

B. MUTLU SUMER

CURRICULUM VITAE
AND LIST OF PUBLICATIONS

Updated October 4, 2023

Curriculum Vitae and List of Publications of B. Mutlu Sumer

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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, together with Professor Ozgur Kirca, 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, and hydrodynamics of sea straits (flow through the Bosphorus and the Golden Horn). 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, 760 pp., 2020.

He has published over 130 journal papers and over 90 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 22 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, Sweden, 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 FWO, 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 (2014-2023), International Journal

of Ocean and Coastal Engineering (2017-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, France, Germany, Holland, Indonesia, Libya, Norway, Pakistan, South Korea, Sweden, Taiwan, 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/about-us/>.

Personal Information

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| 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, and flow/turbulence in breaking waves – 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, flow/turbulence by breaking waves, that by breaking solitary waves.

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.

Hydrodynamics of sea straits – Flow close to density interfaces, flow through Bosphorus including Golden Horn, effect of Canal Istanbul on flow through Bosphorus and its environmental impacts.

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, and 2020-date)
- Coasts, Oceans, Ports, and Rivers Institute (COPRI), American Society of Civil Engineers (ASCE) (2014-2015)

Board Memberships

- Istanbul Technical University Development Foundation, Member of Board of Trustees (2019-date)

Awards and Recognitions

- 2019 BEETECH 2019 Awards. BM SUMER Consultancy & Research, the firm of which Professor Sumer is the co-founder, has been awarded by ITU ARI Teknokent with two prizes, the prize for the highest R&D turnover, and that for the highest R&D export.
- 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, 2014-2023
- Associate Editor of International Journal of Ocean and Coastal Engineering (IJOCE), 2017-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), 7 (Singapore), 1 (India), 1 (Norway), and 4 (USA).
- Examiner for PhD Theses / Examinations. More than 10 (Denmark), 1 (Turkey), 18 (Australia), 1 (Germany), 2 (Singapore), 1 (India), 6 (Norway), and 1 (Italy).
- Reviewer NSF (USA) Research Proposals.
- Reviewer of EPSRC (UK) Research Proposals.
- Reviewer for research proposal “The conditions under which sediments heap beneath fluctuating pressure gradients”. ACS Petroleum Research Fund, American Chemical Society, USA (2021).
- Reviewer for “A new state-of-the-art motion capturing system for testing new emerging offshore and coastal engineering technologies in the new Coastal & Ocean wave Basin (COB)" in Ostend, International Research Infrastructure of the Research Foundation - Flanders (FWO, Belgium) – I000821N (2020).
- Reviewer for the new "Coastal & Ocean wave Basin (COB)" in Ostend as part of the international infrastructure network Marinerg-i, an epicentre for Marine Renewable Energy – I002419N, Belgium (2018).
- 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 online short course on Liquefaction Around Marine Structures, Nov. 30-Dec. 1, 2020, organized by BM SUMER Consultancy & Research for the NuLIMAS Project participants (<http://nulimas.info>).
- Advanced short course on Scour Around Marine Structures, ITU Teknokent, Istanbul, Turkey, September 20-21, 2018, jointly organized by DHI Water & Environment and BM SUMER Consultancy & Research.
- 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 Scientific Programme Committee of the International Workshop on Scour around Hydraulic and Coastal Structures, 2023 IAHR-SHCS, September 4-6, 2023, Nanjing, China. (The Conference is jointly organized by Hohai University (China), the University of Auckland (New Zealand) and Sichuan University (China).)
- Member of Scientific Programme Committee of the 15th Jubilee International Conference on Marine Navigation and Safety of Sea Transportation TransNav 2023, Gdynia, Poland, 21 to 23 June 2023. (The Conference is jointly organized by the Faculty of Navigation of the Gdynia Maritime University and The Nautical Institute.)

