Nils Goseberg

Prof. Dr.-Ing.

TU Braunschweig, Leichtweiß-Institute
Beethovenstr. 51a, 38106 Braunschweig, Germany
+49 531 391 3930
n.goseberg@tu-braunschweig.de
www.researchgate.net/profile/Nils_Goseberg
nils-goseberg
@nilsgoseberg

"The first rule of sustainability is to align with natural forces, or at least not try to defy them." By Paul Hawken in 'The Ecology of Commerce', 1993

Personal Information

Name	Nils René Goseberg
Date of Birth	12.10.1978
Place of Birth	Iserlohn, Germany
Nationality	German
Marital Status	Married, 3 children
OrcID	`https://orcid.org/0000-0002-1550-3001`
Scopus	`https://scopus.com/authid/detail.uri?authorId=35620420200`
GoogleScholar	`https://scholar.google.de/citations?user=LLlFu_AAAAAJ&hl=en`

Professional Experience

2018/01 – present **Professor (Full-W3) Hydromechanics, Coastal and Ocean Engineering**, *Leichtweiß-Institute for Hydraulic Engineering and Water Resources*, Technische Universität Braunschweig, Germany

2024/07 – present
2018/07 – 2021/06 **Managing Director**, *Coastal Research Center (CRC, Forschungszentrum Küste)*, Joint Research Center of Technische Universität Braunschweig and Leibniz Universität Hannover, Germany
Heading CRC's team of staff, science communication, funding applications, general management

2022 **Offered academic appointment and professorship, declined upon counter-offer**, *Research Council KU Leuven Research Professorship (BOFZAP)*
The title "BOFZAP" professor, annually awarded by the Flemish government, is a recognition of past achievements and the potentialities for the future.

2021/04 – present **Managing Director**, *Leichtweiß-Institute for Hydraulic Engineering and Water Resources*, Technische Universität Braunschweig
Heading a University Unit Research Institute with ≈ 100 researchers and various facilities

2021/07 – 2024/06 **Deputy Managing Director**, *Coastal Research Center (Forschungszentrum Küste)*, Joint Research Center of Technische Universität Braunschweig and Leibniz Universität Hannover, Germany

2011/05 – 2017/12 **Senior Research Associate**, *Franzius-Institute for Hydraulic, Estuarine and Coastal Engineering; since 16.11.2016 Ludwig-Franzius-Institute for Hydraulic, Estuarine and Coastal Engineering*, Leibniz University Hannover, Germany
Post-doctoral researcher responsible for teaching, project acquisition and leadership, finances

2014/07 – 2017/06 **Marie Curie International Outgoing Fellow and Visiting Professor**, *Department of Civil Engineering*, University of Ottawa, Canada, Project: "Spatiotemporal Distribution and Structural impact LOading due to Artificial Debris Objects in Violent Flows (impLOADis)"
Career development fellowship by European Union, Marie Curie Actions

2007/05 – 2011/04 **Research Assistant**, *Franzius-Institute for Hydraulic, Estuarine and Coastal Engineering*, Leibniz University Hannover, Germany
Conducting various research projects and PhD thesis completion

2001/01 – 2001/10 **Carpenter**, *Carpentry Ross*, Neuenrade, Germany

Labour Inactivity

2011/06 – 2011/07 **Parental leave**, *1. child – First period*, Inactivity $100\,\%$

2015/04 – 2015/05 **Parental leave**, *1. child – Second period*, Inactivity $100\,\%$

Education

2014/07 – 2017/08 **Habilitation (habil.)**, *Leibniz Universität Hannover*, Hannover, Germany, Habilitation, Thesis title: "Advances in Laboratory Measurements for Hydraulic and Coastal Engineering", Oral Defense: 01.08.2017

2007/05 – 2011/03 **Dissertation (Dr.-Ing.)**, *Leibniz University Hannover*, Hannover, Germany, PhD, Thesis title: "The Run-up of Long Waves – Laboratory-scaled geophysical Reproduction and Onshore Interaction with Macro-roughness Elements", Oral Defense: 11.03.2011 with honors ("summa cum laude")

2001/10 – 2007/04 **Civil Engineering Studies (Dipl.-Ing.)**, *Technical University of Dresden (German grade 1.5 "excellent")*, Dresden, Germany, Degree: Dipl.-Ing., Thesis title: "Influence of control structures to water level and discharge for extreme floods in the Mississippi delta region", Field of Study: Hydraulic Engineering, Specialization: Geotechnics

Academic Honors

Awards and Recognitions

2023 **European Research Council (ERC), Consolidator Grant 2023**, *Title "AngryWaters: Scaling fluid-driven processes: Building Collapse in Extreme Flow Conditions"*, Final panel score "A", fully meeting the ERC's excellence criterion and recommendation for funding, Granted, with project start in 07/2024

2022 **Coastal Engineering Journal Award of 2022**
Best paper award (Award Website), established by the der Japan Society of Civil Engineers (JCSE), in recognition and to honor the authors of the outstanding contributions to the scientific and engineering field covered by the scope of Coastal Engineering Journal

2022 **Henriette Herz-Scout 2022 – 2025**, *Alexander von Humboldt Foundation*, Award in Combination with the right to nominate international incoming Humboldt fellows in a direct, non-competitive fashion

2020 **Coastal Engineering Journal Award of 2020**, *Awarded by the Japan Society of Civil Engineering, Tokyo*
In recognition of the excellent research achievement of the paper "'The 2018 Sulawesi Tsunami in Palu city as a result of several landslides and coseismic tsunamis"'

2015 **Outstanding Reviewer 2015 - Journal of Waterway, Port, Coastal and Ocean Engineering**, *Awarded by the American Society of Civil Engineering ASCE, Reston*
In recognition of outstanding service to the journal

2011 **Erich-Lackner-Award**, *Awarded by German Port Technology Association - HTG (professional association in hydraulic, port and coastal engineering)*, Würzburg
In recognition of an outstanding PhD thesis

2007 **Hubert-Engels-Medal**, *Awarded by Gesellschaft der Förderer des Hubert-Engels-Institutes für Wasserbau und Technische Hydromechanik, TU Dresden e. V.*, Dresden
In recognition of an outstanding diploma thesis

Awards of supervised students - selection

2024 **Kristina Reinecke**, *BWK-Nord Student Award 2024*, Recognition for outstanding Master Thesis, titled "Physical Modelling of nature-based, soft and hard measures for dune system strengthening"
Awarded by Association of Engineers for Water Management, Waste Management and Land Improvement (BWK), Germany

2023 **Natalie Helm**, *Foundation's Award 2023*, Recognition for outstanding Bachelor Thesis
Awarded by Chamber of Engineers of Lower Saxony, Hannover, Germany

2023 **Felix Spröer**, *Foundation's Award 2023*, Recognition for outstanding Master Thesis
Awarded by Chamber of Engineers of Lower Saxony, Hannover, Germany

2022 **Thea Bölker**, *BWK-Nord Student Award 2022*, Recognition for outstanding Bachelor Thesis
Awarded by Association of Engineers for Water Management, Waste Management and Land Improvement (BWK), Germany

2021 **Christian Schwartpaul**, *Braunschweiger Bürgerpreis*
In recognition of outstanding academic performance and social engagement

2021 **Sanaz Hadadpour**, *De Paepe-Willems Award, 1st place*, Recognition for outstanding PhD-thesis
In honor of Prof. Gustave Willems and in recognition of outstanding academic achievements of the recipient through the World Assoc. for Waterborne Transport Infrastructure (PIANC)

2020 **Jacob Stolle**, *Governor Generals Gold Medal, Canada*
Recognition of the outstanding scholastic achievements of master's or doctoral students in Canada

2019 **Niklas Freund**, *Award of the Engineering chamber of Lower Saxony*
Recognition of an outstanding Master thesis: "Morphodynamic effects of offshore breakwaters at Hörnum-Odde/Sylt"

2019 **Saber Elsayed**, *De Paepe-Willems Award, 1st place*
In honor of Prof. Gustave Willems and in recognition of outstanding academic achievements of the recipient through the World Assoc. for Waterborne Transport Infrastructure (PIANC)

2018 **Pauline Falkenrich**, *Braunschweiger Bürgerpreis*
In recognition of outstanding academic performance and social engagement

2018 **Jacob Stolle**, *Canadian Society of Civil Engineers Conf.: Best Student Paper Award*
Award in a competition of 30+ conference papers

Teaching

Lectures and Courses - Full spectrum

Since 2020/10 **Tsunami Engineering (2 ECTS)**, *Technische Universität Braunschweig, Germany*, Responsible Lecturer (100%)
Participants/year: ≈20

2018 – 2021 **Hydromechanics (6 ECTS)**, *Technische Universität Braunschweig, Germany*, Responsible Lecturer (100%)
Participants/year: ≈330

Since 2018/10 **Basic Coastal Engineering (6 ECTS)**, *Technische Universität Braunschweig, Germany*, Responsible Lecturer (100%)
Participants/year: ≈35

Since 2018/01 **Coastal Dynamics and Engineering Design (6 ECTS)**, *Technische Universität Braunschweig, Germany*, Responsible Lecturer (100%)
Participants/year: ≈40

Since 2018/01 **Advanced Coastal Engineering**, *Course responsibility*, Participants/year: varying, Internal and external lecturers

2017 **Environmental Data Analysis (6 ECTS)**, *Leibniz Universität Hannover, Germany*, Lectures and Laboratory Exercises (25%)
Participants/year: 30

2017 **Hydro-power engineering (3 ECTS)**, *Leibniz Universität Hannover, Germany*, Lectures (100%)
Participants: 40

2010 – 2014 **Flows in Hydrosystems: River Engineering (3 ECTS)**, *Leibniz Universität Hannover, Germany*, Lectures (100%)
Participants/year: 280, in SS11, SS12, SS13

2011 – 2014 **Modelling in Coastal Engineering (5 ECTS)**, *Leibniz Universität Hannover, Germany*, Lectures (100%)
Participants/year: 25, in WS11/12, WS12/13, WS13/14

2012 – 2014 **River Hydraulics in Master programme "Water Resources and Environmental Management" (3 ECTS)**, *Leibniz Universität Hannover, Germany*, Lectures (100%)
Participants: 30 Studierende, in WS12/13, WS13/14

2013 – 2014 **Waterway Engineering (5 ECTS)**, *Leibniz Universität Hannover, Germany*, Lectures (100%)
Participants/year: 50, WS13/14

Supervision of Post-doctoral Fellows

Lifetime Summary: Supervision of Post-docs (past 5, in progress 6)

2024 – current **Dr. Gael Verao Fernández**, *Project*, "INF4INiTY Integrated Designs for Future Floating Offshore Wind Farm Technology", EU funding

2023 – current **Dr.-Ing. Leon-Carlos Dempwolff**, *Project*, "NumSiLaSu - Numerical Simulation of Long-Period Waves in Embankment Areas", Collaboration project with Federal Waterways Engineering and Research Institute, Hamburg

2022 – current **Dr.-Ing. Constantin Schweiger**, *Project*, "marTech - Testing and development of maritime technologies for reliable energy supply", BMWi

2023 – current **Dr.-Ing. Clemens Krautwald**, *Project*, "EnviSim4Mare - Test bed development and investigation on the influence of marine growth on drag and inertia coefficients of offshore wind structures", BMWi

2020 – current **Christian Windt, PhD**, *Project*, "NuLIMAS - Numerical modelling of liquefaction around marine structures", EU-Cofund, BMWi

2020 – current **Dr.-Ing. Oliver Lojek**, *Project*, "Gute Küste Niedersachsen - Towards ecosystem-based coastal protection", MWK Lower Saxony

2019 – 2021 **Dr.-Ing. Mario Welzel**, *Project*, "EnviSim4Mare - Test bed development and investigation on the influence of marine growth on drag and inertia coefficients of offshore wind structures", BMWi funding
Now at: Leibniz University Hannover, Hannover, Germany

2019 – 2021 **Dr.-Ing. Saber Elsayed**, *Project*, "ReFresh - Response of Coastal Barriers and Freshwater Aquifers to Extreme Storm Surges and Flooding", DFG-funding
Now at: CES GmbH, Salzgitter, Germany

2018 – 2019 **Dr.-Ing. Hisham Elsafti**, *Project*, "Wasfi - Modelling wave-structure-foundation interaction for marine gravity structures", DFG-funding
Now at: DHI Wasy International, Berlin, Germany

2018 – 2019 **Dr.-Ing. Markus Brühl**, *Project*, Parameterisation of nonlinear ship-induced 3D wave fields for the hydraulic design of protective structures in maritime waterways (PaNSiWa), DFG-funding
Now at: Ramboll Engineering Hamburg, Germany

