danish Council for Strategic Research (DSF)/Energy and Environment (2008-2012). Further to his role as coordinators of the aforementioned research programmes, he has also participated in many international (EU) and national research programmes.

He is the author of four books:

- B.M. Sumer and J. Fredsøe: Hydrodynamics Around Cylindrical Structures. World Scientific, 548 pp., 1997 (revised edition, 2006)
- B.M. Sumer and J. Fredsøe: The Mechanics of Scour in the Marine Environment, World Scientific, 552 pp., 2002.
- B.M. Sumer: Liquefaction Around Marine Structures, World Scientific, 472 pp., 2014.
- B.M. Sumer and D.R. Fuhrman: Turbulence in Coastal and Civil Engineering, World

Scientific, scheduled for publication in 2018.

He has published over 120 journal papers and over 80 conference papers.

He has received many awards including 2005 Karl Emil Hilgard Hydraulic Prize of the American Society of Civil Engineering.

During his tenure at Technical University of Denmark (1984-2015), Professor Sumer developed courses such as Marine Structures I (forces on and vibrations of marine structures such as marine pipelines), Marine Structures II (scour around marine structures, and wave-induced liquefaction of marine soils and its impact on marine structures), and Turbulence Theory, among others.

He supervised 21 Ph.D. students, 69 Master's students, and 22 visiting research associates/postdocs.

He organized 6 international conferences, workshops and summer schools, and he served as members of organizing committees of over 20 international conferences and scientific meetings.

Professor Sumer delivered 25 keynote addresses and invited lectures in scientific meetings, and gave many lectures and seminars at universities and other academic institutions in many countries, including Australia, Bangladesh, China, Denmark, France, Germany, India, Italy, New Zealand, Norway, Japan, Portugal, Singapore, Taiwan, Turkey, the UK and the USA.

Professor Sumer has been assessors for many promotions to Professor/Associate Professor/Assistant Professor in many countries, including Australia, Denmark, India, Norway, Singapore, Turkey, the UK, and the USA. He has been examiners for many Ph.D. theses in many countries, including Australia, Denmark, Germany, India, Italy, Norway, Singapore and Turkey.

He has been reviewers of research proposals for National Science Foundation (USA), Engineering and Physical Sciences Research Council (UK), Chilean National Commission for Scientific and Technological Research, Singapore Nanyang Technological University, Belgium Hercules Foundation, and Scientific and Technical Research Council of Turkey. He has been panel members of European Commission Hydralab programs, Evaluation of Research Groups at Faculty of Engineering Science and Technology (Norwegian University of Science and Technology, NTNU), and USA Transportation Research Board (National Cooperative Highway Research Program).

Professor Sumer served as Associate Editors on Editorial Boards of American Society of Civil Engineers Journal of Waterway, Port, Coastal and Ocean Engineering (2001-2017), Journal of Ocean Engineering and Marine Energy (2014-date), World Scientific Press book series on Environmental Fluid Mechanics (2017-date), International Journal of Offshore and Polar Engineering (1996-2002), and International Journal of Sediment Research (1985-

1997).

He has done consultancy work for projects in many countries including Australia, Bangladesh, Belgium, Brazil, Canada, Denmark, Germany, Indonesia, Libya, Norway, Pakistan, South Korea, Turkey, the USA, and the UK.

Professor's Sumer's full Google Scholar Citations record can be seen at:
http://scholar.google.com/citations?user=F3JYGzkAAAAJ&hl=en

Professor Sumer's full CV is obtainable from bms@bmsumer.com, or can be downloaded from http://bmsumer.com/wp-content/uploads/2017/07/M_Sumer_CV_010118.pdf

Personal Information

Name	B. Mutlu Sumer
Date of Birth	15 November, 1945
Country of Birth	Turkey
Residence Information	Residence in Denmark since 1984, relocated to Turkey in 2016

Education

1971–1973 **Postdoctoral Research**, *University of Cambridge*, Cambridge, UK. (Department of Applied Mathematics & Theoretical Physics; and also Engineering Department)

1967–1970 **Ph.D. in Hydraulics**, *Istanbul Technical University*, Turkey.

1962–1967 **B.Sc. & M.Sc. in Civil Engineering**, *Istanbul Technical University*, Turkey.

Research Areas

Scour mechanics – Scour around marine structures; scour below pipelines, scour and backfilling around slender piles, pile groups, large piles, offshore wind turbine foundations, scour at breakwaters and complex structures.

Flow around and forces on cylindrical structures and flow-induced vibrations – Forces on and vibrations of marine pipelines, correlation, vortex-flow regimes, effect of irregular waves.

Wave boundary layers – Transition to turbulence, coherent structures, fully-developed turbulent wave boundary layers, combined wave and current boundary layers, effect of bed roughness, non-uniform boundary layers (convergent/divergent environment, sudden change in bed roughness), angle of attack, suction/injection (ventilated boundary layers), effect of externally generated turbulence.

Sediment transport, diffusion/dispersion – Longitudinal dispersion of sediment, settlement of solid particles, settling basins, bursting process/suspension mechanism, forces on sediment particles, instability of bedforms/ripple formation, sheet-flow regime sediment transport, influence of turbulence on bedload transport.

Liquefaction of marine soils – Mechanics of liquefaction under water waves, sinking/flotation of marine objects in liquefied soil under water waves, mathematical modeling of liquefaction and assessment of liquefaction potential/pipeline floatation under water waves, impact of rocking motion of structures (breakwaters, monopiles), impact of earthquake-induced liquefaction on marine structures.

Employment Record

2016 - date **Founder**, *BM SUMER Consultancy & Research*, Istanbul.

Consultancy and Advanced Research in Coastal, Offshore, Hydraulic, River, Environmental, Marine Civil Engineering (http://bmsumer.com)

1984 - 2017 **Professor**, *Technical University of Denmark, MEK, Section for Fluid Mechanics, Coastal and Maritime and Engineering (formerly Department of Hydrodynamics and Water Resources (ISVA))* , Lyngby, Denmark.

Professor Emeritus (from July 1, 2015). Professor with Special Responsibilities in Seabed-Structure Interaction (from February 1, 2010). Professor (2002-2010). Scour around hydraulic, coastal and offshore structures. Liquefaction in marine soils. Flow and sediment transport in rivers, coastal zones. Forces on and vibrations of coastal and offshore structures. Seabed and structure interaction. Teaching in turbulence and marine structures.

1980 - 1984 **Professor**, *Istanbul Technical University, Faculty of Civil Engineering*, Istanbul.

Flow and sediment transport in rivers. Stratified flows. Teaching in hydrodynamics, hydraulics and transport processes in recipient flow environments. Also Deputy Dean of Graduate School (1982-84)

1975 - 1980 **Associate Professor**, *Istanbul Technical University, Faculty of Civil Engineering*, Istanbul.

Sediment transport. Role of flow turbulence in transport processes. Teaching in hydrodynamics, hydraulics, hydraulic structures, transport processes in recipient environments.

1973 - 1975 **Assistant Professor**, *Istanbul Technical University, Faculty of Civil Engineering*, Istanbul.

Sediment transport. Role of flow turbulence in transport processes. Teaching in hydrodynamics, hydraulics, hydraulic structures, transport processes in recipient environments.

1971 - 1973 **Research engineer and post-doctoral research fellow**, *University of Cambridge, Department of Applied Mathematics & Theoretical Physics (DAMTP); and also Engineering Department*, Cambridge, UK.

Dispersion in open channels. Sediment transport. Water waves. Associated with G.K. Batchelor (DAMTP) and A.M. Binnie (Engineering Department)

1967 - 1971 **Research engineer**, *Istanbul Technical University, Faculty of Civil Engineering*, Istanbul.

Dispersion in open channels and rivers. Sediment transport. Water intake structures. Hydraulics. Hydraulic scale models.