- Member of International Scientific Committee, the 10th International Conference on Scour and Erosion, Arlington, Virginia, USA, 15-18. November, 2020
- 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

- “Scour and liquefactons at foundations of floationg offshore turbines”. Keynote speech at the 11th International Conference on Scour and Erosion, ICSE 2023, September 17-21, 2023, Copenhagen, Denmark.
- “Scour and scour protection at offshore substations”. Keynote speech at the 2023 IAHR-SHCS International Workshop on Scour around Hydraulic and Coastal Structures, September 4-6, 2023, Nanjing, China.
- “Presentation of BM SUMER Consultancy & Research”, University of Stavanger, Department of Mechanical and Structural Engineering and Material Science, Norway, 23 August, 2019.
- “Flow-structure-seabed interactions in coastal and marine environment”. Keynote speech at the 13th International Congress on Advances in Civil Engineering (ACE 2018), Çeşme, Turkey, Sept. 12-14, 2018.
- “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 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

- Online lecture titled “Damage sustained to concrete caissons during a storm event. Scour and liquefaction analysis. A case study”, May 20, 2022, organized by Key Laboratory of Coastal Disaster and Prevention, Hohai University, Ministry of Education, China.
- Lectures on seabed liquefaction in the “Advanced online short course on Liquefaction Around Marine Structures”, Nov. 30-Dec. 1, 2020, organized by BM SUMER Consultancy & Research for the NuLIMAS Project participants.
- Lectures on scour in marine environment in the “Advanced short course on Scour Around Marine Structures”, ITU Teknokent, Istanbul, Turkey, September 20-21, 2018, jointly organized by DHI Water & Environment and BM SUMER Consultancy & Research.
- 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 Gjøel 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 Wave Boundary Layers. 1988. **Principal Supervisor: J. Fredsøe**, Co-supervisor: **B.M. Sumer**
- Ye Mao: The Interaction Between a Pipeline and an Eroding 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 Woxholt-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 Bhattacharjee
- Laurids Andersen: Numerical study of backfilling around offshore wind turbine foundations. 2011. **Principal Supervisor:** **B.M. Sumer**, Co-supervisors: J. Fredsøe and Niels Gjørl 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 Sottili 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 Università degli Studi di Genova. **Principal Supervisors: B.M. Sumer**, Paolo Blondeaux, Co-supervisor: J. Fredsøe
- Nils Gjøll 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 Diken: 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)
- Marine Structures II (41117)
- Marine and Hydraulic Structures (41123)

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

- Marine 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: |
|--------------|---|--|
| 2023-2027 | INFI ⁴ NiTY: Integrated Designs for Future Floating Offshore Wind Farm Technology | A 4-year EU-HORIZON project with ID 101136087, funded under the call CINEA-HORIZON-CL5-2023-D3-01 (Critical technologies for the offshore wind farm of the Future), undertaken by a 13-member European Consortium. Funded by European Union. |
| 2021-23 | Hydrodynamic Modelling and Water Quality Assessment of the Bosphorus and Haliç for the Master Plan of ISKI (Istanbul Water and Sewerage Administration) Yuksel Proje, Istanbul. | A research and consultancy project, undertaken by BM SUMER Consultancy & Research for Yuksel Proje (Istanbul). |
| 2020-2023 | NuLIMAS: Numerical Modelling of Wave-Induced Liquefaction Around Marine Structures | A research project, undertaken by a European consortium including BM SUMER Consultancy & Research, within the Framework of MarTERA under the Research Scheme EU-H2020, ERA-NET Co-Fund. |
| 2017-2020 | Mathematical modelling for seabed liquefaction under seismic action. | An in-house R&D project with (1) development of a mathematical model; (2) testing and validation of the model against field data as well as laboratory data; and (3) development of the numerical code. Completed. |
| 2018-2019 | Smart Device Apps for Wave-Induced Liquefaction Around Marine Structures | Principal co-investigator. An R&D project funded by Scientific and Technological Research Council of Turkey (TUBITAK). |

| 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.vliz.be/projects/mermaidproject/ |
| 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 |
| 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. |
| 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) |

| Year: | Project: | Position and Activities: |
|--------------|---|--|
| 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) |
| 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. https://orbit.dtu.dk/en/projects/limas |
| 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 https://orbit.dtu.dk/en/projects/scour-around-coastal-structures-scarcost |
| 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 |