Supervision or Co-supervision of PhD Thesis

Lifetime Summary: Supervision of PhD Thesis (past 8, in progress 16)

2024 – current **Henrike Rodermund**, *Title "Effects of groin structures on sediment dynamics in the Wadden Sea"*, Funding: MWK, Hannover, TU Braunschweig

2024 – current **Thea Bölker**, *Title "Influence of spatial vegetation structures on wave-induced erosion processes on dunes"*, Funding: DFG, TU Braunschweig

2024 – current **Henri Busch, M.Sc.**, *Title "Development, analysis and effects of nature-inclusive design elements of and on floating offshore structures"*, Funding: EU, TU Braunschweig

2024 – current **Aileen Brendel, M.Sc.**, *Title "Modelling of building collapse and debris transport in extreme flow conditions"*, Funding: EU-ERC, TU Braunschweig

2023 – current **Christine Bleidorn**, *Title "Novel and sustainable coastal protection schemes along low-lying wetlands"*, Funding: BMBF, Germany, TU Braunschweig

2023 – current **Niklas Czerner**, *Title "Chemical emissions from offshore wind farms: assessing impacts, gaps and opportunities"*, Funding: European Union, Germany, TU Braunschweig

2022 – current **Henrik Neufeldt**, *Title "Drag and inertia of macro-algae in waves and currents"*, Funding: Industry funding, New Zealand/Germany, TU Braunschweig

2022 – current **Felix Spröer**, *Title "Interaction of vegetation and morphodynamics in wooden groyne fields"*, Funding: BMBF, Germany, TU Braunschweig

2021 – current **Justus Gimsa**, *Title "Deciphering processes driving the erosion of permafrost coasts: A unique new approach based on field studies and novel laboratory experiments"*, Funding: Alfred-Wegener-Institute for Polar and Ocean Research, Germany, University Potsdam/TU Braunschweig

2021 – current **Lukas Ahrensbeck**, *Title "Mechanisms of dune erosion and artificial enhancement of dune stability against ocean waves"*, Funding: MWK, Germany, TU Braunschweig

2021 – current **Inga Prüter**, *Title "Experimental and numerical modelling of salt marsh vegetation: From single plants to the marsh scale"*, Funding: MWK, Germany, TU Braunschweig/University of Ottawa

2021 – 2024 **Zihan Liu**, *Title "An Integrated System Combinging Very Large Floating Structure, Oscillating Water Column Device and Floating Photovoltaic Plant"*, Funding: Province of Tuscany/University of Florence, University of Florence/TU Braunschweig

2020 – current **Björn Mehrtens**, *Title "Sandküste St. Peter-Ordning: Sustainable protection of an ecologically valuable flood protection dune"*, Funding: BMU, Germany, TU Braunschweig

2020 – current **Ruben Ansorena Ruiz**, *Title "Augmenting grid stability through Low-head Pumped Hydro Energy Utilization & Storage"*, Funding: EU-H2020, TU Braunschweig

2020 – 2023 **Leon-Carlos Dempwolff**, *Title "Development of numerical methods for modelling ship-generated waves and their interaction with embankments"*, Funding: Federal Waterways Engineering and Research Institute (BAW), TU Braunschweig

2020 – current **Kara Keimer**, *Title "Influence of saltmarsh vegetation on wave hydrodynamics"*, Funding: MWK Lower Saxony, Germany, TU Braunschweig

2020 – current **Viktoria Kosmalla**, *Title "Experimental dune erosion modelling"*, Funding: MWK Lower Saxony, Germany, TU Braunschweig

2019 – current **Jan Hitzegrad**, *Title "Investigation of the local and spacial roughness effects of oyster reefs and blue mussel beds"*, Funding: Federal Ministry of Science and Education (BMBF), Germany, TU Braunschweig

2018 – 2023 **Hajo v. Häfen**, *Title "Extreme Flow Conditions and On-land Flow"*, Funding: various, TU Braunschweig

2018 – 2023 **Clemens Krautwald**, *"Beyond Rigidity - Collapsing Structures in Experimental Hydraulics"*, Funding: Volkswagen Foundation, Lower Saxony, Germany, TU Braunschweig

2016 – 2019 **Jacob Stolle**, *Title: "Debris Hazard Assessment In Extreme Flooding Events"*, PhD, TU Braunschweig, in Cotutelle with University of Ottawa, Canada, Prof. Nistor
TU Braunsschweig, Germany and University of Ottawa, Canada

2015 – 2020 **Gabriel David**, *Draft title: "Numerical Simulation of Generation and Propagation of Ship Waves in the far Field and Interaction with Protected Embankments"*, PhD, Co-supervision (dependent) with Prof. Schlurmann
Franzius-Institute for Hydraulic, Estuarine and Coastal Engineering, LUH

2012 – 2018 **Alexander Schendel**, *"Erosion stability of wide-graded sediment mixtures"*, PhD, Co-supervision (dependent) with Prof. Schlurmann
Franzius-Institute for Hydraulic, Estuarine and Coastal Engineering, LUH

2010 – 2014 **Anna Zorndt**, *Impacts of Climate Change on Hydrodynamic Conditions and Salinity of the Weser Estuary*, PhD, Co-supervision (dependent) with Prof. Schlurmann
Franzius-Institute for Hydraulic, Estuarine and Coastal Engineering, LUH

2009 – 2012 **Widjo Kongko**, *South Java Tsunami Model Using Highly Resolved Data and Probable Tsunamigenic Sources*, PhD, Co-supervision (dependent) with Prof. Schlurmann
Franzius-Institute for Hydraulic and Coastal Engineering, LUH

Supervision of Master, Diploma, Bachelor Thesis and Directed Studies

Lifetime Summary: Diploma (7), Master (52), Bachelor (36), Directed Studies (61)

2007 – 2021 **Breakdown of annually supervised students:**, *2007-2017: 30 students, 2018: 32, 2019: 25 students, 2020: 26 students, 2021: 16 students, 2022: 27 students*

Academic and Administrative Services

Editorial Work and Special Issue Guest Editorships

Since 2024/09 **Journal of Waterways, Port, Coastal and Ocean Engineering, American Society of Civil Engineers**, *WWENG-ASCE*, Member of Editorial Board

Since 2023/03 **Journal of Ocean Engineering and Marine Energy, Springer**, *JOEME*, Member of Editorial Board

Since 2022/07 **Die Küste**, *Die Küste*, Member of Editorial Board

Since 2020/06 **Journal of Coastal and Hydraulic Structures, Delft Publishing**, *JCHS*, Founding Editor

2020/01 – 2022/06 **Virtual Special Issue: Open Ocean Aquac. Techn.**, *Applied Ocean Research, Elsevier, The Netherlands*, Guest editor, APOR-SI

Since 2018/03 **Applied Ocean Research, Elsevier, The Netherlands**, *Member of the editorial board*, APOR

Reviewer Activity

2019/11 **National Research Center, Ocean, Coastal and River Engineering Facilities**, *Ottawa, Canada*
International External Reviewer

2016/03 – 2018/09 **Member of User Selection Committee**, *European Union funding "HYDRALAB+ Adaptation for Climate Change"*

Since 2011/05 **Reviewer – Funding Agencies**, *German Research Foundation (DFG) ▪ Alexander von Humboldt Foundation (AvH) ▪ Nantes Excellence Trajectory (NEXT) Integrative Research Clusters, France ▪ Natural Sciences and Engineering Research Council of Canada ▪ National Commission for Scientific and Technological Research (CONICYT), Chile ▪ Oregon Sea Grant - NOAA Sea Grant College Program, USA ▪ Flanders Innovation & Entrepreneurship (VLAIO), Belgium*

Since 2010/04 **Reviewer - Journals**, *serving more than 31 journals, summary of activities can be found through WoS*

Since 2010/04 **Reviewer – Journals**, *Journal of Applied Ecology, British Ecological Society ▪ Scientific Reports, NatureSpringer ▪ Applied Ocean Research, Elsevier ▪ Journal of Geophysical Research: Oceans, Wiley ▪ Hydrologie und Wasserwirtschaft, Springer ▪ Mathematical Problems in Engineering, Hindawi ▪ Estuarine, Coastal and Shelf Science, Elsevier ▪ Water, MDPI ▪ Progress in Oceanography, Elsevier ▪ International Journal of Disaster Risk Reduction, Elsevier ▪ Coastal Engineering Journal, World Scientific ▪ Water Resources Research, American Geophysical Union ▪ Journal of Hydraulic Research, Taylor & Francis ▪ International Journal of Environmental Research and Public Health, MDPI ▪ Journal Hydrol. Earth Syst. Sci., Copernicus ▪ Coastal Engineering, Elsevier ▪ Journal of Fluids and Structures, Elsevier ▪ Safety, MDPI ▪ Continental Shelf Research, Elsevier ▪ Journal of Waterway, Port, Coastal, and Ocean Engineering, ASCE ▪ Computations, MDPI ▪ Maritime Engineering, Telford ▪ Natural Hazards, Springer ▪ Pacific-Asia Offshore Mechanics Symposium - PACOMS ▪ Algorithms, MDPI ▪ Ocean Engineering, Elsevier ▪ Natural Hazards and Earth System Sciences - NHESS, Copernicus ▪ International Journal of Offshore and Polar Engineering, ISOPE ▪ Journal of Hydroinformatics, IAHR-IWA-IAHS ▪ International Conference on Offshore and Polar Engineering, ISOPE*

PhD Thesis - External Examiner

Lifetime Summary: (15)

2024/06 **Minjae Lee**, *Thesis title: A Study on Estimation of Hydraulic Roughness Height and Calibration Techniques for Numerical Modeling through Bathymetry Data Analysis*, Supervisor: Yong Sung Park, Seoul National University, South Korea

2023/07 **Joost W.M. Kranenbourg**, *Thesis title: Vertical dependences in swash-zone flows and sand transport*, Supervisors: S.J.M.H. Hulscher and A.J.H.M. Renier, University of Twente

2023/05 **Ermano de Almeida Sousa**, *Thesis title: Another hit on the wall - Confined Wave impact on hydraulic structures*, Supervisor: Prof. Bas Hofland, Technical University Delft

2022/11 **Gholamreza Shiravani**, *Thesis title: Modelling of the cross-shore mixed sand transport under sheet flow conditions*, Supervisor: Prof. Torsten Schlurmann, Leibniz Universität Hannover, Faculty of Civil Engineering and Geodetic Science

2022/05 **Christiane Eichmanns**, *Thesis title: Investigating the influence of sand trapping fences on aeolian sediment transport and sediment accretion in coastal areas*, RWTH Aachen University, Supervisor: Holger Schüttrumpf, Faculty of Civil Engineering

2021/10 **Constantin Schweiger**, *Thesis title: Coastal Numerical Modelling of Vegetated Dunes*, RWTH Aachen University, Supervisor: Holger Schüttrumpf, Faculty of Civil Engineering

2021/08 **Patrick Oosterlo**, *Thesis title: Nearshore waves and related wave overtopping in complex estuaries*, Promotor: prof. dr. ir. J.W. van der Meer, Technische Universiteit Delft

2021/07 **Konrad Bärfuss**, *Thesis title: Airborne LiDAR-measurements of sea surface elevation in coastal zones*, Technische Universität Braunschweig, Germany, Supervisor: Peter Hecker, Faculty of Mechanical Engineering

2020/05 **Fan Chen**, *Thesis title: Numerical and experimental investigation of tsunamis generated by iceberg calving*, University of Nottingham, UK, Supervisor: Valentin Heller

2020/05 **Moritz Kreyenschulte**, *Thesis title: Wellen-Bauwerks-Interaktion bei mörtelvergossenen Schüttsteindeckwerken*, RWTH Aachen, Germany, Supervisor: Holger Schüttrumpf

2019/05 **Maximilian Streicher**, *Thesis title: Loads induced by overtopping bores on vertical walls at the end of sea facing promenades – A laboratory study*, Ghent University, Belgium, Supervisor: Andreas Kortenhaus

2019/01 **Ankit Aggarwal**, *Thesis title: 3D Numerical Modelling of Non-Linear And Breaking Wave Forces On Offshore Wind Turbine Substructures*, Norwegian University of Science and Technology, Norway, Supervisor: Hans Bihs

2018/06 **Alexander Schendel**, *Thesis title: "'Wave-current-induced scouring processes and protection at offshore structures"'*, Leibniz Universität Hannover, Germany, Supervisor: Prof. Torsten Schlurmann

2017/03 **Heng Lu**, *Thesis title: Generation of Very Long Waves in Laboratory for Tsunamis Research*, University of Dundee, Scotland, Supervisor: Prof. Yong Sung Park

2017/12 **Juan David Osorio Cano**, *Thesis title: Quantication and modelling of wave energy dissipation over submerged reefs*, Universidad Nacional de Colombia, Colombia, Supervisor: Prof. Andres Osorio

Administrative Services

2021/07 – current **Member**, *Technical Committee 03 – Civil Engineering, Geodesy and Architecture*, University Representative, Accreditation Agency for Study Programmes in Engineering, Informatics, Natural Sciences and Mathematics (ASIIN e.V.)