Society Memberships

- International Society of Offshore and Polar Engineers (ISOPE), until 2016.
- Danish Hydraulic Engineering Society
- Danish Center for Applied Mathematics and Mechanics (DCAMM)
- International Society for Soil Mechanics and Geotechnical Engineering, Technical Committee (TC) 213, Scour and Erosion (2010-2014)
- Coasts, Oceans, Ports, and Rivers Institute (COPRI), American Society of Civil Engineers (ASCE) (2014-2015)

Awards and Recognitions

2018 Certificate of Appreciation by the Board of Governors of the Coasts, Oceans, Ports and Rivers Institute, American Society of Civil Engineering, in Recognition of Dedication and Service as an Associate Editor of the Journal of Waterway, Port, Ocean and Coastal Engineering (2001-2018)

2016 ICCE 2016 Award. In recognition of contribution and dedication to Coastal Engineering and commitment to excellence. On the occasion of the 35th International Conference on Coastal Engineering (ICCE 2016). 17-20 November 2016, Antalya, Turkey.

2014 ICSE 2014 Best Paper Award.

For the paper: T.U. Petersen, B.M. Sumer, J. Fredsøe: "Edge scour at scour protections around offshore wind turbine foundations", presented at 7th International Conference on Scour and Erosion (ICSE), 2-4 December, 2014, Perth, Western Australia.

2013 Outstanding Paper designation of American Society of Civil Engineers, the Journal of Waterway, Port, Coastal and Ocean Engineering.

For the paper: B.M. Sumer, T.U. Petersen, L. Locatelli, J. Fredsøe, R.E. Musumeci and E. Foti: "Backfilling of a Scour Hole around a Pile in Waves and Current." J. Waterway, Port, Coastal, Ocean Eng. ASCE, 139(1), 9–23, 2013.

2008 Certificate of Appreciation. Coasts, Oceans, Ports, and Rivers Institute (COPRI), American Society of Civil Engineers.

2005 Karl Emil Hilgard Hydraulic Prize of American Society of Civil Engineers.

For the paper: B.M. Sumer, L.H.C. Chua, N.-S. Cheng and J. Fredsøe: "The influence of turbulence on bedload sediment transport". J. Hydraulic Engineering ASCE, vol. 129, pp. 585- 596, 2003.

1992 The International Society of Offshore and Polar Engineers Best Paper ISOPE Award, presented on June 17, 1992.

For the paper: J. Fredsøe, B.M. Sumer and M.M. Arnskov: "Time scale for wave/current scour below pipelines", presented at the 1991 ISOPE Conference, Edinburgh, Scotland, August 1991 (also published in International J. Offshore and Polar Engineering. Vol. 2, No. 1, pp. 13-17, 1992).

1991 Science Award, Scientific and Technical Research Council of Turkey (TUBITAK).

1976 Support Award, Scientific and Technical Research Council of Turkey (TUBITAK).

1971-1972 NATO Post-Doctoral Fellowship, University of Cambridge, UK.

1971 Hydraulic Structures Award, Turkish Society of Civil Engineering.

Editorship

- Associate Editor of Journal of Waterway, Port, Coastal and Ocean Engineering, American Society of Civil Engineers (ASCE), 2001-2017
- Associate Editor of Journal of Ocean Engineering and Marine Energy, 2014-date
- Associate Editor of the book series on "Environmental Fluid Mechanics", World Scientific Press, 2017-date
- Associate Editor of International Journal of Offshore and Polar Engineering, 1996-2002
- Associate Editor of International Journal of Sediment Research, 1985-1997

Assessor/Evaluator/Examiner

- Assessor for promotion to Professor / Associate Professor / Assistant Professor / Senior Lecturer. 2 (Denmark), 5 (Turkey), 2 (UK), 1 (Australia), 5 (Singapore), 1 (India), 1 (Norway), and 4 (USA).
- Examiner for PhD Theses / Examinations. More than 10 (Denmark), 1 (Turkey), 14 (Australia), 1 (Germany), 2 (Singapore), 1 (India), 1 (Norway), and 1 (Italy).
- Reviewer NSF (USA) Research Proposals.
- Reviewer of EPSRC (UK) Research Proposals.
- Member of User Selection Panel of Hydralab+ project, funded by the European Commission through the Horizon2020 programme to strengthen the coherence of experimental hydraulic and hydrodynamic research by improving the infrastructures with a focus on adaptation to climate change issues, 2016, http://hydralab.eu/taking-part/call-for-proposals/
- Reviewer for funding of a research proposal at Chilean National Commission for Scientific and Technological Research, CONICYT. 2014.
- Referee for funding of a research proposal at Nanyang Technological University of the Tier 1 Grant Call Year 2014 (Call 2/2014).
- Reviewer of the Hercules Foundation (Belgium) for funding of a proposal for a large scale research infrastructure (2013).
- Member of an international panel for evaluation of research groups at Faculty of Engineering Science and Technology, Norwegian University of Science and Technology (NTNU), April 3-7, 2011.

- Review Team member for Transportation Research Board, USA. National Cooperative Highway Research Program, NCHRP Project 24-27 (01). Evaluation of bridge-scour research: Pier scour processes and predictions. 2008.

Conference/Workshop/Summer-School organizer

- Advanced short course on Liquefaction Around Marine Structures, ITU Teknokent, Istanbul, Turkey, September 21-22, 2017, organized by BM SUMER Consultancy & Research.
- International End-user Workshop on Seabed and Wind Farm Interaction. May 15, 2012, organized jointly by the Technical University of Denmark and the Danish Society of Marine Civil Engineering (Danish Hydraulic Engineering Society).
- Seabed and Structure Interaction, DCAMM Ph.D. Course, Technical University of Denmark, 16-20. August, 2010.
- Liquefaction Around Marine Structures, A One-Day Conference to Present State-of-Art Knowledge, Pau, France, 5.April, 2004.
- Workshop on Wave- and Seismic-Induced Liquefaction and its Implications for Marine Structures, Istanbul, Turkey, 16-18.September, 2002.
- Hydrodynamic Loading on Cylindrical Structures in Offshore Engineering. Summer School. Technical University of Denmark, Department of Hydrodynamics and Water Resources (ISVA), Lyngby, Denmark, 2-6. August, 1999.
- Euromech Colloquium, Euromech 156: Mechanics of Sediment Transport, 12-14.July, 1982. Istanbul, Turkey (Co-Chair: A. Muller).

Member of organizing committees for conferences

- Member of Conference Technical Program Committee of the International Offshore and Polar Engineering Conferences, International Society of Offshore and Polar Engineers (ISOPE), until 2016.
- Member of International Scientific Committee, the 8th International Conference on Scour and Erosion, Oxford, UK, 12-15. September, 2016
- Member of Steering Committee, ICCE 2016, the 35th International Conference on Coastal Engineering, Istanbul, Turkey, 17-22. July, 2016; Venue and date later changed to Antalya, 17-20 November, 2016

- Member of Technical Conference Committee, the 7th International Conference on Scour and Erosion, Perth, Australia, 2-4.December, 2014
- River Flow 2014, International Conference on Fluvial Hydraulics, 3-5 September 2014, Lausanne, Switzerland
- Member of International Advisory Committee of the International Symposium on Coastal and Offshore Geotechnics (ISCOG 2012), 16-18 Nov. 2012, Hangzhou, China
- Member of the Scientific Committee of the 10th International Congress on Advances in Civil Engineering 2012 (ACE 2012), October 17-19, 2012, Ankara, Turkey
- RCEM 2011, The 7th IAHR Symposium on River, Coastal and Estuarine Morphodynamics, Sept. 6-8, 2011, Tsinghua University, Beijing, China
- 5th International Conference on Scour and Erosion, San Francisco, USA, 8-10.November, 2010
- 5th International Conference on Fluvial Hydraulics (River Flow 2010), Braunschweig, Germany, 8-10.September, 2010
- 4th International Conference on Scour and Erosion, Tokyo, Japan, 5-7.November, 2008
- River Flow 2008, Cesme, Izmir, Turkey, 3-5.September, 2008
- International Advisory Member of the 3rd International Conference on Scour and Erosion (ICSE-3), Amsterdam, Holland, 1-3.November, 2006
- International Conference on Application of Fluid Mechanics in Industry and Environment, Indian Statistical Institute, Calcutta, India, August 28- 31, 2006
- 2nd International Short Course and Workshop on Coastal Processes and Port Engineering, Department of Soil Conservation, University of Calabria, Italy, 29.May-1.June, 2006
- Member of Scientific Committee of the Sixth International Conference on Hydrodynamics 2004, The University of Western Australia, Perth, Australia, 24- 26.November, 2004
- International Advisory Member of the 2nd International Conference on Scour and Erosion (ICSE-2), Singapore, 14-17.November, 2004
- Member of the Scientific Committee of the International Symposium on the Transport of Suspended Sediments and its Mathematical Modeling, organized by International Association for Hydraulic Research, 2 - 5 Sept. 1991, Florence, Italy
- Correspondent of European Mechanics Colloquia, 1979-1986