| Year: | Project: | Position and Activities: |
|--------------|--|---|
| 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 |
| 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: |
|--------------|--|---|
| 2023-2024 | Scour Assessment and Scour Protection for the 2 GW BalWin4 HVDC Platform, Including Physical Model Testing, the Netherlands. Ongoing project. McDermott and GE Energy Consortium. | Consultant of BM SUMER Consultancy & Research |
| 2023-2024 | Scour Assessment and Scour Protection for the 2 GW LanWin1 HVDC Platform, Including Physical Model Testing, the Netherlands. Ongoing project. McDermott and GE Energy Consortium. | Consultant of BM SUMER Consultancy & Research |
| 2023-2024 | Scour Assessment and Scour Protection for the 2 GW IJMuiden Ver Alpha Platform, Including Physical Model Testing, the Netherlands. Ongoing project. Petrofac International and Hitachi Energy. | Consultant of BM SUMER Consultancy & Research |
| 2022-2023 | Scour Assessment and Scour Protection for BorWin-6 (Kappa) Platform, Including Physical Model Testing, Germany. McDermott and GEIRI/C-EPRI Consortium. | Consultant of BM SUMER Consultancy & Research |
| 2021-2023 | Hydrodynamic Modelling and Water Quality Assessment of the Bosphorus and Haliç for the Master Plan of ISKI (Istanbul Water and Sewerage Administration) Yuksel Proje, Istanbul. | Consultant of BM SUMER Consultancy & Research |

| Year: | Project: | Position: |
|--------------|---|--|
| 2021 | Review of Cable Liquefaction Assessment Study for the TPC Changhua OWF, Taiwan Aurora Offshore Engineering, Australia. | Consultant of BM SUMER Consultancy & Research |
| 2020 | Liquefaction / Scouring Geohazard Preliminary Study. Groix & Belle-Ile Offshore Floating Wind Farm, France. Phase 3. EOLFI, France. | Consultant of BM SUMER Consultancy & Research |
| 2020 | Scour Protection Studies for Hollandse Kust Zuid (HKZ) Project – Beta Platform, The Netherlands Petrofac International LLC., UAE. | Consultant of BM SUMER Consultancy & Research |
| 2020 | Assessment of Wave Climate and Numerical Wave Transformation Study for the Shore Protection Structures of ICDAS Dry Dock ENAR Engineering & Consultancy, Istanbul. | Consultant of BM SUMER Consultancy & Research |
| 2019 | Scour Protection Studies for Hollandse Kust Zuid (HKZ) Project – Alpha Platform, The Netherlands Petrofac Norge A/S, Norway. | Consultant of BM SUMER Consultancy & Research |
| 2019 | Scour Studies For Changhua Offshore Windfarm Phase 1 Project, Taiwan Jan De Nul Dredging n.v., Belgium. | Consultant of BM SUMER Consultancy & Research |
| 2019 | Morphological/Scour Study in connection with Offshore High Voltage Station in BWD, Belgium FIDES Eng., Belgium. | Consultant of BM SUMER Consultancy & Research |
| 2018 | Scour Assessment for Nordersund-Hano Pipeline DHI Water & Environment, Sweden. | Consultant of BM SUMER Consultancy & Research |

| Year: | Project: | Position: |
|--------------|---|---|
| 2018 | Scour Around OSY Jacket Foundation in the Belgian Sector of the North Sea. FIDES Eng., Belgium. | Consultant of BM SUMER Consultancy & Research |
| 2018 | Liquefaction / Scouring Geohazard Preliminary Study. Groix & Belle-Ile Offshore Floating Wind Farm, France. Phase 2. EOLFI, France. | Consultant of BM SUMER Consultancy & Research |
| 2017 | Liquefaction / Scouring Geohazard Preliminary Study. Groix & Belle-Ile Offshore Floating Wind Farm, France. Phase 1. EOLFI, France. | 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 Zeebrugge. 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.
- A.1.6. **B.M. Sumer**, J. Fredsøe and N. Christiansen: "Scour around a vertical pile in waves". Journal of Waterway, Port, Coastal and Ocean Engineering, ASCE, Vol. 118, No. 1, pp. 15-31, 1992.
- A.1.7. J. Fredsøe, **B.M. Sumer** and M.M. Arnskov: "Time scale for wave/current scour below pipelines". International J. Offshore and Polar Engineering. Vol. 2, No. 1, pp. 13-17, 1992.