2021/04 – current **Member**, *Faculty Strategy Board*, Faculty Level, Technische Universität Braunschweig, Germany

2020/02 – current **Advisory Board Member**, *Human Resources Development Implementation*, University Level, Technische Universität Braunschweig, Germany

2020/01 – current **Council Member**, *University Council for International Affairs*, University Level, Technische Universität Braunschweig, Germany

2019/04 – current **Committee Member**, *Faculty IT Committee*, Faculty Level, Technische Universität Braunschweig, Germany

2019/04 – current **Committee Member**, *Environmental Engineering, Prospective Student Selection Committee*, Faculty Level, Technische Universität Braunschweig, Germany

2019/02 – 2021/03 **Committee Member**, *Faculty Committee for Structural Development*, Faculty Level, Technische Universität Braunschweig, Germany

Conference Organization

2024 **Member of Scientific Committee**, *BCR24, 2nd Conference on Building Coastal Resilience, Oct 28–29, 2024, Porto, Portugal*

2024 **Member of Scientific Committee**, *CoastLab24, 9th Conference on Physical Modelling in Coastal Engineering, May 13–16, 2024, Delft, The Netherlands*

2024 **Member of Scientific Committee**, *ISEH24, 10th International Symposium on Environmental Hydraulics 2024, June 25–27, 2024, Aberdeen, Scotland*

2020 **Member Evaluation Panel - Best Paper Award**, *CoastLab2020,8th International Conference of Physical Modeling in Coastal Science and Engineering (CoastLab2020), Zhoushan, China, Dec. 9–12, 2020*

2019 **Chair**, *Coastal Structures 2019, Coastal Structures conference, COPRI/ASCE, Hannover, Germany, Sept. 30–Oct. 2, 2019*

2018 **Member of Scientific Committee**, *CoastLab18, 7th International Conference on the Application of Physical Modelling in Coastal and Port Engineering and Science, IAHR, Santander, Spain, May 22-26, 2018*

2018 **Member of Scientific Committee**, *ISHS2018, 7th International Symposium on Hydraulic Structures, IAHR, Aachen, Germany, May 15-18, 2018*

2017 **Member of Scientific Committee**, *SCACR2017, International Short Course and Conference on Applied Coastal Research 2017, Santander, Spain, September 3-6, 2017*

2016 **Member of Local Organizing Committee**, *CoastLab16, 6th International Conference on Physical Modelling in Coastal Engineering, IAHR, Ottawa, Canada, May 10-13, 2016*

2014 **Member of Local Organizing Committee**, *7th Chinese-German Joint Symposium on Hydraulic and Ocean Engineering, Hannover, Germany, Sept. 8-12, 2014*

2014 **Session Organizer and Member Technical Programme Committee**, *24th International Ocean and Polar (Arctic) Engineering Conference, Busan, Korea, June 15-20, 2014*

2013 **Session Organizer and Member Technical Programme Committee**, *23rd International Ocean and Polar (Arctic) Engineering Conference, Anchorage, USA, June 30-July 5, 2013*

Association Memberships and Activities

Since 2024 Member, IEA Wind TCP Task 49 "IDEA–Integrated Design of Floating Offshore Arrays"

Since 2022 Member, PIANC Working Group 239: "Mitigation of Tsunami Disasters in Ports"

Since 2020 Chair and Spokesperson, Working Group "Marine Aquaculture", Germany Association for Marine Technology (GMT)

Since 2020 "Working Group Open Ocean Aquaculture", International Council for the Exploration of the Sea (ICES)

Since 2017 American Society of Civil Engineers (ASCE)

Since 2016 International Association for Hydro-Environment Engineering and Research (IAHR)

2015 – 2018 Working Group on *Impact Loads* within the IAHR Coastal and Maritime Hydraulics Committee

2013 – 2016 European Geoscience Union (EGU)

Since 2011 World Association for Waterborne Transport Infrastructure (PIANC)

International Experience and Scholarships

2014/07 – 2017/06 **Fellowship**, *Marie Curie International Outgoing Fellowship, Research Executive Agency, EU*

2014/08 **Scholarship**, *German Academic Exchange Service Conference Scholarship to International Conference on Coastal Engineering, Seoul, South Korea*

2009/09 **Workshop**, *Workshop, Canberra, Australia and invited lecture, Water Research Laboratory (WRL), University of New South Wales, Australia*

2007/09 – 2007/11 **Survey**, *Hydrographical survey in Padang, Indonesia*

Skills and Qualifications

Languages

German Mother Tongue

English Fluent

French Basic Level

Computer Knowledge

Hydraulics DualSPHYSICS, Flow-3D, OpenFOAM, Anuga, HEC-RAS, SMS, Cormix

Computing MatLab, MathCad

E-Learning Integriertes Lern-, Informations- und Arbeitskooperations-System (ILIAS)

CAD/CAM AutoCAD, Nemetschek, Blender, Salome

GIS ArcGIS, GRASS

Typesetting LaTeX

Office software MS Office (Word, Excel, etc.)

Professional Education and Short courses

2018/07 – 2020/12 **Didactics - Course**, *teach4TU - Continued Education program: Didactics, teaching and digital skills in the higher education sector*, Project group teaching, Technische Universität Braunschweig, Nine (9) day course.

2007 **Software - Short Course**, *SPH for Free Surface Flows and Water Waves*, Lecturer: Prof. Robert A. Dalrymple, John Hopkins Univ., US, Organized by LWI at TU Braunschweig, Prof. Oumeraci

Publications

Symbol † indicates supervised graduate or PhD students.

Life-time summary

H-index from Scopus (h=25) and Google Scholar (h=30, i10=71), software projects (3), books or book chapters (9), journal publications (94), work in preparation (8), peer-reviewed conferences (53), other conference contributions (37), scientific data (7).

Software projects

2020/09 – ongoing Joint development of soil fluidization package in OpenFOAM within NuLIMAS project

2015/05 – 2017/09 Implementation of ship term through pressure contour in Boussinesq equation software package "Boussinesq Ocean and Surf Zone" (BSOZ), see Roeber & Cheung (2012) as well as own publication [J20]

2007/06 – 2011/04 Interface contribution to ANUGA - A community-based shallow water simulation package

Books or book chapters

[B9] B. Scheres, A. Arns, C. Bisgwa, B. Deutschmann, P. Fröhle, **N. Goseberg**, A. Graunke, T. K. Hoffmann, H. Hollert, J. Jensen, P. Jordan, K. Keimer†, V. Kosmalla†, N. Manojlovic, J. Michalzik, S. Molzberger, M. Paul, T. Schlurmann, D. Schürenkamp, F. Soltau, M. Ulm, N. Wrage-Mönnig, and H. Schüttrumpf. "Ökosystemare Aspekte an Seedeichsystemen". In: *Ökologische Aufwertung von Seedeichsystemen: Erste Planungsempfehlungen für die Praxis mit aktuellen Erkenntnissen aus der Wissenschaft*. Ed. by H. Schüttrumpf and B. Scheres. Wiesbaden: Springer Fachmedien Wiesbaden, 2020, pp. 15–27. URL: https://doi.org/10.1007/978-3-658-31507-8_2.

[B8] F. Soltau, K. Keimer†, V. Kosmalla†, D. Schürenkamp, M. Ulm, A. Arns, **N. Goseberg**, and J. Jensen. "Die Küstenschutzfunktion von Deichvorlandökosystemen". In: *Ökologische Aufwertung von Seedeichsystemen: Erste Planungsempfehlungen für die Praxis mit aktuellen Erkenntnissen aus der Wissenschaft*. Ed. by H. Schüttrumpf and B. Scheres. Wiesbaden: Springer Fachmedien Wiesbaden, 2020, pp. 29–48. URL: https://doi.org/10.1007/978-3-658-31507-8_3.

[B7] O. Lojek, L.-C. Dempwolff†, and **N. Goseberg**. "Der Rhein als europäische Verkehrsachse III". In: ed. by M. Mirschenz and S. Zinn. Bonner Beiträge zur vor- und frühgeschichtlichen Archäologie 22. Bonn: Jan Bemmann and Michael Schmauder, 2019. Chap. Hydrodynamische Simulation von Strömungsprozessen im Nahfeld des Römerhafens der Colonia Ulpia Traiana, pp. 109–120. ISBN: 3-936490-22-0.

[B6] B. H. Buck, G. Krause, B. Pogoda, B. Grote, L. Wever, **N. Goseberg**, M. F. Schupp, A. Mochtak, and D. Czybulka. "The German Case Study: Pioneer Projects of Aquaculture-Wind Farm Multi-uses". In: ed. by B. Buck and R. Langan. Springer International Publishing, Mar. 2017. Chap. Aquaculture Perspective of Multi-Use Sites in the Open Ocean: The Untapped Potential for Marine Resources in the Anthropocene, pp. 253–354. DOI: 10.1007/978-3-319-51159-7.

[B5] **N. Goseberg**, M. Chambers, K. Haesmann, D. Fredriksson, A. Fredheim, and T. Schlurmann. "Technological Approaches to Longline- and Cage-Based Aquaculture in Open Ocean Environments". In: ed. by B. Buck and R. Langan. Springer, Mar. 2017. Chap. Aquaculture Perspective of Multi-Use Sites in the Open Ocean: The Untapped Potential for Marine Resources in the Anthropocene, pp. 71–95. DOI: 10.1007/978-3-319-51159-7_3.

[B4] **N. Goseberg**. *Advances in Laboratory Measurements for Hydraulic and Coastal Engineering*. Habilitation Thesis. Hannover, Germany: Ludwig-Franzius-Institute for Hydraulic, Estuarine and Coastal Engineering, Leibniz Universität Hannover, Aug. 2017.

[B3] J. Stolle†, **N. Goseberg**, I. Nistor, and T. Shibayama. "Debris Impacts and Effects on Structures". In: ed. by Y. C. Kim. Expanded. World Scientific, 2017. Chap. Handbook of Coastal and Ocean Engineering, pp. 457–479. DOI: 10.1142/9789813204027_0017.

[B2] **N. Goseberg**, G. Lämmel, H. Taubenböck, N. Setiadi, J. Birkmann, and T. Schlurmann. "The Last-Mile Evacuation project: A multi-disciplinary approach to evacuation planning and risk reduction in tsunami-threatened coastal areas". In: ed. by F. Wenzel and J. Zschau. Advanced Technologies in Earth Sciences. ISBN: 3642122329. Springer, 2013. Chap. Early Warning for Geological Disasters: Scientific Methods and Current Practice.

[B1] **N. Goseberg**. *The Run-up of Long Wave – Laboratory-scaled Geophysical Reproduction and Onshore Interaction with Macro-Roughness Elements*. 97. Hannover, Germany: Leibniz University Hannover, Report of Franzius-Institute for Hydraulics, Waterways and Coastal Engineering, 2011.

Journal publications: all

[J94] R. Ansorena Ruiz†, D. Schürenkamp, J. D. Bricker, M. Olvermann, and **N. Goseberg**. "Understanding stakeholder attitudes towards low-head pumped hydro storage technology". In: *Energy, Sustainability and Society* 14.1 (2024), p. 31. ISSN: 2192-0567. DOI: 10.1186/s13705-024-00466-z.

[J93] B. H. Buck, H. V. Bjelland, A. Bockus, M. Chambers, B. A. Costa-Pierce, T. Dewhurst, J. G. Ferreira, H. M. Føre, D. W. Fredriksson, **N. Goseberg**, J. Holmyard, W. Isbert, G. Krause, T. Markus, N. Papandroulakis, T. Sclodnick, B. Silkes, Å. Strand, M. Troell, D. Wieczorek, S. W. K. van den Burg, and K. G. Heasman. "Resolving the term "offshore aquaculture" by decoupling "exposed" and "distance from the coast"". In: *Frontiers in Aquaculture* 3 (2024), p. 1428056. DOI: 10.3389/faquc.2024.1428056.

[J92] L.-C. Dempwolff†, C. Windt, H. Bihs, G. Melling, I. Holzwarth, and **N. Goseberg**. "Hydrodynamic coupling of multi-fidelity solvers in REEF3D with application to ship-induced wave modelling". In: *Coastal Engineering* 188 (2024), p. 104452. ISSN: 0378-3839. DOI: 10.1016/j.coastaleng.2023.104452.