Invited keynote addresses and invited lectures

- "Liquefaction-induced damage to concrete caissons during a storm event. A case study". Invited lecture. ICCE 2016, the 35th International Conference on Coastal Engineering, Istanbul, Turkey, 17-22. July, 2016; Venue and date later changed to Antalya, 17-20 November, 2016.
- Three invited lectures in Marine Scour Course, 17-18 September 2015, DHI, Denmark: (1) "Damage sustained to concrete caissons during a storm event. Can scour explain ..? A case story"; (2) "Scour protection in offshore windfarms – Filter criteria. A case story"; and (3) "Scour in offshore wind farms in complex soils. A case story".
- "A review of recent advances in numerical modelling of local scour problems". Opening keynote presentation. The 7th International Conference on Scour and Erosion, Perth, Australia, 2-4.December, 2014.
- Three invited lectures in Marine Scour Course, 23-24 October 2014, DHI, Denmark: (1) "Damage sustained to concrete caissons during a storm event. Can scour explain ..? A Page 13 of 55 B. Mutlu Sumer, Curriculum Vitae and List of Publications case story"; (2) "Scour protection in offshore windfarms – Filter criteria. A case story"; and (3) "Scour in offshore wind farms in complex soils. A case story".
- "Seabed and windfarm interaction". Invited lecture at EUROMS, organized by ISOPE, Technical University of Istanbul, June 25-26, 2012.
- "Recent advances in seabed-structure interaction". Invited lecture given at HALCROW, New York, USA, August 8, 2011.
- "Seabed and windfarm interaction. A Research program". Professor Dr. Aysen Ergin Symposium. September 28, 2010, METU, Ankara, Turkey.
- "Hydrodynamics around pipelines. Processes related to flow, forces and response". Two- hour lecture, 21.August, 2009, at Ramboll Oil & Gas, Teknikerbyen 31, Virum, Denmark.
- "Coastal and offshore scour/erosion issues- Recent Advances". Invited keynote lecture at the Fourth International Conference on Scour and Erosion, November 5-7, 2008, Tokyo, Japan.
- "Turbulence and sediment transport processes". Invited keynote lecture at River Flow 2008, International Conference on Fluvial Hydraulics, Sept. 3-5, 2008, Izmir, Turkey. Sponsors: IAHR Fluvial Hydraulics Comm., UNESCO ISI and UNESCO IHP.

- Invited lecturer for the Second CoastLab Course, Faculty of Engineering of the University of Porto, Porto, Portugal, 9-11.April, 2008. Four lectures on modelling of scour around marine structures and effect of turbulence on sediment transport.
- "Liquefaction Around Marine Structures". Invited lecturer for a compact course, nine lectures on the topic, given at Technical University of Braunschweig, Germany, jointly organized by Technische Universitat Braunschweig, Leichweiss-Institut fur Wasserbau and Internationales Graduiertenkolleg 802, 14-15.November, 2007.
- "Liquefaction Around Marine Structures". Invited lecture given in the Opening Session at the 6th National Coastal Engineering Symposium organized by Turkish Society of Civil Engineers, Izmir, Dokuz Eylul University, 25-28.October, 2007, Izmir, Turkey.
- "Research at DTU on Hydrodynamic Processes around Marine Structures". Invited presentation at the meeting Marine og Hydrauliske Strømninger, organized by the Danish Society for Industrial Fluid Dynamics, DHI, 28.March, 2007.
- "Physics/Mathematical Modelling of Scour below Pipelines", Invited lecture at Seminar on Marine CFD, 25-26.August, 2005, Brekstad, Norway. Organized by NTNU (Norwegian University of Science and Technology), Faculty of Engineering Science and Technology.
- "Physical and Mathematical Modelling of Scour", Invited lecture at the Opening Session of Coastal Engineering Symposium, Bodrum, Turkey, May 5-7, 2005.
- "The sequence of soil behaviour during wave liquefaction". DHI Water & Environment, 8.December, 2004.
- "Liquefaction around marine structures, LIMAS, an EU research program". Invited keynote lecture at the 6th International Conference on Hydrodynamics, Perth, Australia, 24-26.November, 2004.
- "Physical and numerical modeling of scour". Invited keynote lecture at the Second International Conference on Scour and Erosion (ICSE-2), Singapore, 14-17.November, 2004.
- "Experimental investigation of wave boundary layer. General Lecture", Euromech Colloquium 451. Sea Wave Bottom Boundary Layer, Taormina, Italy, October 26-29, 2003.
- "Research at DTU on liquefaction around marine structures". Dynamic Loads to Stone Bed Foundations and Soils- From Offshore Wind Turbines to Earthquake, a meeting organized jointly by Danish Society of Hydraulic Engineering and Danish Geotechnical Society, 20.March, 2003.

- "Wave-induced liquefaction. General Lecture". Workshop on Wave- and Seismic- Induced Liquefaction and its Implications for Marine Structures, Istanbul, Turkey, 16-18.September, 2002.
- "A review of pipeline spanning". Opening Lecture. Pipeline Spanning Forum. Host: Amoco (UK) Exploration Company, Carnarvon Hotel, London, UK, 4.March, 1998.
- "Recent developments on the mechanics of sediment suspension. General Lecture", Euromech Colloquium 192. Transport of Suspended Solids in Open Channels, Neubiberg, Germany, 11-15.June, 1985.

Lectures and seminars

- Lectures on seabed liquefaction in the "Advanced short course on Liquefaction Around Marine Structures", ITU Teknokent, Istanbul, Turkey, September 21-22, 2017, organized by BM SUMER Consultancy & Research.
- Lectures on seabed liquefaction in the Ph.D. course "Seabed and Structure Interaction, DCAMM Ph.D. Course", Technical University of Denmark, 16-20. August, 2010.
- "Scour around offshore wind turbine foundations", Presentation given at Dansk Vindkraftkonference, 14-15.May, 2009, Organized by Dansk Selskab for Vindenergi, Hotel Trinity, Fredericia, Denmark.
- "Influence of turbulence on sediment transport", Seminar given at Indian Institute of Technology, Kharagpur, India, 19.October, 2006.
- "Influence of turbulence on sediment transport", Seminar given at Indian Statistical Institute, Calcutta, India, 16.October, 2006.
- "Cover stones/riprap on liquefiable soil in waves" and "Behaviour on riprap in/over liquefied backfill", Two seminars given at University of Western Australia, School of Civil and Resource Engineering, Perth, Australia. Seminar. 13.October, 2006.
- "Influence of turbulence on sediment transport", Seminar given at University of Western Australia, School of Civil and Resource Engineering, Perth, Australia, 11.October, 2006.
- "Physical and Mathematical Modelling of Scour", Seminar given at University of Illinois at Urbana-Champaign, Department of Civil and Environmental Engineering, 16.May, 2005.
- "Physical and mathematical modelling of scour", An opening address at the VII. International Workshop on Coastal Engineering, Resort Dedeman, Bodrum, Turkey, 3- 7.May, 2005.
- "Liquefaction of marine soils". University of Sydney, Australia, 19.November, 2004.