- A.1.8. **B.M. Sumer**, N. Christiansen and J. Fredsøe: "Influence of cross section on wave scour around piles". Journal of Waterway, Port, Coastal and Ocean Engineering, ASCE, Vol. 119, No. 5, pp. 477-495, 1993.
- A.1.9. **B.M. Sumer** and J. Fredsøe: "Self-Burial of pipelines at span shoulders". International Journal of Offshore and Polar Engineering, Vol. 4, No. 1, pp. 30-35, 1994.
- A.1.10. **B.M. Sumer** and J. Fredsøe: "Scour at the head of a vertical-wall breakwater". Coastal Engineering, vol. 29, pp. 201-230, 1997.
- A.1.11. J. Fredsøe and **B.M. Sumer**: "Scour at the round head of a rubble-mound breakwater". Coastal Engineering, vol. 29, pp. 231-262, 1997.
- A.1.12. **B.M. Sumer**, N. Christiansen and J. Fredsøe: "Horseshoe vortex and vortex shedding around a vertical wall-mounted cylinder exposed to waves". Journal of Fluid Mechanics, vol. 332, pp.41-70, 1997.
- A.1.13. **B.M. Sumer** and J. Fredsøe: "Wave scour around group of vertical piles". Journal of Waterway, Port, Coastal and Ocean Engineering, ASCE, Vol. 124, No. 5, pp. 248-256, 1998.
- A.1.14. **B.M. Sumer** and J. Fredsøe, Experimental study of 2D scour and its protection at a rubble-mound breakwater, Coastal Engineering, Vol. 40, Issue 1, pp. 59-87, 2000.
- A.1.15. **B.M. Sumer** and J. Fredsøe: "Wave scour around a large vertical circular cylinder". Journal of Waterway, Port, Coastal and Ocean Engineering, ASCE, vol. 127, No. 3, pp. 125-134, 2001.
- A.1.16. **B.M. Sumer** and J. Fredsøe: "Scour around a pile in combined waves and current". Journal of Hydraulic Engineering, ASCE, vol. 127, No. 5, pp. 403-411, 2001.
- A.1.17. **B.M. Sumer**, S. Cokgor and J. Fredsøe: "Suction removal of sediment from between armour blocks". Journal of Hydraulic Engineering, ASCE, vol. 127, No. 4, pp. 293-306, 2001.
- A.1.18. **B.M. Sumer**, C. Truelsen, T. Sichmann and J. Fredsøe: "Onset of scour below pipelines and self-burial". Coastal Engineering, vol. 42, pp. 313-335, 2001.
- A. 1.19. **B.M. Sumer**, R.J.S. Whitehouse, A. Tørum: "Scour around coastal structures: A summary of recent research". Coastal Engineering, 44, pp. 153-190, 2001.

- A.1.20. C. Truelsen, **B.M. Sumer** and J. Fredsøe: “Scour around spherical bodies and self-burial”. Journal of Waterway, Port, Coastal and Ocean Engineering, ASCE, vol. 131, No. 1, pp. 1-13, 2005.
- A.1.21. A. Roulund, **B.M. Sumer**, J. Fredsøe and J. Michelsen: “Numerical and experimental investigation of flow and scour around a circular pile”. J. Fluid Mechanics, vol. 534, pp. 351-401, 2005.
- A.1.22. **B.M. Sumer**, K. Bundgaard and J. Fredsøe: “Global and local scour at pile groups”. International Journal of Offshore and Polar Engineering, vol. 15, No. 3, pp. 204-209, 2005.
- A.1.23. **B.M. Sumer**, J. Fredsøe, A. Lamberti, B. Zanuttigh, M. Diken, K. Gislason and A.F. Di Penta : “Local scour at roundhead and along the trunk of low crested structures”. Coastal Engineering, vol. 52, Issue 10-11, pp. 995-1025, 2005.
- A.1.24. S. Dey, **B.M. Sumer** and J. Fredsøe: “Control of scour at vertical circular piles under waves and current”. Journal of Hydraulic Engineering, ASCE, vol. 132, No. 3, pp. 270-279, 2006.
- A.1.25. **B. M. Sumer**: “Mathematical modelling of scour: A review”. J. Hydraulic Research, vol. 45, No. 6, pp. 723-735, 2007.
- A.1.26. **B.M. Sumer**, F. Hatipoglu and J. Fredsøe: “Wave scour around a pile in sand, medium dense and dense silt”. Journal of Waterway, Port, Coastal and Ocean Engineering, ASCE, vol. 133, No. 1, pp. 14-27, 2007.
- A.1.27. F.H. Diken, **B.M. Sumer** and J. Fredsøe: “Suction removal of sediment from between armour blocks. II. Waves”. Journal of Hydraulic Engineering, ASCE, vol. 134, No. 10, pp. 1405-1420, 2008.
- A.1.28. K. Gislason, J. Fredsøe, R. Deigaard and **B.M. Sumer**: “Flow under standing waves. Part 1. Shear stress distribution, energy flux and steady streaming”. Coastal Engineering. vol. 56, pp. 341-362, 2009.
- A.1.29. K. Gislason, J. Fredsøe and **B.M. Sumer**: “Flow under standing waves. Part 2. Scour and deposition in front of breakwaters”. Coastal Engineering. vol. 56, pp. 363-370, 2009.
- A.1.30. A.W. Nielsen, **B.M. Sumer**, J. Fredsøe and E.D. Christensen: “Sinking of armour layer around a cylinder exposed to a current”. Maritime Engineering, Institution of Civil Engineers (ICE), vol. 164, issue 4, pp. 159-172, 2011.