[J91] L.-C. Dempwolff, C. Windt, G. Melling, I. Holzwarth, H. Bihs, and **N. Goseberg**. "Resonant effects of long-period ship-induced waves near shallow coasts". In: *Physics of Fluids* 36.10 (Oct. 2024), p. 107126. ISSN: 1070-6631. DOI: 10.1063/5.0222727.

[J90] K. G. Heasman, T. Sclodnick, **N. Goseberg**, N. Scott, M. Chambers, T. Dewhurst, S. Rickerich, H. M. Føre, and B. H. Buck. "Utilisation of the site assessment energy indices for aquaculture in exposed waters: biology, technology, operations and maintenance". In: *Frontiers in Aquaculture* 3 (2024). ISSN: 2813-5334. DOI: 10.3389/faquc.2024.1427168. URL: https://www.frontiersin.org/journals/aquaculture/articles/10.3389/faquc.2024.1427168.

[J89] J. Hitzegrad†, L. Brohmann, F. Herding, K. Pfennings, S. Jonischkies, E. Scharnbeck, J. Mainka, I. Mai, C. Windt, H. Kloft, A. Wehrmann, D. Lowke, and **N. Goseberg**. "Surfaces of coastal biogenic structures: exploiting advanced digital design and fabrication strategies for the manufacturing of oyster reef and mussel bed surrogates". In: *Frontiers in Marine Science* 11 (2024). ISSN: 2296-7745. DOI: 10.3389/fmars.2024.1395025.

[J88] J. Hitzegrad†, S. Köster, C. Windt, and **N. Goseberg**. "Understanding the Role of Sharp Edges in the Propagation of Surface Gravity Waves". In: *J. Geophys. Res. Oceans* 129.2 (Feb. 2024), e2023JC020336. ISSN: 2169-9275. DOI: 10.1029/2023JC020336. URL: https://doi.org/10.1029/2023JC020336.

[J87] K. Keimer†, F. Kind†, I. Prüter†, V. Kosmalla†, O. Lojek, D. Schürenkamp, M. Prinz, S. Niewerth, J. Aberle, and **N. Goseberg**. "From seasonal field study to surrogate modeling: Investigating the biomechanical dynamics of Elymus sp. in salt marshes". In: *Limnol Oceanogr Methods* 22.6 (June 2024), pp. 416–436. ISSN: 1541-5856. DOI: 10.1002/lom3.10616.

[J86] A. Korte†, C. Windt, and **N. Goseberg**. "Review and assessment of the German tidal energy resource". In: *Journal of Ocean Engineering and Marine Energy* 10 (Feb. 2024), pp. 239–261. ISSN: 2198-6452. DOI: 10.1007/s40722-023-00309-7.

[J85] J. Landmann†, C. Flack, U. Kowalsky, R. Wüchner, A. Hildebrandt, and **N. Goseberg**. "Hydrodynamic coefficients of mussel dropper lines derived from large-scale experiments and structural dynamics". In: *Journal of Ocean Engineering and Marine Energy* 10 (Feb. 2024), pp. 175–192. ISSN: 2198-6452. DOI: 10.1007/s40722-023-00306-w. URL: https://doi.org/10.1007/s40722-023-00306-w.

[J84] J. Liu, Q. Liu, S. Kutschke, V. Kosmalla†, D. Schürenkamp, **N. Goseberg**, and M. Böl. "Seasonal variations in biomechanical properties of Elymus species: Implications for assessing coastal ecosystem services". In: *Proc. Appl. Math. Mech.* 24 (Sept. 2024), e202400088. ISSN: 1617-7061. DOI: 10.1002/pamm.202400088.

[J83] K. Pfennings, T. K. Hoffmann, J. Hitzegrad†, M. Paul, **N. Goseberg**, and A. Wehrmann. "Beyond annual metrics: Linking seasonal population dynamics to vertical oyster reef growth". In: *Ecol Evol* 14.9 (Sept. 2024), e70238. ISSN: 2045-7758. DOI: 10.1002/ece3.70238.

[J82] A. Schendel, S. Schimmels, M. Welzel, P. April-LeQuéré, A. Mohammadian, C. Krautwald, J. Stolle, I. Nistor, and **N. Goseberg**. "Spatiotemporal Scouring Processes around a Square Column on a Sloped Beach Induced by Tsunami Bores". In: *Journal of Waterway, Port, Coastal, and Ocean Engineering* 150.3 (May 2024), p. 04024005. DOI: 10.1061/JWPED5.WWENG-2052.

[J81] C. Windt, **N. Goseberg**, S. Schimmels, M. Kudella, R. K. Shanmugasundaram†, H. Rusche, V. K. Vanjakula†, F. Adam, D. Majewski, K. Kazimierowicz-Frankowska, M. Pietrzkiewicz, V. S. O. Kirca, and B. M. Sumer. "Liquefaction Around Marine Structures: Development of a Numerical Modelling Framework in OpenFOAM". In: *Int. J. Offshore Polar Eng.* 34.02 (2024), pp. 182–190. DOI: 10.17736/ijope.2024.cl24.

[J80] A. Böhme†, B. Gerkensmeier, B. Bratz†, C. Krautwald†, O. Müller, **N. Goseberg**, and G. Gönnert. "Improvements to the detection and analysis of external surges in the North Sea". In: *NHESS* 23.5 (May 2023), pp. 1947–1966. ISSN: 1684-9981. DOI: 10.5194/nhess-23-1947-2023.

[J79] L.-C. Dempwolff†, C. Windt, **N. Goseberg**, T. Martin, H. Bihs, and G. Melling. "Verification of a Free-Surface Pressure Term Extension to Represent Ships in a Nonhydrostatic Shallow-Water-Equations Solver". In: *J. Offshore Mech. Arct. Eng* 145.2 (Nov. 2023). ISSN: 0892-7219. DOI: 10.1115/1.4056121. URL: https://doi.org/10.1115/1.4056121.

[J78] L.-C. Dempwolff†, C. Windt, G. Melling, H. Bihs, I. Holzwarth, and **N. Goseberg**. "Ship Wave-Induced Hydraulic Loading on Estuarine Groins: A Conceptual Numerical Study". In: *Journal of Waterway, Port, Coastal, and Ocean Engineering* 149.3 (May 2023), p. 04023002. DOI: 10.1061/JWPED5.WWENG-1937.

[J77] T. K. Hoffmann†, K. Pfennings, J. Hitzegrad†, L. Brohmann, M. Welzel, M. Paul, **N. Goseberg**, A. Wehrmann, and T. Schlurmann. "Low-cost UAV monitoring: insights into seasonal volumetric changes of an oyster reef in the German Wadden Sea". In: *Frontiers in Marine Science* 10 (2023). ISSN: 2296-7745. URL: https://www.frontiersin.org/articles/10.3389/fmars.2023.1245926.

[J76] W. Isbert, C. Lindemann, J. Lemburg, M. Littmann, K. Tegethoff, **N. Goseberg**, S. Durst, D. Schürenkamp, and B. H. Buck. "A conceptual basis for surveying fouling communities at exposed and protected sites at sea: Feasible designs with exchangeable test bodies for in-situ biofouling collection". In: *Applied Ocean Research* 136 (2023), p. 103572. ISSN: 0141-1187. DOI: 10.1016/j.apor.2023.103572.

[J75] K. Keimer†, V. Kosmalla†, I. Prüter†, O. Lojek, M. Prinz, D. Schürenkamp, H. Freund, and **N. Goseberg**. "Proposing a novel classification of growth periods based on biomechanical properties and seasonal changes of Spartina anglica". In: *Frontiers in Marine Science* 10 (2023). ISSN: 2296-7745. DOI: 10.3389/fmars.2023.1095200.

[J74] D. Kempa, L. Karrasch, T. Schlurmann, M. Prominski, O. Lojek, E. Schulte-Güstenberg, J. Visscher, O. Zielinski, and **N. Goseberg**. "Design and Insights Gained in a Real-World Laboratory for the Implementation of New Coastal Protection Strategies". In: *Sustainability* 15.5 (2023). ISSN: 2071-1050. DOI: 10.3390/su15054623.

[J73] B. Mehrtens†, O. Lojek, V. Kosmalla†, T. Bölker†, and **N. Goseberg**. "Foredune growth and storm surge protection potential at the Eiderstedt Peninsula, Germany". In: *Front. Mar. Sci.* 9.1020351 (Jan. 2023). DOI: 10.3389/fmars.2022.1020351.

[J72] M. Qudaih, B. Engel, D. P. K. Truijen, J. D. M. De Kooning, K. Stockman, J. Hoffstaedt, A. Jarquin-Laguna, R. A. Ruiz†, **N. Goseberg**, L. de Vilder, J. D. Bricker, M. Joseph, M. Zangeneh, and K. Terheiden. "The contribution of low-head pumped hydro storage to grid stability in future power systems". In: *IET Renew. Power Gener.* 17.14 (Dec. 2023), pp. 3594–3608. ISSN: 1752-1416. DOI: 10.1049/rpg2.12668.

[J71] I. Schulte, J. Oetjen, H. Schüttrumpf, J. Becker†, H. Rodermund†, D. Schürenkamp, C. Schweiger, and **N. Goseberg**. "Bestandsaufnahme von Kontakt- und Übergangsstellen an Seedeichen der deutschen Nordseeküste". In: *Wasser und Abfall* 25.10 (2023), pp. 40–46. DOI: 10.1007/s35152-023-1466-y.

[J70] R. Ansorena Ruiz†, L. H. de Vilder, E. B. Prasasti, M. Aouad, A. De Luca, B. Geisseler, K. Terheiden, S. Scanu, A. Miccoli, V. Roeber, M. Marence, R. Moll, J. D. Bricker, and **N. Goseberg**. "Low-head pumped hydro storage: A review on civil structure designs, legal and environmental aspects to make its realization feasible in seawater". In: *Renewable and Sustainable Energy Reviews* 160 (2022), p. 112281. ISSN: 1364-0321. DOI: 10.1016/j.rser.2022.112281.

[J69] P. April-LeQuéré, I. Nistor, A. Mohammadian, S. Schimmels, A. Schendel, **N. Goseberg**, M. Welzel†, C. Krautwald†, and J. Stolle. "Hydrodynamics and Associated Scour around a Free-Standing Structure Due to Turbulent Bores". In: *Journal of Waterway, Port, Coastal, and Ocean Engineering* 148.5 (Sept. 2022), p. 04022013. DOI: 10.1061/(ASCE)WW.1943-5460.0000717.

[J68] L.-C. Dempwolff†, G. Melling, C. Windt, O. Lojek, T. Martin, I. Holzwarth, H. Bihs, and **N. Goseberg**. "Loads and effects of ship-generated, drawdown waves in confined waterways - A review of current knowledge and methods". In: *Journal of Coastal and Hydraulic Structures* 2 (May 2022), p. 46. DOI: 10.48438/jchs.2022.0013.

[J67] L.-C. Dempwolff†, C. Windt, G. Melling, T. Martin, H. Bihs, I. Holzwarth, and **N. Goseberg**. "The influence of the hull representation for modelling of primary ship waves with a shallow-water equation solver". In: *Ocean Engineering* 266 (2022), p. 113163. ISSN: 0029-8018. DOI: 10.1016/j.oceaneng.2022.113163.

[J66] S. M. Elsayed, R. Gijsman, T. Schlurmann, and **N. Goseberg**. "Non-hydrostatic numerical modeling of fixed and mobile barred beaches: Limitations of depth-averaged wave resolving models around sandbars". In: *J. Waterway, Port, Coastal, Ocean Eng.* 148.1 (2022), p. 04021045. DOI: 10.1061/(ASCE)WW.1943-5460.0000685.

[J65] H. von Häfen†, C. Krautwald, H. Bihs, and **N. Goseberg**. "Dam-Break Waves Hydrodynamics on Composite Bathymetry". In: *Frontiers in Built Environment* 8 (2022). DOI: 10.3389/fbuil.2022.877378.

[J64] H. von Häfen†, C. Krautwald, J. Stolle, D. B. Bung, and **N. Goseberg**. "Overland flow of broken solitary waves over a two-dimensional coastal plane". In: *Coastal Engineering* (2022), p. 104125. ISSN: 0378-3839. DOI: 10.1016/j.coastaleng.2022.104125.

[J63] J. Hitzegrad†, L. Brohmann, K. Pfennings, T. K. Hoffmann, A. K. Eilrich, M. Paul, M. Welzel, T. Schlurmann, J. Aberle, A. Wehrmann, and **N. Goseberg**. "Oyster reef surfaces in the central Wadden Sea: a comprehensive statistical description". In: *Frontiers in Marine Science* 9 (2022). ISSN: 2296-7745. DOI: 10.3389/fmars.2022.808018.