- "3-D Numerical modelling of flow and scour around a pile". University of Florida, Civil and Coastal Engineering Department, 21.November, 2002.
- "Research at Technical University of Denmark on liquefaction around structures". National Institution. Japan Port and Airport Research Institute (PARI), Yokosuka, 3.June, 2002.
- "Liquefaction of marine soils". Yildiz Technical University, Istanbul, Turkey, 27.December, 2001.
- "Scour around marine structures. A review". University of Western Australia, Department of Civil and Resource Engineering, Perth, Australia, 3.August, 2000.
- "Scour around marine structures. A review". University of Auckland, Department of Civil and Resource Engineering, Auckland, New Zealand, 24.July, 2000.
- Lectures in the Summer School "Hydrodynamic Loading on Cylindrical Structures in Offshore Engineering". Technical University of Denmark, Department of Hydrodynamics and Water Resources (ISVA), Lyngby, Denmark, 2-6. August, 1999 (Other lecturers: Charles Williamson, Peter Stansby, Jesper Skourup and Andrzej Kozakiewicz).
- "Liquefaction of marine soils". Technical University of Istanbul, Faculty of Civil Engineering, December 1998.
- "Sinking of marine objects in liquefied soil". Tohoku University, Faculty of Engineering, Sendai, Japan, 22.April, 1997.
- "Sinking of marine objects in liquefied soil". Kyoto University, Department of Civil Engineering, Japan, 11.April, 1997.
- "Wave boundary layers". Orta Dogu Teknik Universitesi (METU), Ankara, Turkey, December 1992.
- A series of lectures on selected topics in Marin Hydrodynamics (flow around and forces on cylinders, hydro elastic vibrations, scour below pipelines, scour around piles, and wave boundary layers). TOKTEN consultant. Technical University of Istanbul. Financed by UNESCO, UNDP. 7-22.December, 1992.
- "Scour and slope protection". Training program for a group of Mexican engineers in the program "Administration System for Bridges". Danish Hydraulic Institute. 4 May - 4 July, 1992.
- "Currents and river flow and sediment transport" Training program for River Research Institute (Bangladesh) personnel. Danish Hydraulic Institute, 1989.
- "Turbulence in oscillatory boundary layers". University of Southern California, Department of Aerospace Engineering, 1987.

- "Sediment transport and the bursting process in turbulent boundary layers". Institut de Mechanique de Grenoble, France, 1986.
- Six lectures on river sedimentation. Tsinghua University, Beijing, China. Financed by UNESCO through International Centre of Sediment Research, Beijing, China, 1983.
- "Formation of sediment ripples". University of Iowa, Iowa Institute of Hydraulic Research, 1983.
- "Particle motions and the bursting process in turbulent flows". University of Iowa, Iowa Institute of Hydraulic Research, 1983.
- "Longitudinal dispersion in open-channel flows". Auburn University, Auburn, AL, USA, 1983.
- "Sediment transport with particular emphasize on the role of bursting process". Dynamic Technology, Torrance, US, 1983.
- "Particle motions and the bursting process in turbulent flow". University of Southern California, Department of Aerospace Engineering, 1983.
- "Formation of sediment ripples". University of Southern California, Department of Aerospace Engineering, 1983.
- "Particle motions as related to bursting process". University of Cambridge, Engineering Department, 1981.
- "Particle motions in turbulent flows". Middle East Technical University, Ankara, Turkey, December 1978.

Ph.D. Theses supervised

- Bjarke Eltard Larsen: Tsunami-seabed interactions. 2018. **Principal supervisor:** D.R. Fuhrman, Co-supervisors: E.D. Christensen and **B.M. Sumer**
- Karsten L. Jensen: Vertical pressure gradient and particle motions in wave boundary layers. 2015. **Principal supervisor: B.M. Sumer**, Co-supervisors: J. Fredsøe and Jacob H. Jensen
- Thor Ugelvig Petersen: Stability of Stone Covers. 2014. **Principal supervisor: B.M. Sumer**, Co-supervisors: Erik Damgaard Christensen, J. Fredsøe and David R. Fuhrman
- Bjarne Jensen: Wave interaction with porous coastal structures. 2014. **Principal supervisor:** Erik Damgaard Christensen, Co-supervisor: **B.M. Sumer**
- Nilas Mandrup Hansen: Interaction between seabed soil and offshore wind turbine foundations. 2012. **Principal supervisor: B.M. Sumer**, Co-supervisor: J. Fredsøe

- Anders Wedel Nielsen: Scour protection of offshore wind farms. 2011. **Principal supervisor: B.M. Sumer**, Co-supervisors: J. Fredsøe and Erik Damgaard Christensen
- Niels Gjøl Jacobsen: A full hydro- and morphodynamic description of breaker bar development. 2011. **Principal supervisor:** J. Fredsøe, Co-supervisors: R. Deigaard, D.R. Fuhrman, J.H. Jensen and **B.M. Sumer**
- Martin Dixen: Interaction between seabed and scour protection. 2008. **Principal Supervisor: B.M. Sumer**, Co-supervisor: J. Fredsøe
- Stefan Carstensen: Experimental Investigation of Turbulence Structures in Wave Boundary Layers. 2006. **Principal Supervisor: B.M. Sumer**, Co-supervisor: J. Fredsøe
- Iris P. Buxbom: Large Eddy Simulation of Ventilated Wave Boundary Layer. 2003. **Principal Supervisor: B.M. Sumer**, Co-supervisors: J. Fredsøe, Erik Damgaard Christensen
- Kjartan Gislason: Numerical Modelling of Flow and Scour of Coastal Structures. 2003. **Principal Supervisor:** J. Fredsøe, Co-supervisor: **B.M. Sumer**
- Christoffer Truelsen: Flow and Scour around Spherical Bodies. 2002. **Principal Supervisor: B.M. Sumer**, Co-supervisor: J. Fredsøe
- Martin Schwalbe Lohmann: Three-Dimensional Acoustic Measurements of Particle Velocities. 2000. **Principal Supervisor:** N.-E. Ottesen Hansen, Co-supervisors: **B.M. Sumer** and L. Bjørnø
- Andreas Roulund: Three-Dimensional Numerical Modelling of Flow around a Bottom-Mounted Pile and its Application to Scour. 2000. **Principal Supervisor: B.M. Sumer**, Co-supervisor: J. Fredsøe
- Carsten R. Lodahl: Turbulence in Co-Directional Oscillatory Flow and Current. 1996. **Principal Supervisor: B.M. Sumer**, Co-supervisor: J. Fredsøe
- Berry Elfrink: Longshore Sediment Transport in the Swash Zone. 1995. **Principal Supervisor:** J. Fredsøe, Co-supervisor: **B.M. Sumer**
- Peter Hasbo: Flow and Sediment Transport over Oblique Bed Forms. 1995. **Principal Supervisor:** J. Fredsøe, Co-supervisors: **B.M. Sumer**, Erik Asp Hansen
- Niels Christiansen: Scour around a Vertical Pile. 1994. **Principal Supervisor: B.M. Sumer**, Co-supervisor: J. Fredsøe
- Thorkild Stoltze Laursen: Non-Uniform Wave Boundary Layers. 1993. **Principal Supervisor: B.M. Sumer**, Co-supervisor: J. Fredsøe

- Bjørn Lykke Jensen: Experimental Investigation of Turbulent Oscillatory Boundary Layers. 1989. **Principal Supervisor: B.M. Sumer**, Co-supervisor: J. Fredsøe
- Peter Justesen: Turbulent Waver Boundary Layers. 1988. **Principal Supervisor:** J. Fredsøe, Co-supervisor: **B.M. Sumer**
- Ye Mao: The Interaction Between a Pipeline and an Erodible Bed. 1986. **Principal Supervisor:** J. Fredsøe, Co-supervisor: **B.M. Sumer**