- A.1.31. S. Dey, A. Helkjaer, **B.M. Sumer** and J. Fredsøe: “Scour at vertical piles in sand-clay mixtures under waves”. J. Waterway, Port, Coastal and Ocean Engineering, ASCE, vol. 137, No. 6, pp. 324-331, 2011.
- A.1.32. H. Gerritsen, J. Sutherland, R. Deigaard, **B.M. Sumer**, C.J.E.M. Fortes, J.P. Sierra and U. Schmidtke: ”Composite modelling of interactions between beaches and structures”. J. Hydraulic Research, vol. 49, No. S1, pp. 2-14, 2011.
- A.1.33. A.W. Nielsen, **B.M. Sumer**, S.S. Ebbe and J. Fredsøe: “Experimental study on the scour around a mono pile in breaking waves”. J. Waterway, Port, Coastal and Ocean Engineering, ASCE, vol. 138, No. 6, pp. 501-506, 2012.
- A.1.34. A.W. Nielsen, **B.M. Sumer** and J. Fredsøe: “Suction removal of sediment from between armour blocks. Part 3: Breaking waves”. J. Hydraulic Engineering, ASCE, vol. 138, No. 9, pp. 803-811, 2012.
- A.1.35. A.W. Nielsen, X. Liu, **B.M. Sumer** and J. Fredsøe: “Flow and bed shear stresses in scour protections around a pile in a current”. Coastal Engineering, vol. 72, pp. 20-38, 2013.
- A.1.36. M. Diken, **B.M. Sumer** and J. Fredsøe: “Numerical and experimental investigation of flow and scour around a half-buried sphere. Coastal Engineering. Vol. 73, pp. 84-105, 2013.
- A.1.37. **B.M. Sumer**, T.U. Petersen, L. Lucatelli, J. Fredsøe, R.E. Musumeci and E. Foti: “Backfilling of a scour hole around a pile in waves and current”. J. Waterway, Port, Coastal and Ocean Engineering, ASCE, vol. 139, No. 1, 9-23, 2013.
- A.1.38. **B.M. Sumer** and A.W. Nielsen: “Sinking failure of scour protection at wind turbine foundation”. Proceedings of the Institution of Civil Engineers - Energy, vol. 166, EN4, 170-188, 2013.
- A.1.39. **B.M. Sumer**: “Flow-structure-seabed interactions in coastal and marine environments”. Vision Paper. Journal of Hydraulic Research, vol. 52, No. 1, 1-13, 2014.
- A.1.40. D.R. Fuhrman, C. Baykal, **B.M. Sumer**, N.G. Jacobsen and J. Fredsøe: “Numerical simulation of wave-induced scour and backfilling processes beneath submarine pipelines”. Coastal Engineering (ISSN: 0378-3839) (DOI: <http://dx.doi.org/10.1016/j.coastaleng.2014.08.009>), vol. 94, 10-22, 2014.