[J62] V. Kosmalla†, K. Keimer†, D. Schürenkamp, O. Lojek, and **N. Goseberg**. "Erosion resistance of vegetation-covered soils: Impact of different grazing conditions in salt marshes and analysis of soil-vegetation interactions by the novel DiCoastar method". In: *Ecological Engineering* 181 (2022), p. 106657. ISSN: 0925-8574. DOI: 10.1016/j.ecoleng.2022.106657.

[J61] C. Krautwald†, H. von Häfen, P. Niebuhr, K. Vögele, J. Stolle, S. Schimmels, D. Schürenkamp, M. Sieder, and **N. Goseberg**. "Collapse processes and associated loading of square light-frame timber structures due to bore-type waves". In: *Coastal Engineering* 177 (Oct. 2022), p. 104178. ISSN: 0378-3839. DOI: 10.1016/j.coastaleng.2022.104178.

[J60] C. Krautwald†, H. Von Häfen, P. Niebuhr, K. Vögele, D. Schürenkamp, M. Sieder, and **N. Goseberg**. "Large-scale physical modeling of broken solitary waves impacting elevated coastal structures". In: *Coastal Engineering Journal* 64.1 (Jan. 2022), pp. 169–189. ISSN: 2166-4250. DOI: 10.1080/21664250.2021.2023380.

[J59] B. Scheres, A. Arns, C. Bisgwa, B. Deutschmann, P. Fröhle, **N. Goseberg**, A. Graunke, T. K. Hoffmann, H. Hollert, J. Jensen, P. Jordan, K. Keimer†, N. Manojlovic, J. Michalzik, M. Paul, T. Schlurmann, D. Schürenkamp, F. Soltau, M. Ulm, N. Wrage-Mönnig, and H. Schüttrumpf. "EcoDike - Grüne Seedeiche und Deckwerke für den Küstenschutz". In: *Die Kuste* 91 (2022). DOI: 10.18171/1.091105.

[J58] R. K. Shanmugasundaram†, H. Rusche, C. Windt, Ö. Kirca, M. Sumer, and **N. Goseberg**. "Towards the Numerical Modelling of Residual Seabed Liquefaction Using OpenFOAM". In: *OpenFOAM Journal* 2 (May 2022), pp. 94–115. DOI: https://doi.org/10.51560/ofj.v2.56.

[J57] B. A. Costa-Pierce, A. B. Bockus, B. H. Buck, S. W. K. van den Burg, T. Chopin, J. G. Ferreira, **N. Goseberg**, K. G. Heasman, J. Johansen, S. E. Shumway, N. A. Sims, and A. G. J. Tacon. "A Fishy Story Promoting a False Dichotomy to Policy-Makers: It Is Not Freshwater vs. Marine Aquaculture". In: *Reviews in Fisheries Science & Aquaculture* (Dec. 2021), pp. 1–18. ISSN: 2330-8249. DOI: 10.1080/23308249.2021.2014175.

[J56] P. Falkenrich†, J. Wilson, I. Nistor, **N. Goseberg**, A. Cornett, and A. Mohammadian. "Nature-Based Coastal Protection by Large Woody Debris as Compared to Seawalls: A Physical Model Study of Beach Morphology and Wave Reflection". In: *Water* 13.15 (2021). ISSN: 2073-4441. DOI: 10.3390/w13152020.

[J55] R. Gieschen†, C. Schwartpaul†, J. Landmann, L. Fröhling, A. Hildebrandt, and **N. Goseberg**. "Large-Scale Laboratory Experiments on Mussel Dropper Lines in Ocean Surface Waves". In: *Journal of Marine Science and Engineering* 9.29 (2021). ISSN: 2077-1312. DOI: 10.3390/jmse9010029.

[J54] H. von Häfen†, J. Stolle, I. Nistor, and **N. Goseberg**. "Side-by-side entrainment and displacement of cuboids due to a tsunami-like wave". In: *Coastal Engineering* 164 (2021), p. 103819. ISSN: 0378-3839.

[J53] K. G. Heasman, N. Scott, M. Smeaton, **N. Goseberg**, A. Hildebrandt, P. Vitasovich, A. Elliot, M. Mandeno, and B. H. Buck. "New system design for the cultivation of extractive species at exposed sites - Part 1: System design, deployment and first response to high-energy environments". In: *Applied Ocean Research* 110 (2021), p. 102603. ISSN: 0141-1187. DOI: 10.1016/j.apor.2021.102603.

[J52] K. Keimer†, D. Schürenkamp, F. Mieschke†, V. Kosmalla†, O. Lojek, and **N. Goseberg**. "Ecohydraulics of surrogate salt marshes for coastal protection: Wave–vegetation interaction and related hydrodynamics on vegetated foreshores at sea dikes". In: *Journal of Waterway, Port, Coastal, and Ocean Engineering* 147.6 (2021), p. 04021035. DOI: 10.1061/(ASCE)WW.1943-5460.0000667.

[J51] C. Krautwald†, J. Stolle, I. Robertson, H. Achiari, T. Mikami, R. Nakamura, T. Takabatake, Y. Nishida, T. Shibayama, M. Esteban, **N. Goseberg**, and I. Nistor. "Engineering Lessons from September 28, 2018 Indonesian Tsunami: Scouring Mechanisms and Effects on Infrastructure". In: *Journal of Waterway, Port, Coastal, and Ocean Engineering* 147.2 (Mar. 2021), p. 04020056. DOI: 10.1061/(asce)ww.1943-5460.0000620.

[J50] J. Landmann, L. Fröhling, R. Gieschen†, B. H. Buck, K. Heasman, N. Scott, M. Smeaton, **N. Goseberg**, and A. Hildebrandt. "Drag and inertia coefficients of live and surrogate shellfish dropper lines under steady and oscillatory flow". In: *Ocean Engineering* 235 (2021), p. 109377. ISSN: 0029-8018. DOI: 10.1016/j.oceaneng.2021.109377.

[J49] J. Landmann, L. Fröhling, R. Gieschen†, B. H. Buck, K. G. Heasman, N. Scott, M. Smeaton, **N. Goseberg**, and A. Hildebrandt. "New system design for the cultivation of extractive species at exposed sites - Part 2: Experimental modelling in waves and currents". In: *Applied Ocean Research* 113 (2021), p. 102749. DOI: 10.1016/j.apor.2021.102749.

[J48] J. Liu, S. Kutschke, K. Keimer†, V. Kosmalla†, D. Schürenkamp, **N. Goseberg**, and M. Böl. "Experimental characterisation and three-dimensional modelling of Elymus for the assessment of ecosystem services". In: *Ecological Engineering* 166 (2021), p. 106233. ISSN: 0925-8574. DOI: 10.1016/j.ecoleng.2021.106233.

[J47] O. Lojek, **N. Goseberg**, and T. Schlurmann. "Projecting hydro-morphodynamic impacts of planned layout changes for a coastal harbor". In: *J. Waterway, Port, Coastal, and Ocean Eng.* 147.6 (2021), p. 05021013. DOI: 10.1061/(ASCE)WW.1943-5460.0000666.

[J46] H. G. Schlesier†, H. von Häfen†, and **N. Goseberg**. "Physical modelling of tsunami barrier and debris interaction". In: *Journal of Coastal and Hydraulic Structures* 1.3 (June 2021). DOI: 10.48438/jchs.2021.0003. URL: https://journals.open.tudelft.nl/jchs/article/view/5516.

[J45] F. Staudt, R. Gijsman, C. Ganal, F. Mielck, J. Wolbring, H. C. Hass, **N. Goseberg**, H. Schüttrumpf, T. Schlurmann, and S. Schimmels. "The sustainability of beach nourishments: a review of nourishment and environmental monitoring practice". In: *Journal of Coastal Conservation* 25.2 (2021), p. 34. ISSN: 1874-7841. DOI: 10.1007/s11852-021-00801-y.

[J44] M. Welzel, A. Schendel, and **N. Goseberg**. "GWK+: Erweiterung des GroSSen Wellenkanals - Analyse des Einlaufbereichs (in German)". In: *Bautechnik* 98.8 (June 2021), pp. 541–551. ISSN: 0932-8351. URL: https://doi.org/10.1002/bate.202100042.

[J43] R. Aranguiz, M. Esteban, H. Takagi, T. Mikami, T. Takabatake, M. Gomez, J. Gonzalez, T. Shibayama, R. Okuwaki, Y. Yagi, K. Shimizu, H. Achiari, J. Stolle†, I. Robertson, K. Ohira, R. Nakamura, Y. Nishida, C. Krautwald†, **N. Goseberg**, and I. Nistor. "The 2018 Sulawesi tsunami in Palu city as a result of several landslides and coseismic tsunamis". In: *Coastal Engineering Journal* (June 2020), pp. 1–15. ISSN: 2166-4250. DOI: 10.1080/21664250.2020.1780719.

[J42] L.-C. Dempwolff†, O. Lojek, V. Selke, **N. Goseberg**, and R. Gerlach. "Hydrodynamic Cross-Scale Archaeology at a Roman River Harbour". In: *Water* 12.12 (2020). ISSN: 2073-4441. DOI: 10.3390/w12123365.

[J41] S. Korte†, R. Gieschen†, J. Stolle, and **N. Goseberg**. "Physical Modelling of Arctic Coastlines–Progress and Limitations". In: *Water* 12.8 (2020). ISSN: 2073-4441. DOI: 10.3390/w12082254.

[J40] M. Kreyenschulte, D. Schürenkamp, B. Bratz†, H. Schüttrumpf, and **N. Goseberg**. "Wave Run-Up on Mortar-Grouted Riprap Revetments". In: *Water* 12.12 (2020). ISSN: 2073-4441. DOI: 10.3390/w12123396.

[J39] G. Mauti, J. Stolle†, T. Takabatake, I. Nistor, **N. Goseberg**, and A. Mohammadian. "Experimental investigation of loading due to debris dams on structures". In: *Journal of Hydraulic Engineering* 146.5 (Mar. 2020), p. 04020029. DOI: 10.1061/(asce)hy.1943-7900.0001731.

[J38] J. Stolle, C. Krautwald†, I. Robertson, H. Achiari, T. Mikami, R. Nakamura, T. Takabatake, Y. Nishida, T. Shibayama, M. Esteban, **I. Nistor**, and N. Goseberg. "Engineering lessons from the 28 September 2018 Indonesian tsunami: Debris loading". In: *Canadian Journal of Civil Engineering* (Nov. 2020), pp. 1–12. ISSN: 0315-1468. DOI: 10.1139/cjce-2019-0049.

[J37] J. Stolle†, I. Nistor, **N. Goseberg**, and E. Petriu. "Multiple Debris Impact Loads in Extreme Hydrodynamic Conditions". In: *Journal of Waterway, Port, Coastal and Ocean Engineering* 146.04019038 (2020). DOI: 10.1061/(ASCE)WW.1943-5460.0000546.

[J36] J. Stolle†, **I. Nistor**, N. Goseberg, and E. Petriu. "Development of a probabilistic framework for debris transport and hazard assessment in tsunami-like flow conditions". In: *Journal of Waterway, Port, Coastal and Ocean Engineering* 146.0000584 (2020). DOI: 10.1061/(ASCE)WW.1943-5460.0000584.

[J35] M. Welzel†, A. Schendel, **N. Goseberg**, A. Hildebrandt, and T. Schlurmann. "Influence of structural elements on the spatial sediment displacement around a jacket-type offshore foundation". In: *Water* 12.6 (2020). ISSN: 2073-4441. DOI: 10.3390/w12061651.

[J34] B. Ghodoosipour, J. Stolle†, I. Nistor, A. Mohammadian, and **N. Goseberg**. "Experimental Study on Extreme Hydrodynamic Loading on Pipelines Part 2: Induced Force Analysis". In: *Journal of Marine Science and Engineering* 7.8 (2019). ISSN: 2077-1312. DOI: 10.3390/jmse7080262.

[J33] B. Ghodoosipour, J. Stolle†, I. Nistor, A. Mohammadian, and **N. Goseberg**. "Experimental Study on Extreme Hydrodynamic Loading on Pipelines. Part 1: Flow Hydrodynamics". In: *Journal of Marine Science and Engineering* 7.8 (2019). ISSN: 2077-1312. DOI: 10.3390/jmse7080251.

[J32] von Häfen H.†, **N. Goseberg**, J. Stolle, and I. Nistor. "Gate-Opening Criteria for Generating Dam-Break Waves". In: *Journal of Hydraulic Engineering* 145.3 (Jan. 2019), p. 04019002. DOI: 10.1061/(asce)hy.1943-7900.0001567.