M.Sc. Theses supervised

- Bjarke Eltard-Larsen: Simulation of wave plus current induced scour and backfilling beneath pipelines. 2014. **Principal Supervisor:** David R. Fuhrman, Co-supervisor: **B.M. Sumer**
- Jens Bundesen and Bjørn Frederiksen: Scour at breakwaters under combined waves and current. 2014. **Principal Supervisor:** Stefan Carstensen, Co-supervisors: **B.M. Sumer**, and J. Fredsøe
- Michael Steffensen: Sediment particle motion near bottom in wave boundary layers. 2014. **Principal Supervisor: B.M. Sumer**, Co-supervisors: Karsten L. Jensen and J. Fredsøe
- Thomas Probst: Edge scour around protections and sinking of armour rocks at offshore windfarm foundations. 2013. **Principal Supervisor: B.M. Sumer**, Co-supervisors: Thor U. Petersen, Anders Wedel Nielsen and J. Fredsøe
- Magnus Woxholtt-Jensen: Scour at a forward- and backward facing step in steady current. 2012. **Principal Supervisor: B.M. Sumer**, Co-supervisors: Thor U. Petersen and J. Fredsøe
- Asli Yazici and Jon Bøgelund: Edge scour adjacent to stone covers. 2012. **Principal Supervisor: B.M. Sumer**, Co-supervisors: Thor U. Petersen and J. Fredsøe
- Kristine Pilegaard: CFD of backfilling of scour holes around marine structures. 2012. **Principal Supervisor: B.M. Sumer**, Co-supervisor: David. R. Fuhrman
- Morten Ibsen: CFD analysis of hydraulic performance of rubble mound breakwaters. 2012. **Principal Supervisor:** Erik Damgaard Christensen, Co-supervisors: Bjarne Jensen and **B.M. Sumer**
- Christel Jeanty Nielsen. 2012. CFD analysis of hydrodynamic loading on gravity based structures. **Principal Supervisor:** Erik Damgaard Christensen, Co-supervisors: Nilas Mandrup Hansen and **B.M. Sumer**

- Martin Vistisen: Hydraulic performance of rubble mound breakwater. 2012. **Principal Supervisor:** Erik Damgaard Christensen, Co-supervisors: Bjarne Jensen and **B.M. Sumer**
- Karsten L. Jensen: Role of vertical pressure gradient in sheet flow sediment transport. 2011. **Principal Supervisor: B.M. Sumer**, Co-supervisor: J. Fredsøe.
- Ulf Gjendal: Numerical investigation of scour below pipelines. 2011. **Principal Supervisor: B.M. Sumer**, Co-supervisors: Kenny Krogh Nielsen, and Pratik Bhattacherjee
- Laurids Andersen: Numerical study of backfilling around offshore wind turbine foundations. 2011. **Principal Supervisor: B.M. Sumer**, Co-supervisors: J. Fredsøe and Niels Gjøl Jakobsen
- Sebastian Schjelde Ebbe: Scour and its protection around offshore wind turbine foundations under breaking waves. 2011. **Principal Supervisor: B.M. Sumer**, Co- supervisors: J. Fredsøe and Anders Wedel Nielsen
- Thor Ugelvig Petersen and Luca Locatelli: Backfilling process for offshore windfarms. 2010. **Principal Supervisor: B.M. Sumer**, Co-supervisor: J. Fredsøe
- Nilas Mandrup Hansen: Bed Shear Stress on a sloping Bed under Waves. 2009. **Principal Supervisor: B.M. Sumer**, Co-supervisor: J. Fredsøe
- Pau Clofent Calsapeu: Suction of sediment from between armour blocks under plunging waves. 2009. **Principal Supervisor: B.M. Sumer**, Co-supervisors: J. Fredsøe and Anders Wedel Nielsen
- Adriana Hudecz: Scour protection for offshore wind farms. 2009. **Principal Supervisor: B.M. Sumer**, Co-supervisors: J. Fredsøe and Anders Wedel Nielsen
- Francesco Stevanato: Flow and turbulence near and inside a protection layer on a seabed. 2008. **Principal Supervisor: B.M. Sumer**, Co-supervisor: J. Fredsøe
- Ioanna Karagali and Barkin Ceren: Sediment transport and morphology on a sloping beach under a solitary wave. 2008. **Principal Supervisor: B.M. Sumer**, Co-supervisor: J. Fredsøe
- M. Berke Sen: Bed shear stress on a sloping beach under a solitary wave. 2008. **Principal Supervisor: B.M. Sumer**, Co-supervisor: J. Fredsøe
- Søren Juhl Andersen and Jørgen Bang Jensen: Sequence of soil behaviour during wave liquefaction. Mathematical modelling. 2007. **Principal Supervisor: B.M. Sumer**, Co- supervisor: J. Fredsøe

- Anders Helkjær: Scour around piles in cohesive soils. 2007. **Principal Supervisor: B.M. Sumer**, Co-supervisor: J. Fredsøe
- Lone Bliksted Sørensen and Palle Martin Jensen: Turbulent solitary wave boundary layer. 2007. **Principal Supervisor: B.M. Sumer**, Co-supervisor: J. Fredsøe
- Matteo Sotitile and Luca Zilioli: Experimental investigation of bed shear stress and bed morphology under a solitary wave on a sloping beach. 2007. A Master's Project undertaken at DTU and Universita degli Studi di Genova. **Principal Supervisors: B.M. Sumer**, Paolo Blondeaux, Co-supervisor: J. Fredsøe
- Nils Gjøl Jakobsen: Shape and dimensions of ripples. 2007. **Principal Supervisor:** J. Fredsøe, Co-supervisors: **B.M. Sumer** and D.R. Fuhrman
- Uffe Rasmussen: Froude number Impact on Scour. 2005. **Principal Supervisor:** J. Fredsøe, Co-supervisor: **B.M. Sumer**
- Vanessa Martin: Liquefaction of mud under waves". **Principal supervisor: B.M. Sumer**. 2005. A Master's Project undertaken at DTU and INP Grenoble ENSHMG.
- Leika Diana Jørgensen and Michael Bruno Oscar Juhl Krøl: Flow Regimes around the Head of an Emerged/Submerged Breakwater. 2005. **Principal Supervisor: B.M. Sumer**, Co-supervisor: J. Fredsøe
- Claus Møller Bæk: Wave Boundary Layers over a Bed with Large Roughness. 2005. **Principal Supervisor: B.M. Sumer**, Co-supervisor: J. Fredsøe
- Per Riess Høgsberg: Wave Breaking over the Roundhead of a Breakwater. 2004. **Principal Supervisor: B.M. Sumer**, Co-supervisor: J. Fredsøe
- Anders Wedel Nielsen: Removal of Sediment from Between Armour Blocks in Breaking/Broken Waves. 2004. **Principal Supervisor: B.M. Sumer**, Co-supervisor: J. Fredsøe
- Andrass Ziska Davidsen: Mechanism of Removal of Sediment from Between Armour Blocks under Combined Waves and Current. 2003. **Principal Supervisor: B.M. Sumer**, Co-supervisor: J. Fredsøe
- Martin Dixen: Scour around the Roundhead of a Submerged Rubble Mound Breakwater. 2003. **Principal Supervisor: B.M. Sumer**, Co-supervisor: J. Fredsøe
- Stefan Carstensen. Bursting Process in Turbulent Oscillatory/Wave Boundary Layers. 2002. **Principal Supervisor: B.M. Sumer**, Co-supervisor: J. Fredsøe