- A.1.41. T.U. Petersen, **B.M. Sumer**, J. Bøgelund, A. Yazici, J. Fredsøe and K.E. Meyer: "Flow and edge scour in current adjacent to stone covers". Journal of Waterway, Port, Coastal, and Ocean Engineering, ASCE, (ISSN: 0733-950X) (DOI: [http://dx.doi.org/10.1061/\(ASCE\)WW.1943-5460.0000287](http://dx.doi.org/10.1061/(ASCE)WW.1943-5460.0000287)), vol. 141, issue 4, 2015.
- A.1.42. C. Baykal, **B.M. Sumer**, D.R. Fuhrman, N.G. Jacobsen and J. Fredsøe: "Numerical investigation of flow and scour around a vertical circular cylinder", Royal Society of London. Philosophical Transactions A. Mathematical, Physical and Engineering Sciences (ISSN: 1364-503X) (DOI: <http://dx.doi.org/10.1098/rsta.2014.0104>), vol. 373, 2015.
- A.1.43. A.W. Nielsen, T. Probst, T.U. Petersen and **B.M. Sumer**: "Sinking of armour layer around a vertical cylinder exposed to waves and current". Coastal Engineering (ISSN: 0378-3839) (DOI: <http://dx.doi.org/10.1016/j.coastaleng.2015.03.010>), vol. 100, pages 58-66, 2015.
- A.1.44. T.U. Petersen, **B.M. Sumer**, J. Fredsøe, T.C. Raaijmakers and J.-J. Schouten: "Edge scour at scour protections around piles in the marine environment - Laboratory and field investigation", Coastal Engineering, 106 (2015) 42-72. (<http://dx.doi.org/10.1016/j.coastaleng.2015.08.007>)
- A.1.45. B.E. Larsen, D.R. Fuhrman and **B.M. Sumer**: "Simulation of wave-plus-current scour beneath submarine pipelines". Journal of Waterway, Port, Coastal, and Ocean Engineering, ASCE. 2016, vol. 142, issue 5, pp. 04016003-1 - 04016003-14 (DOI: 10.1061/(ASCE)WW.1943-5460.0000338), with Erratum Journal of Waterway, Port, Coastal, and Ocean Engineering, ASCE. 2016, vol. 142, issue 5, p. 08216001-1 (DOI: 10.1061/(ASCE)WW.1943-5460.0000338).
- A.1.46. C. Baykal, **B.M. Sumer**, D.R. Fuhrman, N.G. Jacobsen, J. Fredsøe: "Numerical simulation of scour and backfilling processes around a circular pile in waves", Coastal Engineering (ISSN: 0378-3839) (DOI: <http://dx.doi.org/10.1016/j.coastaleng.2017.01.004>), vol. 122, 87-107, 2017.
- A.1.47. B.E. Larsen, D.R. Fuhrman, C. Baykal, **B.M. Sumer**: "Tsunami-induced scour around monopile foundations", Coastal Engineering (DOI: <http://dx.doi.org/10.1016/j.coastaleng.2017.08.002>), vol. 129, 36-49, 2017.
- A.1.48. **B.M. Sumer** and V.S.O. Kirca: "Scour and liquefaction issues for anchors and other subsea structures in floating offshore wind farms: A review". Water Science and Engineering. Water Science and Engineering 2022, 15(1): 3-14.

A.2. Peer-refereed conference papers

- A.2.1. J. Fredsøe, E.A. Hansen, Y. Mao and **B.M. Sumer**: “Three-Dimensional scour below pipelines”. Proc. 6th Symposium on Offshore Mechanics and Arctic Engineering, ASME, Houston, TX, Offshore and Arctic Pipelines, pp. 29-36, 1987. Also published as a journal paper (Paper A.1.3 above).
- A.2.2. E.A. Hansen, C. Staub, J. Fredsøe and **B.M. Sumer**: “Time-development of scour-induced free spans of pipelines”. Proc. 10th Conference on Offshore Mechanics and Arctic Engineering, ASME, Stavanger, Norway, Vol. 5, pp. 25-31, 1991.
- A.2.3. J. Fredsøe, **B.M. Sumer** and M.M. Arnskov: "Time scale for wave/current scour below pipelines". Proc. 1st International Offshore and Polar Engineering Conference, ISOPE, Edinburgh, U.K., Vol. 2, pp. 301-307, 1991. Also published as a journal paper (Paper A.1.7 above).
- A.2.4. **B.M. Sumer** and J. Fredsøe: "Onset of scour below a pipeline exposed to waves". Proc. 1st International Offshore and Polar Engineering Conference, ISOPE, Edinburgh, U.K., Vol. 2, pp. 290-295, 1991. Also published as a journal paper (Paper A.1.5 above).
- A.2.5. **B.M. Sumer**, N. Christiansen and J. Fredsøe: “Time scale of scour around a vertical pile”. Proc. 2nd International Offshore and Polar Engineering Conference, ISOPE, San Francisco, U.S.A., Vol. 3, pp. 308-315, 1992.
- A.2.6. **B.M. Sumer** and J. Fredsøe: "A review of wave/current-induced scour around pipelines". Proc. 23rd International Coastal Engineering Conference, ASCE, Venice, Italy, Vol. 3, pp. 2839-2852, 1992.
- A.2.7. **B.M. Sumer** and J. Fredsøe: "Self-Burial of pipelines at span shoulders". Proc. 3rd International Offshore and Polar Engineering Conference, ISOPE, Singapore, vol. 2, pp. 74-81, 1993. Also published as a journal paper (Paper A.1.9 above).
- A.2.8. T. Gokce, **B.M. Sumer** and J. Fredsøe: “Scour around the head of a vertical wall breakwater”. Proc. International Conference on Hydro-Technical Engineering for Port and Harbor Construction, Hydro-Port’ 94, Yokosuka, Japan, Vol. 2, pp. 1097-1116.
- A.2.9. **B.M. Sumer**, J. Fredsøe, N. Christiansen and S.B. Hansen: “Bed shear stress and scour around coastal structures”. Proc. 24th International Coastal Engineering Conference, ASCE, Kobe, Japan, Vol. 2, pp. 1595-1609, 1994.