[J31] J. Landmann†, T. Ongsiek†, **N. Goseberg**, K. Heasman, B. H. Buck, J.-A. Paffenholz, and A. Hildebrandt. "Physical Modelling of Blue Mussel Dropper Lines for the Development of Surrogates and Hydrodynamic Coefficients". In: *Journal of Marine Science and Engineering* 7.3 (2019). ISSN: 2077-1312. DOI: 10.3390/jmse7030065.

[J30] J. Lang, P. Alho, E. Kasvi, **N. Goseberg**, and J. Winsemann. "Impact of Middle Pleistocene (Saalian) glacial lake-outburst floods on the meltwater-drainage pathways in northern central Europe: Insights from 2D numerical flood simulation". In: *Quaternary Science Reviews* 209 (2019), pp. 82–99. ISSN: 0277-3791. DOI: 10.1016/j.quascirev.2019.02.018. URL: http://www.sciencedirect.com/science/article/pii/S027737911830800X.

[J29] J. Stolle†, **N. Goseberg**, I. Nistor, and E. Petriu. "Debris impact forces on flexible structures in extreme hydrodynamic conditions". In: *Journal of Fluids and Structures* 84 (Jan. 2019), pp. 391–407. ISSN: 0889-9746. DOI: 10.1016/j.jfluidstructs.2018.11.009.

[J28] J. Stolle†, T. Takabatake, G. Hamano, H. Ishii, K. Iimura, T. Shibayama, I. Nistor, **N. Goseberg**, and E. Petriu. "Debris transport over a sloped surface in tsunami-like flow conditions". In: *Coastal Engineering Journal* 61.2 (2019), pp. 241–255. DOI: 10.1080/21664250.2019.1586288.

[J27] C. Derschum†, I. Nistor, J. Stolle†, and **N. Goseberg**. "Debris impact under extreme hydrodynamic conditions part 1: Hydrodynamics and impact geometry". In: *Coastal Engineering* 141 (2018), pp. 24–35. DOI: https://doi.org/10.1016/j.coastaleng.2018.08.016.

[J26] A. Schendel†, **N. Goseberg**, and T. Schlurmann. "Influence of reversing currents on the erosion stability and scour protection potential of wide-graded grain material". In: *International Journal of Sediment Research* 33.1 (Mar. 2018), pp. 68–83. DOI: 10.1016/j.ijsrc.2017.07.002.

[J25] A. Schendel†, A. Hildebrandt, **N. Goseberg**, and T. Schlurmann. "Processes and evolution of scour around a monopile induced by tidal currents". In: *Coastal Engineering* 139 (Sept. 2018), pp. 65–84. DOI: 10.1016/j.coastaleng.2018.05.004.

[J24] J. Stolle†, C. Derschum†, **N. Goseberg**, I. Nistor, and E. Petriu. "Debris impact under extreme hydrodynamic conditions part 2: Impact force responses for non-rigid debris collisions". In: *Coastal Engineering* 141 (2018), pp. 107–118. ISSN: 0378-3839. DOI: https://doi.org/10.1016/j.coastaleng.2018.09.004.

[J23] J. Stolle†, B. Ghodoosipour, C. Derschum, I. Nistor, E. Petriu, and **N. Goseberg**. "Swing Gate Generated Dam-break Waves". In: *Journal of Hydraulic Research* (2018). DOI: 10.1080/00221686.2018.1489901.

[J22] J. Stolle†, **N. Goseberg**, E. Petriu, and I. Nistor. "Probabilistic Investigation and Risk Assessment of Debris Transport in Extreme Hydrodynamic Conditions". In: *Journal of Waterways, Port, Coastal, and Ocean Engineering* 144.1 (2018), pp. 04017039–1. DOI: 10.1061/(ASCE)WW.1943-5460.0000428.

[J21] J. Stolle†, T. Takabatake, I. Nistor, T. Mikami, S. Nishizaki, G. Hamano, H. Ishii, T. Shibayama, **N. Goseberg**, and E. Petriu. "Experimental investigation of debris damming loads under transient supercritical flow conditions". In: *Coastal Engineering* 139 (Sept. 2018), pp. 16–31. DOI: 10.1016/j.coastaleng.2018.04.026.

[J20] G. David†, V. Röber, **N. Goseberg**, and T. Schlurmann. "Generation and Propagation of Ship-borne Waves - Solutions from a Boussinesq-type Model". In: *Coastal Engineering* 127 (Sept. 2017), pp. 170–187. DOI: 10.1016/j.coastaleng.2017.07.001.

[J19] I. Nistor, **N. Goseberg**, and J. Stolle†. "Tsunami-Driven Debris Motion and Loads: A Critical Review". In: *Frontiers in Build Environment* 3.2 (2017). Earthquake Engineering. DOI: 10.3389/fbuil.2017.00002.

[J18] J. Stolle†, I. Nistor, **N. Goseberg**, T. Mikami, and T. Shibayama. "Entrainment and Transport Dynamics of Debris in Extreme Hydrodynamic Conditions". In: *Coastal Engineering Journal* 59.3 (2017), p. 1750011. DOI: 10.1142/S0578563417500115.

[J17] J. Stolle†, T. Takabatake, T. Mikami, T. Shibayama, **N. Goseberg**, I. Nistor, and E. Petriu. "Experimental Investigation of Debris-Induced Loading in Tsunami-Like Flood Events". In: *geosciences* 7.3 (2017), p. 74. ISSN: 2076-3263. DOI: 10.3390/geosciences7030074.

[J16] U. Drähne†, **N. Goseberg**, S. Vater, U. Beisiegel, and J. Behrens. "An Experimental and Numerical Study of Analytical Solutions for Tsunami Run-Up on a Plane Beach". In: *Journal of Marine Science and Engineering* 4.1 (2016). DOI: 10.3390/jmse4010001.

[J15] **N. Goseberg**, I. Nistor, T. Mikami, T. Shibayama, and J. Stolle†. "Nonintrusive Spatiotemporal Smart debris Tracking in Turbulent Flows with Application to Debris-Laden Tsunami Inundation". In: *Journal of Hydraulic Engineering* 142.12 (Dec. 2016). DOI: 10.1061/(ASCE)HY.1943-7900.0001199.

[J14] **N. Goseberg**, J. Stolle†, I. Nistor, and T. Shibayama. "Experimental analysis of debris motion due the obstruction from fixed obstacles in tsunami-like flow conditions". In: *Coast Eng* 118 (2016), pp. 35–49. DOI: 10.1016/j.coastaleng.2016.08.012.

[J13] I. Nistor, **N. Goseberg**, T. Mikami, T. Shibayama, J. Stolle†, R. Nakamura, and S. Matsuba. "Experimental Investigations of Debris Dynamics over a Horizontal Plane". In: *Journal of Waterway, Port, Coastal, and Ocean Engineering* 04016022 (2016). DOI: 10.1061/(ASCE)WW.1943-5460.0000371.

[J12] J. Stolle†, I. Nistor, and **N. Goseberg**. "Optical Tracking of Floating Shipping Containers in High-Velocity Flow". In: *Coastal Engineering Journal* 58.1650005 (2016). DOI: 10.1142/S0578563416500054.

[J11] S. Wöbse†, N. Kerpen, T. Schlurmann, and **N. Goseberg**. "Stabilität von modularen Deckwerksmatten aus Normal- und Schwerbeton unter Wellenlasten". In: *Wasserwirtschaft* 106.10 (2016), pp. 43–49. ISSN: 00430978.

[J10] G. C. Bremm†, **N. Goseberg**, T. Schlurmann, and I. Nistor. "Long Wave Flow Interaction with a Single Square Structure on a Sloping Beach". In: *Journal of Marine Science and Engineering* 3.3 (2015), p. 821. ISSN: 2077-1312. DOI: 10.3390/jmse3030821.

[J9] A. Schendel, **N. Goseberg**, and T. Schlurmann. "Erosion Stability of Wide-Graded Quarry-Stone Material under Unidirectional Current". In: *Journal of Waterways, Port, Coastal, and Ocean Engineering* 04015023 (2015). DOI: 10.1061/(ASCE)WW.1943-5460.0000321.

[J8] A. Schendel, **N. Goseberg**, and T. Schlurmann. "Experimental Study on the Erosion Stability of Coarse Grain Materials under Waves". In: *Journal of Marine Science and Technology* 23.6 (2015), pp. 937–942. DOI: 10.6119/JMST-015-0610-12.

[J7] J. Winsemann, P. Alho, L. Laamanen, **N. Goseberg**, J. Lang, and J. Klostermann. "Flow dynamics, sedimentation and erosion of glacial lake outburst floods along the Middle Pleistocene Scandinavian ice sheet (northern Central Europe)". In: *Boreas* 45.2 (2015), pp. 260–283. DOI: 10.1111/bor.12146.

[J6] O. Lojek, K. Krämer, A. Zorndt, **N. Goseberg**, and T. Schlurmann. "Velocity and Turbulence Measurements at the Ems Barrage". In: *Die Küste* 81 (2014), pp. 55–68.

[J5] **N. Goseberg**. "Reduction of maximum tsunami run-up due to the interaction with beachfront development - application of single sinusoidal waves". In: *Natural Hazards and Earth System Science* 13.11 (2013), pp. 2991–3010. DOI: 10.5194/nhess-13-2991-2013.

[J4] **N. Goseberg**, A. Wurpts, and T. Schlurmann. "Laboratory-scale generation of tsunami and long waves". In: *Coastal Engineering* 79 (2013), pp. 57–74. DOI: 10.1016/j.coastaleng.2013.04.006.

[J3] H. Taubenböck, **N. Goseberg**, G. Lämmel, N. Setiadi, T. Schlurmann, K. Nagel, F. Siegert, J. Birkmann, K.-P. Traub, S. Dech, V. Keuck, F. Lehmann, G. Strunz, and H. Klüpfel. "Risk reduction at the "Last-Mile": An attempt to turn science into action by the example of Padang, Indonesia". In: *Natural Hazards* 65.1 (2013), pp. 915–945.

[J2] T. Schlurmann and **N. Goseberg**. "Enhanced hazard mapping on a medium-resolved numerical grid for the city of Padang, West Sumatra". In: *J. of Ship Tech.* 5.2 (July 2009), pp. 13–21.

[J1] H. Taubenböck, **N. Goseberg**, N. Setiadi, G. Lämmel, F. Moder, M. Oczipka, H. Klüpfel, R. Wahl, T. Schlurmann, G. Strunz, J. Birkmann, K. Nagel, F. Siegert, F. Lehmann, S. Dech, A. Gress, and R. Klein. "Last-Mile preparation to a potential disaster - Interdisciplinary approach towards tsunami early warning and an evacuation information system for the coastal city of Padang, Indonesia". In: *Nat Hazard Earth Sys Sci* 9.4 (2009), pp. 1509–1528. DOI: 10.5194/nhess-9-1509-2009.

Peer-reviewed conferences

[C53] L. Ahrenbeck†, J. Schattmann†, B. Mehrtens†, V. Kosmalla, O. Lojek, D. Schuerenkamp, and **N. Goseberg**. "Exploring The Influence Of Artificial Root Systems Modeled After Marram Grass (Ammophila Arenaria) On Dune Erosion". In: *Proceedings of CoastLab 2024: Physical Modelling in Coastal Engineering and Science*. 2024. DOI: 10.59490/coastlab.2024.805.

[C52] N. Czerner†, C. Windt, and N. Goseberg†. "Production and Tracking Methods of Surrogate Particles for Experimental Testing of Paint Flake Emissions Originating from Offshore Structures". In: *Proceedings of the Thirty-fourth (2024) International Ocean and Polar Engineering Conference*. Rhodes, Hawaii, USA, June 2024, ISOPE-I-24–048.

[C51] **N. Goseberg**, N. Michalke†, J. Gimsa†, D. Schürenkamp, R. Kruse, R. Jänicke, and H. Lantuit. "Arctic Coastline Erosion: Novel Experimental Avenues Help Understand Its Response To A Changing Climate". In: *Proceedings of CoastLab 2024: Physical Modelling in Coastal Engineering and Science*. TU Delft OPEN Publishing, May 2024. DOI: 10.59490/coastlab.2024.796.

[C50] V. Kosmalla†, O. Lojek, L. Ahrenbeck†, B. Mehrtens†, D. Schürenkamp, and **N. Goseberg**. "Towards Accurate Modeling Of Aboveground Vegetation In White Dunes: Biomechanics Of Marram Grass (Ammophila Arenaria)". In: *Proceedings of CoastLab 2024: Physical Modelling in Coastal Engineering and Science*. TU Delft OPEN Publishing, May 2024. DOI: 10.59490/coastlab.2024.798.