- Rasmus Miller: 3-D Scour around Groins. 2001. **Principal Supervisor: B.M. Sumer**, Co-supervisor: J. Fredsøe
- Antonio di Penta: An Experimental Investigation on Flow and Scour around Submerged Breakwaters. 2001. **Principal Supervisor: B.M. Sumer**, Co-supervisor: J. Fredsøe
- Christoffer Truelsen and Thomas Sichmann Hansen: Sinking of Pipelines in Current/Waves. 1999. **Principal Supervisor: B.M. Sumer**, Co-supervisor: J. Fredsøe
- Lotte Meldgaard Pedersen: Flow and Scour around an Inclined Pile. 1998. **Principal Supervisor: B.M. Sumer**, Co-supervisor: J. Fredsøe
- Klavs Bundgaard: Scour around Complex Marine Structures. 1998. **Principal Supervisor: B.M. Sumer**, Co-supervisor: J. Fredsøe
- Martin Gerth Andersen: The Effect of Turbulence on Sediment Transport. 1997. **Principal Supervisor: B.M. Sumer**, Co-supervisor: J. Fredsøe
- Martin Schwalbe Lohmann: Turbulence Modelling over a Ripple Covered Bed in Waves. 1997. **Principal Supervisor: B.M. Sumer**, Co-supervisors: J. Fredsøe and Ken Andersen
- Steffen Christensen: Sinking of objects in liquefied marine soils. 1996. **Principal Supervisor: B.M. Sumer**, Co-supervisor: J. Fredsøe
- Morten Tobias Lind: Excess Pore Pressure under Waves. 1995. **Principal Supervisor: B.M. Sumer**, Co-supervisor: J. Fredsøe
- Trine Borum Bojsen: Scour around the head of a Rubble-Mound Breakwater. 1995. **Principal Supervisor: B.M. Sumer**, Co-supervisor: J. Fredsøe
- Kim Jørgensen and Hans Christian Lollike: Flow around a Large Vertical Circular Cylinder in Waves. 1995. **Principal Supervisor: B.M. Sumer**, Co-supervisor: J. Fredsøe
- Søren Bo Hansen: Scour around Breakwaters. 1993. **Principal Supervisor: B.M. Sumer**, Co-supervisor: J. Fredsøe
- Carsten R. Lodahl: Turbulence in Co-Directional Waves and Current. 1993. **Principal Supervisor: B.M. Sumer**, Co-supervisor: J. Fredsøe
- Erik Christiani. Wave and Current Interaction over a Ripple Bed. 1992. **Principal Supervisor: B.M. Sumer**, Co-supervisor: J. Fredsøe
- Claus Pedersen: Experimental Investigation of Bed Properties in Oscillatory Flow. 1990. **Principal Supervisor: B.M. Sumer**, Co-supervisor: J. Fredsøe

- Niels Christiansen: Experimental Investigation of the Horseshoe Vortex in Waves. 1990. **Principal Supervisor: B.M. Sumer**, Co-supervisor: J. Fredsøe
- Thorkild Stoltze Laursen: Experimental Investigation of the Turbulent Oscillatory Boundary Layer over a Wall with Shifting Roughness. 1990. **Principal Supervisor: B.M. Sumer**, Co-supervisor: J. Fredsøe
- Peter Roll: Selfburial of Marine Pipelines. 1989. **Principal Supervisor: B.M. Sumer**, Co-supervisor: J. Fredsøe
- Erik A. Rossen: Oscillatory Boundary Layers in Convergent-Divergent Channels. An Experimental Investigation. 1989. **Supervisor: B.M. Sumer**
- Bjørn Lykke Jensen: Experimental Investigation of Turbulence with a Laser Doppler Anemometer. 1985. **Supervisor: B.M. Sumer**

M.Sc. Theses supervised at Technical University of Istanbul:

- I. Kafkaslioglu: Water Exchange in Izmit Bay. 1984. Principal Supervisors: B.M. Sumer and D. Orhon
- Ali Irvali: Experimental Investigation of the Initiation of Suspension. 1983.
- Argun Bulutoglu: Stability Analysis of Ripple Formation. 1983.
- Mustafa Bakir: Experimental Investigation of Flow near a Density Interface. 1981.
- Mustafa Orhon: Heat Transfer in Non-Stratified Turbulent Flow. 1977.
- Beyhan Oguz: Particle Motions near the Wall in Turbulent Flow. 1976.

Postdoctoral Research Fellows / Visiting Scientists and Engineers

- Professor Xiofeng Liu, University of Texas at San Antonio, USA, 2012.
- Dr. Cuneyt Baykal. METU, Ankara, Turkey, 2012-2014.
- Dr. Anil Guner. Yildiz Technical University, Turkey, 2011-2012.
- Dr. Ozgur Kirca. Istanbul Technical University, Turkey, 2009-2011, also 2014.
- Professor Subhasish Dey. Indian Institute of Technology, Kharagpur, India, 2004, 2009.
- Dr. Abdul Karim Barbhuiya and Professor A.H.S.H. Barbhuiya. National Institute of Technology, Applied Mechanics Department, Silchar, India., 2006.

- Dr. Figen Hatipoglu (Dixen). Technical University of Istanbul, 2001-2003, 2005-2006.
- Professor Bijoy Mazumder. Indian Statistical Institute, Calcutta, India, 2003.
- Mr. K.A. Samantha Kularatne. National University of Singapore, 2001-2002.
- Dr. Abidin Kaya. Dokuz-Eylul University, Izmir, Turkey, 2001.
- Mr. S. Kaan Sumer. LICengineering A/S, Copenhagen, 2001-2002.
- Dr. Lloyd H. C. Chua. Nanyang Technological University, Singapore, 1999-2000.
- Dr. Sevket Cokgor. Technical University of Istanbul, 1999.
- Professor Liang Cheng. The University of Western Australia, 1999.
- Dr. Guoliang Yu. State Key Hydraulic Laboratory, Schuan Union University, Chengdu, China, 1999.
- Dr. Andrzej Kozakiewicz, Institute of Hydroengineering, Gdansk, Poland, collaborated in several projects undertaken at ISVA over the period 1990-1999.
- Dr. Waldemar Magda. Technical University of Gdansk, Poland, 1998.
- Dr. Nian-Sheng Cheng. Nanyang Technological University, Singapore, 1997-1998.
- Professor Hitoshi Tanaka. Tohoku University, Sendai, Japan. 1997.
- Mrs. Daniela Iona Teodorescu. Technical University of Civil Engineering, Bucharest, Romania, 1995.
- Dr. Tunc Gokce. Orta Dogu Teknik Universitesi (METU), Ankara, Turkey. 1992.
- Mr. Yu Di. Beijing Hydroelectric Investigation and Design Institute, China, 1989.

Teaching

Technical University of Denmark (from 1984 until 2015):

- Turbulence Theory (41129)
- Marine Structures I (41106)
- Marin Structures II (41117)
- Marine and Hydraulic Structures (41123)

Earlier in 80s and 90s, for the most part:

- Marin Structures (41121)
- Hydrodynamics (5711)
- Marine Hydrodynamics (5755)
- Offshore Engineering (5751)
- Hydrodynamics II (41111)

Technical University of Istanbul (between 1970-1984):

- Elementary Fluid Mechanics
- Open Channel Hydraulics
- Advanced Fluid Mechanics
- Turbulence
- Diffusion in the Environment
- Hydraulic Scale Models

Major Research Projects/Programs

Year:	Project:	Position and Activities:
2013-2017	Assessment, STrategy And Risk Reduction for Tsunamis in Europe (ASTARTE)	Principal co-investigator. ASTARTE, a research program under the European Union FP-7 European Community for Research, Technological Development and Demonstration Activities under the funding scheme of "Collaborative Project", undertaken by a 26-member European Consortium. http://www.astarte-project.eu/
2013-2017	Management of seabed and wind farm interaction	Principal co-investigator. A frame research program funded by ENERGINET.DK (ForskEl-programmet), the Danish Energy Agency
2012-2016	Innovative Multi-purpose offshore platforms: Planning, Design and Operation (MERMAID)	Scientific Advisor, and Principal Co-investigator. MERMAID, a European Union FP-7 research program, undertaken by a 28-member European Consortium. Funded by European Union. http://www.mermaidproject.eu/
2010-2013	Future Generation of Marine Structures	Principal co-investigator. A frame research program conducted for the Ministry of Science, Technology and Innovation under GTS-university cooperation.
2008-2012	Seabed Wind Farm Interaction	Coordinator. A research frame program, undertaken jointly by Technical University of Denmark, DHI Water & Environment, University of Aalborg, and LICengineering. Funded by Danish Council for Strategic Research (DSF)/Energy and Environment http://sbwi.dhigroup.com/
2008-2011	Ocean Energy Program	Principal supervisor of two PhD Projects on scour and scour protection around offshore wind turbine foundations. Funded (partially) by Statkraft, Norway.