- A.2.10. **B.M. Sumer** and J. Fredsøe: “Scour around pipelines in combined waves and current”. Proc. 15th Conference on Offshore Mechanics and Arctic Engineering, ASME, Florence, Italy, Vol. V, pp. 595-602, 1996.
- A.2.11. **B.M. Sumer** and J. Fredsøe: “Scour around a large vertical circular cylinder in waves”. 16th International Conference on Offshore Mechanics and Arctic Engineering, Yokohama, Japan, April 13-18, vol. I-A, pp. 57-64, 1997.
- A.2.12. **B.M. Sumer**, R. Whitehouse and A. Tørum: “Scour around coastal structures (SCARCOST)”. 3rd European Marine Science and Technology Conference, Lisbon, Portugal, 23-27 May 1998, pp. 963-972.
- A.2.13. A. Roulund, **B.M. Sumer**, J. Fredsøe and J. Michelsen: “3D mathematical modelling of scour around a circular pile in current”. Proceedings of the Seventh International Symposium on River Sedimentation, Hong Kong, China, 16-18 December 1998, pp. 131-138.
- A.2.14. **B.M. Sumer** and J. Fredsøe: “Scour and its protection at breakwaters”. Proceedings of the Fifth International Conference on Coastal and Port Engineering in Developing Countries, Cape Town, South Africa, 19-23. April, 1999, pp 254-265.
- A.2.15. **B.M. Sumer**, K. Bundgaard and J. Fredsøe: “Global and local scour around a group of piles”. ICCE 2000 Sydney, July 2000.
- A.2.16. **B.M. Sumer**, R. Whitehouse and A. Tørum: “Scour around coastal structures (SCARCOST)”. EurOCEAN 2000, The European Conference on Marine Science and Technology, Hamburg, Germany, 29. August - 2. September, 2000.
- A.2.17. J. Fredsøe, **B.M. Sumer** and K. Bundgaard: ”Scour at a riprap revetment in currents”. Proc. 2nd IAHR Symposium on River and Estuarine Morphodynamics, 10-14. September, 2001, Obihiro, Japan.
- A.2.18. **B.M. Sumer** and J. Fredsøe: “Time scale of scour around a large vertical cylinder in waves”. Proceedings of the 12th International Offshore and Polar Engineering Conference, KitaKyushu, Japan, May 26-31, 2002, vol. II, pp. 55-60.
- A.2.19. A. Roulund, **B.M. Sumer**, J. Fredsøe and J. Michelsen: ”3-D Numerical modelling of flow and scour around a pile”. Proceedings of the First International Conference on Scour of Foundations, 17-20.November, 2002, Texas A&M University, College Station, Texas, USA, vol. 2, pp. 795-809.

- A.2.20. R. Miller, A. Roulund, **B.M. Sumer**, J. Fredsøe, C. Truelsen and J. Michelsen: "3-D Numerical modelling of flow around a groin". In: I. Nezu and N. Kotsovinos (eds.), Proceedings of the XXX. IAHR Congress, Thessaloniki, Greece, 24-29.August, 2003, AUTh, Thessaloniki, Greece, vol. II, pp. 385-392.
- A.2.21. **B. M. Sumer**: "Physical and mathematical modelling of scour". Proceedings of Second International Conference on Scour and Erosion. Singapore, 14-17.November, 2004, vol. 1, 29-46.
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E. Liquefaction of marine soils

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