[C49] B. Mehrtens†, O. Lojek, T. Bölker†, L. Ahrenbeck†, V. Kosmalla†, C. Schweiger, D. Schürenkamp, and **N. Goseberg**. "Experimental Investigation Of Coastal Foredune Erosion". In: TU Delft OPEN Publishing, May 2024. DOI: 10.59490/coastlab.2024.794.

[C48] J. Hitzegrad†, L. Rentsch†, C. Windt, and **N. Goseberg**. "Oyster reef and mussel bed surrogates subjected to waves". In: *Proceedings of the Coastal Engineering Conference*. 37. 2023.

[C47] J. P. Hoffstaedt, R. A. Ruiz†, D. Schürenkamp, A. Jarquin-Laguna, and **N. Goseberg**. "Experimental setup and methods for a novel low-head pumped storage system". In: *IET Conference Proceedings*. Vol. 2023. 7. 2023, pp. 341–348. DOI: 10.1049/icp.2023.1589.

[C46] C. Krautwald†, C. Schweiger, D. Schürenkamp, and **N. Goseberg**. "Experimental wake dynamics of piles with artificial biofouling in waves". In: *Proceedings of the Coastal Engineering Conference*. 37. 2023.

[C45] A. Schendel, S. Schimmels, M. Welzel, P. A. Le Quéré, I. Nistor, A. Mohammadian, **N. Goseberg**, C. Krautwald†, and J. Stolle. "Scour processes around a column on a sloped beach induced by broken solitary waves". In: *Proceedings of the Coastal Engineering Conference*. 37. 2023.

[C44] L.-C. Dempwolff†, C. Windt, **N. Goseberg**, T. Martin, H. Bihs, and G. Melling. "Computational methods for wave structure interaction modelling in coastal environments under consideration of bathymetric attributes". In: vol. 7. 2022. DOI: 10.1115/OMAE2022-81080.

[C43] K. Keimer†, V. Kosmalla†, O. Lojek, and **N. Goseberg**. "Biomechanical Replication Of Salt Marsh Vegetation Using Resin 3d Printing". In: *Proceedings of the IAHR World Congress*. Granada: International Association for Hydro-Environment Engineering and Research, June 2022, SS–106. DOI: 10.3850/IAHR-39WC252171192022SS2087.

[C42] V. S. O. Kirca, S. U. Yilmaz, B. M. Sumer, R. K. Shanmugasundaram, H. Rusche, C. Windt, and **N. Goseberg**. "Numerical modelling of wave-induced liquefaction around pipelines and offshore cables". In: vol. 9. V009T10A005. 2022. DOI: 10.1115/OMAE2022-78537.

[C41] R. K. Shanmugasundaram, H. Rusche, C. Windt, V. S. O. Kirca, B. M. Sumer, and **N. Goseberg**. "Numerical modelling of residual liquefaction in the subsoil under a vibrating plate". In: vol. 9. V009T10A006. 2022. DOI: 10.1115/OMAE2022-78992.

[C40] C. Windt, **N. Goseberg**, S. Schimmels, M. Kudella, R. Shanmugasundaram, H. Rusche, B. M. Sumer, V. S. O. Kirca, V. Vanjakula, F. Adam, D. Majewski, K. Kazimierowicz-Frankowska, and G. Hrycyna. "Numerical modelling of liquefaction around marine structures? Progress and recent developments". In: vol. 9. V009T10A007. 2022. DOI: 10.1115/OMAE2022-79025.

[C39] C. Windt, **N. Goseberg**, T. Martin, and H. Bihs. "Validation of a numerical model for the investigation of tension leg platforms with marine energy application using REEF3D". In: *ASME 2021 40th International Conference on Ocean, Offshore and Arctic Engineering*. V009T09A027. June 2021. DOI: 10.1115/OMAE2021-62774.

[C38] S. M. Elsayed and **N. Goseberg**. "Role of spatial variability of soil resistance in alongshore variability of coastal barriers response to superstorm surges". In: *Proceedings of the Int. Conf. Coastal. Eng.* 36v. Online. Dec. 2020. DOI: 10.9753/icce.v36v.papers.41.

[C37] H. Elsafti, M. Almaghraby, M. Iskander, and **N. Goseberg**. "Hydraulic performance of innovative seashell-shaped artificial armor units for coastal protections (Seashellbreakwater)". In: *Proceedings of the Coastal Structures Conference 2019*. Hannover, Germany, Oct. 2019.

[C36] J. Landmann†, R. Santjer, R. Gieschen†, **N. Goseberg**, and A. Hildebrandt. "Laboratory tests on wave forces and accelerations of a three-bay long-line aquaculture systems in offshore conditions". In: *International Society of Offshore and Polar Engineers: The 29th International Ocean and Poloar Engineering Conference*. Honolulu, Hawaii, USA, 2019.

[C35] J. Stolle†, I. Nistor, **N. Goseberg**, and E. Petriu. "Probabilistic analysis of debris transport in tsunami-like events". In: *Proceedings of the Coastal Structures Conference 2019*. Ed. by N. Goseberg and T. Schlurmann. 2019.

[C34] J. Stolle†, I. Nistor, **N. Goseberg**, and E. Petriu. "Probabilistic investigation of debris impact forces during extreme hydraulic events". In: *E-proceedings of the 38th IAHR World Congress*. Panama City, Panama, Sept. 2019.

[C33] S. M. Elsayed, H. Oumeraci, and **N. Goseberg**. "Erosion And Breaching Of Coastal Barriers In A Changing Climate: Associated Processes And Implication For Contamination Of Coastal Aquifers". In: *Coastal Engineering Proceedings*. 2018.

[C32] H. von Häfen†, J. Stolle†, **N. Goseberg**, and I. Nistor. "Lift and Swing Gate Modelling for Dam-break Generation with a Particle-Based Method". In: *Proceedings of 7th International Symposium on Hydraulic Structures*. Aachen, Germany, May 2018.

[C31] A. Hildebrandt, J. Landmann†, T. Ongsiek†, and **N. Goseberg**. "Drag Coefficients of Vertically-mounted Full-scale Blue Mussel Dropper Lines". In: *Proceedings of the 37th International Conference on Ocean, Offshore & Arctic Engineering*. American Society of Mechanical Engineering (ASME). Madrid, Spain, 2018.

[C30] C. G. David†, **N. Goseberg**, V. Roeber, A. Hildebrandt, and T. Schlurmann. "Extension and application of a boussinesq-type model for ship-wake waves". In: *Proceedings of SCACR2017 - International Short Course/Conference on Applied Coastal Research*. Abstract accepted. Santander, Spain, Sept. 2017.

[C29] C. Derschum†, J. Stolle†, I. Nistor, and **N. Goseberg**. "The influence of wave-structure-interaction on debris impact in extreme hydrodynamic conditions". In: *Proceedings of SCACR2017 - International Short Course/Conference on Applied Coastal Research*. Abstract accepted. Santander, Spain, Sept. 2017.

[C28] **N. Goseberg**, M. Heunecke†, J. Stolle†, and I. Nistor. "Numerical modelling of shipping container transport over horizontal bottom". In: *Proceedings of SCACR2017 - International Short Course/Conference on Applied Coastal Research*. Abstract accepted. Santander, Spain, Sept. 2017.

[C27] **N. Goseberg**, J. Stolle†, C. Derschum†, and I. Nistor. "Swing Gate Generated Dam Break Waves". In: *E-proceedings of the 37th IAHR World Congress*. Submitted. 2017.

[C26] I. Nistor, **N. Goseberg**, and J. Stolle†. "Flood-induced Debris Motion In A Built-in Environment". In: *E-proceedings of the 37th IAHR World Congress*. Submitted. 2017.

[C25] J. Stolle†, **N. Goseberg**, C. Derschum†, and I. Nistor. "Debris Dynamics And Associated Loads In Extreme Hydrodynamic Conditions". In: *E-proceedings of the 37th IAHR World Congress*. Submitted. 2017.

[C24] **N. Goseberg**, J. Stolle†, and I. Nistor. "Inertial Forces On Shipping Containers From A Broken Tsunami Bore". In: *Proceedings of the 6th International Conference on the Application of Physical Modelling in Coastal and Port Engineering and Science*. Ed. by I. Nistor and A. Cornett. Ottawa, Canada, May 2016.

[C23] O. Lojek† and **N. Goseberg**. "Numerical And In-situ Investigations Of Feasability Studies Of Reinstatement Work For The Port Of Dagebüll". In: *ECSA 56 Coastal systems in transition: From a 'natural' to an 'anthropogenically-modified' state*. Bremen, Germany, Sept. 2016.

[C22] I. Nistor, **N. Goseberg**, J. Stolle†, S. Matsuba, R. Nakamura, T. Mikami, and T. Shibayama. "Flood-induced Debris Motion Within A Built-in Environment". In: *Coastal Engineering Proceedings*. Ed. by P. Lynett. Accepted. Istanbul, Turkey, July 2016.

[C21] A. Schendel†, **N. Goseberg**, and T. Schlurmann. "Processes and effects of reversing currents on the erosion stability of wide-graded grain material". In: *River Sedimentation: Proceedings of the 13th International Symposium on River Sedimentation Stuttgart*. Ed. by S. W. et al. Stuttgart, Germany: Taylor & Francis Group, London, CRC Press, Sept. 2016, pp. 402–410.

[C20] J. Stolle†, I. Nistor, and **N. Goseberg**. "Optical Tracking Of Debris In Extreme Hydrodynamic Conditions". In: *Canadian Society for Civil Engineering (CSCE) Annual Conference*. London, Canada, June 2016.

[C19] J. Stolle†, I. Nistor, and **N. Goseberg**. "Optical Tracking Of Water-borne Debris In Laboratory Conditions". In: *Proceedings of the 6th International Conference on the Application of Physical Modelling in Coastal and Port Engineering and Science*. Ed. by I. Nistor and A. Cornett. Ottawa, Canada, May 2016.

[C18] **N. Goseberg**, G. Bremm†, T. Schlurmann, and I. Nistor. "A transient approach flow acting on a square cylinder - flow pattern and horizontal forces". In: *E-proceedings of the 36th IAHR World Congress*. The Hague, The Netherlands, July 2015, pp. 1–12.

[C17] **N. Goseberg**, I. Nistor, and J. Stolle. "Tracking of "'Smart"' debris location based on RFID technique". In: *Coastal Structures and Solutions to Coastal Disasters 2015: Tsunamis*. Ed. by L. Wallendorf and D. T. Cox. American Society of Civil Engineering. Boston, USA, 2015, pp. 43–53. DOI: 10.1061/9780784480311.

[C16] J. Stolle†, I. Nistor, **N. Goseberg**, S. Matsuba, R. Nakamura, T. Mikami, and T. Shibayama. "Flood-Induced Debris Dynamics over a Horizontal Surface". In: *Coastal Structures and Solutions to Coastal Disasters 2015: Tsunamis*. Ed. by L. Wallendorf and D. T. Cox. American Society of Civil Engineering. Boston, USA, 2015, pp. 54–64. DOI: 10.1061/9780784480311.

[C15] **N. Goseberg** and T. Schlurmann. "Non-stationary flow around buildings during run-up of tsunami waves on a plain beach". In: *Coastal Engineering Proceedings*. Ed. by P. Lynett. Vol. 1. 34. 2014. DOI: 10.9753/icce.v34.currents.21.

[C14] N. Horstmann, N. Kerpen, **N. Goseberg**, and T. Schlurmann. "Investigation on the evolution and propagation of waves in highly concentrated fluid". In: *Coastal Engineering Proceedings*. Ed. by P. Lynett. Vol. 1. 34. 2014. DOI: 10.9753/icce.v34.posters.24.

[C13] N. Kerpen, **N. Goseberg**, and T. Schlurmann. "Experimental Investigations on Wave Overtopping on Stepped Embankments". In: *Application of Physical Modelling to Port and Coastal Protection*. Ed. by V. Penchev and F. Taverira-Pinto. Vol. 1. Proceedings of the 5th International Conference - Coastlab. Varna, Bulgaria, 2014, pp. 262–269.

[C12] O. Lojek, **N. Goseberg**, A. Stahlmann, K. Krämer, and T. Schlurmann. "Unsicherheiten bei der Bestimmung von Bemessungswasserständen und Konzeptionierung eines objektspezifischen Hochwasserschutzmanagements mit standardisiertem Betriebsablauf für das Whitney Museum of American Art in NYC". In: *Dresdener Wasserbaukolloquium 2014 - Simulationsverfahren und Modelle für Wasserbau und Wasserwirtschaft*. Ed. by J. Stamm. Vol. 50. Dresdner Wasserbauliche Mitteilungen. Technische Universität Dresden, 2014, pp. 175–185.