Year:	Project:	Position and Activities:
2006-2010	HYDRALAB III. Integrating European Hydraulic Research Infrastructure	Principal co-investigator in the joint research activity JRA1: Composite Modelling of the Interaction Between Beaches and Structures (CoMIBBS)
2005-2008	Exploitation and Protection of Coastal Zones (EPCOAST)	Coordinator. EPCOAST, a Danish Research Council Research Frame Program, undertaken jointly by Technical University of Denmark and DHI Water & Environment. Funded by Danish Research Council (FTP) http://www.epcoast.mek.dtu.dk/
2001-2004	Liquefaction Around Marine Structures (LIMAS)	Coordinator. LIMAS, a European Union FP-5 research program, undertaken by a 10-member European Consortium. Funded by European Union. http://www.skk.mek.dtu.dk/English/Research/Finished-proj/LIMAS.aspx
2001-2004	Flow and scour processes around submerged breakwaters	Project Leader under the program "Environmental Design of Low Crested Coastal Defense Structures (DELOS), a European Union FP-5 research program. Funded by European Union
1999-2007	Numerical calculation of scour around marine structures	Representative of ISVA in the Framework Research Program of the Danish Research Council (STVF) "Computational Hydrodynamics"
1997-2000	Surf and Swash Zone Mechanics (SASME)	Project Leader (1999-2000). SASME, a European Union MAS3 research program, undertaken a 13-member European Consortium. Funded by the European Union
1997-2000	Scour Around Coastal Structures (SCARCOST)	Coordinator. SCARCOST, a European Union MAST III research program, undertaken by a 9-member European Consortium. Funded by European Union http://www.skk.mek.dtu.dk/English/Research/Finished-proj/SCARCOST.aspx

Year:	Project:	Position and Activities:
1992-1995	Scour around breakwaters	Took an active part in MAST projects MAS2-CT 92-0047 "Monolithic Coastal Structures" and MAS 2 -CT 92 - 0042 "Rubble-Mound Breakwater Failure Modes". Funded by the European Communities
1989-1996	Scour around marine structures. Forces on and vibrations of marine structures	Took an active part in the two research programs "Marine Technique I" and subsequently "Marine Technique II" of the Danish Research Council (STVF). Project leader of the sub-program "Scour"
1989-1995	(1) Sediment transport in sheet flow regime. (2) Combined waves and current boundary layers.	Took an active part in MAST projects 0035-C and MAS2 CT 92-0027 "Coastal Morphodynamics". Funded by European Communities
1989-1994	Scour around piles	Supervisor of an extensive study of scour around piles in steady current, waves and waves plus current situation
1987-1990	Flow around, forces on and vibrations of offshore structures	Took an active part in the research program "Turbulence Around Offshore Structures" of the Danish Research Council (STVF)
1986-1988	Scour below pipelines	Co-supervisor of an extensive study on the seabed and pipeline interaction
1983	Sediment entrainment by flow turbulence.	Consultant. University of Southern California, US. A project directed by Professor Fred Browand, USC. Funded by N.S.F.
1977, 1979	Sediment suspension.	An experimental study, undertaken from June to November, 1977 at the Institute of Hydrodynamics and Hydraulic Engineering, Technical University of Denmark to study the mechanism of sediment suspension. Research was finalized in the period June to Nov. 1979. Funded by the Danish Technical Research Council

Year:	Project:	Position and Activities:
1976	Hydrotransport.	Co-director of the project for the preparation of a manual for the design of hydro-transport systems. Project undertaken at the Istanbul Technical University, and supported by the Turkish Ministry of transportation

Consultancy work

Year:	Project:	Position:
2017	Assessment of liquefaction potential and scour around anchors of offshore floating wind farm	Consultant of BM SUMER Consultancy & Research
2015-2016	Abnormal wave assessment and risk evaluation (AWARE) of DUC structures, risers and conductors	Consultant for LICengineering, and Maersk Oil, Denmark
2015	Vattenfall, Scour assessment and development study. Horns Rev C jacket, and HR3 monopile	Consultant for COWI A/S, Denmark
2015	Risk of wave induced liquefaction at breakwater LNG Del Plata	Consultant for IMDC nv (International Marine and Dredging Consultants), Antwerp, Belgium
2013	Feasibility Study of Capital Dredging and Sustainable River Management in Bangladesh (FSCD&SRMB). Bangladesh Water Development Board (BWDB)	Physical modeling specialist. Consultant for Danish Hydraulic Institute Water & Environment
2013	Scour Assessment. Sheringham Shoal Offshore Wind Farm, UK.	Consultant for Fenwick Elliott LLP, London, UK, and MT Højgaard a/s, Denmark
2011	DanTysk offshore wind farm scour protection and filter design	Consultant for COWI and IMS Joint Venture (CIJV) Stadteich 7, 20097 Hamburg, Germany

Year:	Project:	Position:
2010	A review of the scour design calculations for the Anholt Platform	Consultant for Rambøll Danmark A/S
2010	Studies of rock installation and its impact on sediment transport for Terminal Oceanico oil pipelines	Consultant for PETROBRAS and INTEC do Brasil Ltda., Brasil Ltda. (INTECSEA), Brasil
2010	Damage sustained to concrete caissons during a storm event of November 11 and 12th, 2007. Liquefaction Analysis	Consultant for DELTAPORT CONSTRUCTORS LTD, Vancouver, BC, V6G 2T3, Canada
2010	Damage sustained to concrete caissons during a storm event of November 11 and 12th, 2007. Scour Analysis	Consultant for DELTAPORT CONSTRUCTORS LTD, Vancouver, BC, V6G 2T3, Canada
2009	Scour assessment. Walney (UK) Offshore Wind Farm, Offshore Substation, Jacket Phase I	Consultant for DONG Energy, Offshore Technology, Denmark
2009	Studies on rock installation over pipelines in Negro River	Consultant for PETROBRAS and INTEC do Brasil Ltda., Brasil Ltda. (INTECSEA), Brasil
2008	Interaction between the Campos basin subsea system and the seabed	Consultant for PETROBRAS and INTEC do Brasil Ltda., Brasil
2008	Busan (Korea) Immersed Tunnel. Hydrodynamic loading	Consultant for COWI A/S, Denmark
2007	Hydro-transport of sediment (some iron compound)	Consultant for Zentech Cyprus Limited, Nicosia, Cyprus
2006	El-Hamma (Algiers, Algeria) Desalinization Project. Comments on Marine-Geotechnical Engineering Aspects of the Project	Consultant for Zentech Cyprus Limited, Nicosia, Cyprus
2005	Amplification of bed shear stress around marine structures	Consultant for Danish Hydraulic Institute Water & Environment

Year:	Project:	Position:
2005	Backfill liquefaction assessment study. Blacktip Gas Project	Consultant for Woodside Energy Ltd. Qv1 Building, Level 13, 250 St. Georges Terrace, Perth 6000, Australia
2004	Assessment of soil liquefaction and floatation of a 1.4 m diameter and 5 km long buried sea outfall pipe	Expert for Kennedys Solicitors, London, UK on behalf of Hyder Consulting (UK) Limited
2003	Hydrodynamic forces on a subsea intake structure	Consultant for Zentech Belgium S.P.R.L., Brussels
2003	Assessment of liquefaction potential and floatation of gas pipelines. Halfdan to Tyra 24" pipeline and Tyra WE-Nogat F/3 26" pipeline	Consultant for LICengineering (Denmark)
2001	River training / Flood protection	Physical modeling specialist for Second Flood Protection Sector Project, Pakistan. Consultant for Danish Hydraulic Institute, Water and Environment. Financed by Asian Development Bank, Government of Pakistan among others
2000	Assessment of scour and scour protection of wind turbine foundations. Horns Rev, Denmark	Consultant for LICengineering (Denmark)
1999	Stability of the rock berm for pipeline protection. Java-Bali	Consultant for Danish Hydraulic Institute
1999	Scour problems regarding Siranganj (Bangladesh) Bank Protection structure	Consultant for Danish Hydraulic Institute
1998	Scour assessment for valve stations for South Arne - Nybro Offshore Pipeline	Consultant for LICengineering (Denmark)
1997	Scour-protection structure for Adda Development	Consultant for LICengineering (Denmark)

Year:	Project:	Position:
1997	Review of vibrations of marine pipelines in trenches (for Statoil)	Consultant for Danish Hydraulic Institute
1997	Subsea protection structure. Adda Development Scour problems (for Mærsk Olie and Gas AS)	Consultant for LICengineering (Denmark)
1996	Assessment of liquefaction potential regarding Sangu Development, Bangladesh	Consultant for Danish Hydraulic Institute
1996	Response of a conductor with variable frequency	Consultant for LICengineering (Denmark)
1996	Harald-A Jacket Project. Scour protection. Temporary support of collapsed members	Consultant for LICengineering (Denmark)
1996	Review of free-spanning pipelines and vortex-shedding-induced vibrations	Consultant for LICengineering (Denmark)
1996	Scour problems regarding the Eastspar Pipeline Development, Western Australia	Consultant for Danish Hydraulic Institute
1995	Review of DnV Classification Note. Environmental Conditions and Environmental Loads	Consultant for LICengineering (Denmark)
1995	"Harald Development. Harald Valve Station. Scour considerations and maintenance". Scour assessment regarding a subsea protection structure for a pipeline valve station	Consultant for the Danish Hydraulic Institute (DHI) for the project undertaken jointly by Rambøll Hannemann & Højlund, LICengineering and DHI
1994	Flow induced vibrations of slender offshore structures	Consultant for LICengineering (Denmark) on the role of turbulence in flow-induced vibrations

Year:	Project:	Position:
1994	Flow induced vibration and its suppression	Consultant for LICengineering (Denmark) regarding vortex-shedding lock-on and suppression of vortex induced vibrations in relation to the Petrobras (Brasil) project
1993	Scour around subsea structures	Consultant for the Danish Hydraulic Institute (DHI) for the SISS project undertaken jointly by DHI and Snamprogetti (Italy)
1992	Self burial of pipelines in marine environment	Consultant for the Danish Hydraulic Institute (DHI) for the project "Self Burial 2" in which an integrated model of self burial potential of pipelines has been developed, undertaken jointly by DHI and Delft Hydraulics
1991 Feb.-April	River training	Physical modeling specialist for the project Brahmaputra River Training Studies undertaken by Halcrow (UK) and the Danish Hydraulic Institute. Financed by the World Bank
1990 Nov.-Dec.	River training	The same as above
1990 July-Aug.	River hydraulics	Interim Team Leader for the project Up-Grading of the River Research Institute of Bangladesh. Financed by UNDP
1990	Hydrodynamics of flow around islands	Consultant for LICengineering (Denmark) regarding hydrodynamics of flow around an artificial island in connection with the Great Belt project

Year:	Project:	Position:
1989	Zeepipe project studies	Consultant for the Danish Hydraulic Institute for project studies of Zeepipe pipeline which transports gas from Norwegian field Sleipner to the Belgian port Zeebrügge. Pipeline seabed interaction
1987	Pipeline spanning	Consultant for LICengineering (Denmark) for the Oseberg Spanning (Norway) project
1987	Pipeline spanning	Consultant for the Danish Hydraulic Institute in the preparation of the Joint-Industry-Project spanning design manual
1983	Water exchange in Izmit Bay, Turkey	Consulting Engineer on the water exchange in Izmit Bay (Turkey) due to internal seiches. Project supported by the Environmental Under-secretary of the Turkish Prime Ministry
1982	Water intake	Consulting engineer for PROKON, Ankara (Turkey) in the design work for water intake structures of TEK's Kangal plant, Turkey
1982	Water intake and settling basin	Consulting engineer. Site inspection and design of hydraulic structures for the water supply of the Küre copper plant of Etibank (Turkey) and the design of settling basin to recover water

Year:	Project:	Position:
1980	Oil-Spill. Environmental damage in Bosphorus	Expert in the technical court case for estimation of the damage to the environment caused by the paraffin-oil spill in Bosphorus after collision of the Greek tanker "Stawanda" and the British ship "Nordic Faith"
1979	Design of settling basin	Responsible for the design of settling basin and its accessories for the Wolfram plant of Etibank at Uludag Bursa (Turkey)
1978	Feasibility studies of irrigation work	Consulting engineer for Cagdas Engrg. Co., Ankara (Turkey), for the feasibility studies of the Yesilirmak River irrigation project
1976	Model test of the port of Sidi-Belal, Libya	In charge of the model test studies for the Sidi-Belal Port, Libya
1970	Water intake	In charge of the hydraulic model investigation of the water intake of Dere hydro-electric power plant (Turkey)
1970	Water intake	In charge of the hydraulic model investigations of the water intake of Camlik hydroelectric power plant (Turkey)
1968	Water intake	In charge of the hydraulic model investigation of the water intake of Göksu-Yerköprü hydroelectric power plant (Turkey)
1968	Settling basin for hydro-electric power plant	Field study in the settling basin of Göksu-Yerköprü hydroelectric power plant

List of Publications

A. Scour mechanics

A.0. Book

- A.0.1. **B.M. Sumer** and J. Fredsøe: The Mechanics of Scour in the Marine Environment. World Scientific, 552 p., 2002. http://www.worldscientific.com/worldscibooks/10.1142/4942

A.0. Chapter in book

- A.0.2. **B.M. Sumer** and J. Fredsøe: "Wave Scour Around Structures". Chapter in: vol. 4, Advances in Coastal and Ocean Engineering (Editor: P.L.-F. Liu), Publisher: World Scientific, pp. 191-249, 1999.

A.1. Peer-refereed journal papers

- A.1.1. **B.M. Sumer**, Y. Mao and J. Fredsøe: "Interaction between vibrating pipe and erodible bed". Journal of Waterway, Port, Coastal and Ocean Engineering, ASCE, Vol. 114, No. 1, pp. 81-92, 1988.

- A.1.2. **B.M. Sumer**, H.R. Jensen, Y. Mao and J. Fredsøe: "The effect of lee-wake on scour below pipelines in current". Journal of Waterway, Port, Coastal and Ocean Engineering, ASCE, Vol. 114, No. 5, pp. 599-614, 1988.

- A.1.3. J. Fredsøe, E.A. Hansen, Y. Mao and **B.M. Sumer**: "Three-dimensional scour below pipelines". Journal of Offshore Mechanics and Arctic Engineering, ASME, Vol. 110, pp. 373-379, 1988.

- A.1.4. **B.M. Sumer** and J. Fredsøe: "Scour below pipelines in waves". Journal of Waterway, Port, Coastal and Ocean Engineering, ASCE, Vol. 116, No. 3, pp. 307-323, 1990.

- A.1.5. **B.M. Sumer** and J. Fredsøe: "Onset of scour below a pipeline exposed to waves". International Journal of Offshore and Polar Engineering, Vol. 1, No. 3, pp. 189-194, 1991.

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E. Liquefaction of marine soils

E.0. Book

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