[C11] A. Schendel, **N. Goseberg**, and T. Schlurmann. "Experimental study on the performance of coarse grain materials as scour protection". In: *Coastal Engineering Proceedings*. Ed. by P. Lynett. Vol. 1. 34. 2014. DOI: 10.9753/icce.v34.structures.58.

[C10] V. Sriram, I. Didenkulova, S. Schimmels, A. Sergeeva, and **N. Goseberg**. "Long wave propagation, shoaling and run-up in nearshore areas". In: *Coastal Engineering Proceedings*. Ed. by P. Lynett. Vol. 1. 34. 2014. DOI: 10.9753/icce.v34.currents.20.

[C9] A. Zorndt, **N. Goseberg**, and T. Schlurmann. "Influence of retention areas on the propagation of storm surges in the weser estuary". In: *Coastal Engineering Proceedings*. Ed. by P. Lynett. Vol. 1. 34. 2014. DOI: 10.9753/icce.v34.management.51.

[C8] **N. Goseberg**. "Experimental run-up determination of single sinusoidal, solitary and N-waves". In: *Proceedings of the International Offshore and Polar Engineering Conference*. 2013.

[C7] **N. Goseberg**. "A laboratory perspective of long wave generation". In: *Proceedings of the International Offshore and Polar Engineering Conference*. 2012, pp. 54–60.

[C6] **N. Goseberg** and T. Schlurmann. "Interaction of idealized urban infrastructure and long waves during run-up and on-land flow process in coastal regions". In: *Proceedings of the International Conference on Coastal Engineering*. Ed. by P. Lynett and J. M. Smith. Santander, Spain, 2012. DOI: 10.9753/icce.v33.currents.18.

[C5] M. Vennebusch, **N. Goseberg**, L. Albert, S. Schön, F. Kube, A. Zorndt, T. Schlurmann, and A. Wurpts. "Precise Determination of Sediment Dynamics Using Low-cost GPS-floaters". In: *IEEE/ION PLANS 2012 Proceedings*. 2012. DOI: 10.1109/PLANS.2012.6236957.

[C4] M. Wilms, **N. Goseberg**, and T. Schlurmann. "Hydraulic Performance of Breakwater Heads Armored with Elements with High-Density Iron-Silicate as Concrete Aggregate". In: *Proceedings of the Eight International Conference on Coastal and Port Engineering in Developing Countries*. Chennai, India, 2012, pp. 925–931.

[C3] P. Lynett and J. M. Smith, eds. *Numerical and experimental study on tsunami run-up and inundation influenced by macro roughness elements*. 2010. DOI: 10.9753/icce.v32.currents.13.

[C2] G. Lämmel, M. Rieser, K. Nagel, H. Taubenböck, G. Strunz, **N. Goseberg**, T. Schlurmann, H. Klüpfel, N. Setiadi, and J. Birkmann. "Emergency Preparedness in the Case of a TsunamiEvacuation Analysis and Traffic Optimization for the Indonesian City of Padang". In: *Pedestrian and Evacuation Dynamics 2008*. Springer Berlin Heidelberg, 2010.

[C1] T. Schlurmann, W. Kongko, **N. Goseberg**, D. H. Natawidjaja, and K. Sieh. "Near-field tsunami hazard map Padang, West Sumatra: utilizing high resolution geospatial data and reseasonable source scenarios". In: *Proceedings of the International Conference on Coastal Engineering*. Ed. by P. Lynett and J. M. Smith. 2010. DOI: 10.9753/icce.v32.management.26.

Other conference contributions

[O37] J. Gimsa†, H. Lantuit, **N. Goseberg**, D. Schürenkamp, N. Michalke†, and F. Costard. "Novel Laboratory Wave Flume Experiments on Permafrost Coastal Erosion". In: *Proceedings of the 12th International Conference on Permafrost (ICOP 2024)*. International Permafrost Association. Whitehorse, Yukon, Canada, 2024.

[O36] C. Windt, **N. Goseberg**, H. Rusche, R. K. Shanmugasundaram†, F. Adam, and V. K. Vanjakula†. "Numerische Modellierung der Bodenverflüssigung um marine Bauwerke". In: *Fachzeitschrift für Schifffahrt, Schiffbau & Offshore-Technologie*. Vol. 76. 9. Sept. 2024, pp. 44–48.

[O35] J. D. Bricker, H. Nilsson, P.-T. S. Storli, D. P. K. Truijen, J. D. M. de Kooning, A. Laguna, K. Terheiden, B. Engel, **N. Goseberg**, and R. Moll. "Grid-scale pumped hydro energy storage for the low countries". In: 2. July 2023, pp. 16–20.

[O34] V. K. Vanjakula†, F. Adam, C. Windt, and **N. Goseberg**. "Numerical investigation of a submerged gravity anchor under wave loading during the lowering process". In: *Trends in Renewable Energies Offshore: Proceedings of the 5th International Conference on Renewable Energies Offshore (RENEW 2022, Lisbon, Portugal, 810 November 2022)*. Ed. by C. Soares. 1st ed. CRC Press, 2023. DOI: 10.1201/9781003360773.

[O33] C. Windt, S. Netzband, C. W. Schulz, M. Abdel-Maksoud, and **N. Goseberg**. "Numerical and experimental investigations on the dynamic behavior of offshore structures in waves". In: *Proceedings of Workshop Adaptive Structures At Shore 2022, Hamburg, Germany*. 2022.

[O32] **N. Goseberg**, H. von Hafen†, P. Ballesteros, N. B. Kerpen, and T. Schlurmann. "Arbitrary generation of very long, and tsunami-like waves using an optimzed pump-driven method". In: *Proceedings of the Int. Conf. Coastal. Eng.* 36v. Online. Dec. 2020.

[O31] **N. Goseberg**, M. Paul, D. Schürenkamp, and T. Schlurmann. "Research Perspectives on Ecologically-wise Means of Coastal Protection - Current Deficits and Future Demands". In: 1. Mar. 2020, pp. 15–17.

[O30] H. von Hafen†, J. Stolle, **N. Goseberg**, and I. Nistor. "Breaking and wash up of solitary waves on a composite beach". In: *Proceedings of the Int. Conf. Coastal. Eng.* 36v. Dec. 2020.

[O29] C. Krautwald†, J. Stolle, J. Hitzegrad†, P. Niebuhr, **N. Goseberg**, I. Nistor, and M. Sieder. "Large-scale physical modelling of a broken solitary wave impact on rigid and non-rigid box-like structures". In: *Proceedings of the Int. Conf. Coastal. Eng.* 36v. Dec. 2020.

[O28] M. Qudaih, B. Engel, D. P. K. Truijen, J. D. M. D. Kooning, K. Stockman, J. Hoffstädt, A. Jarquin-Laguna, R. A. Ruiz†, **N. Goseberg**, J. D. Bricker, J. Fahlbeck, H. Nilsson, L. Bossi, M. Joseph, and M. Zangeneh. "The Contribution of Low-head Pumped HydroStorage to a successful Energy Transition". In: *19th Wind Integration Workshop - International Workshop on Large-Scale Integration of Wind Power into Power Systems as well as on Transmission Networks for Offshore Wind Plants*. 2020.

[O27] J. Stolle, C. Krautwald†, I. Nistor, and **N. Goseberg**. "Structural response of wood structures under hydraulic loading". In: *Proceedings of the Int. Conf. Coastal. Eng.* 36v. Online. Dec. 2020.

[O26] K. Tegethoff†, T. Ring, **N. Goseberg**, and S. C. Langer. "Online-Lernplattformen zur Unterstützung der Lehre im Küsteningenieurwesen und der Akustik: Entwicklung und Implementierung einer wikibasierten Online-Lernplattform und deren Integration in ein Lehrkonzept". In: *Teaching Trends 18 - Die Präsenzhochschule und die digitale Transformation*. Ed. by S. Robra-Bissantz, O. J. Bott, N. Kleinefeld, K. Neu, and K. Zickwolf. ELAN e.V. Kongress - Braunschweig 7. Waxmann, 2019.

[O25] M. Brühl, **N. Goseberg**, L.-B. Jordan†, M. Kudella, J. Mennenga, M. Miranda-Lange, J. Müller, A. Schendel, S. Schimmels, T. Schlurmann, and J. Weisheit. "Design and operation of a new small-scale wave-current flume". In: *Proceedings of 9th Chinese-German Joint Symposium on Hydraulic and Ocean Engineering (CGJOINT 2018)*. National Cheng Kung University. Tainan, ROC, 2018.

[O24] S. M. Elsayed, H. Oumeraci, and **N. Goseberg**. "Longshore variability of diverse loading and resistance of coastal barriers & implications for breaching under extreme storm surges". In: *Proc. of the 5th IAHR Europe Congress New Challenges in Hydraulic Research and Engineering*. Ed. by A. Armanini and E. Nucci. 2018. DOI: 10.3850/978-981-11-2731-1_003-cd.

[O23] **N. Goseberg**, R. Gischen†, J. Landmann, T. Ongsiek†, and A. Hildebrandt. "Drag and Inertia Coefficients of Live and Surrogate Shellfish Dropper Lines for Aquaculture". In: *Proceedings of 9th Chinese-German Joint Symposium on Hydraulic and Ocean Engineering (CGJOINT 2018)*. National Cheng Kung University. Tainan, ROC, 2018.

[O22] M. Kreyenschulte†, H. Schüttrumpf, and **N. Goseberg**. "Wave Loading on Mortar-Grouted Riprap Revetments: Full-Scale Model Tests". In: *Proceedings of 9th Chinese-German Joint Symposium on Hydraulic and Ocean Engineering (CGJOINT 2018)*. National Cheng Kung University. Tainan, ROC, 2018.

[O21] V. Kühling†, M. Kreyenschulte, **N. Goseberg**, and H. Schüttrumpf. "Wave Run-Up/Run-Down and Wave Set-Up on Mortar-Grouted Riprap Revetments: Full-Scale Laboratory Tests". In: *Proceedings of the 7th International Conference on the Application of Physical Modelling in Coastal and Port Engineering and Science (Coastlab18)*. Santander, Spain, May 2018.

[O20] J. Landmann†, T. Ongsiek†, **N. Goseberg**, and A. Hildebrandt. "Investigating Drag and Inertia Characteristics of Full-scale Blue Mussel Dropper Lines". In: *Proceedings of the 7th International Conference on the Application of Physical Modelling in Coastal and Port Engineering and Science (Coastlab18)*. Santander, Spain, May 2018.

[O19] S. Schimmels, T. Schlurmann, M. Brühl, and **N. Goseberg**. "Large scale experiments in coastal and Ocean engineering A Review of 35 years of physical model tests in the Large Wave Flume (Grosser Wellenkanal, GWK)". In: *Proceedings of 9th Chinese-German Joint Symposium on Hydraulic and Ocean Engineering (CGJOINT 2018)*. National Cheng Kung University. Tainan, ROC, 2018.

[O18] T. Schlurmann, M. Brühl, **N. Goseberg**, A. Schendel, and S. Schimmels. "marTech - Development of Renewable Maritime Technologies for Reliable and Sustainable Energy Supply". In: *Proceedings of 9th Chinese-German Joint Symposium on Hydraulic and Ocean Engineering (CGJOINT 2018)*. National Cheng Kung University. Tainan, ROC, 2018.

[O17] J. Stolle†, T. Takabatake, G. Hamano, H. Ishii, K. Iimura, T. Shibayama, **N. Goseberg**, I. Nistor, and E. Petriu. "Debris Transport Over A Sloped Surface In Tsunami-like Flow Conditions". In: *Proceedings of the 7th International Conference on the Application of Physical Modelling in Coastal and Port Engineering and Science (Coastlab18)*. Santander, Spain, May 2018.

[O16] J. Stolle†, I. Nistor, and **N. Goseberg**. "Debris Dynamics And Impact Forces In Extreme Hydrodynamic Conditions". In: *Proceedings of the 7th International Tsunami Symposium*. Ed. by G. Pararas-Carayannis. Ispra, Italy: The International Tsunami Society, Sept. 2016.

[O15] S. Vater, U. Drähne†, **N. Goseberg**, N. Beisiegel, and J. Behrens. "Long-wave Runup On A Plane Beach: An Experimental And Numerical Investigation". In: *Geophysical Research Abstracts*. Vol. 18. EGU2016-6577, EGU General Assembly 2016. Vienna, Austria, Apr. 2016.

[O14] S. Wöbse†, N. Kerpen, **N. Goseberg**, and T. Schlurmann. "Stabilitätsuntersuchungen von modularen Deckwerksmatten aus ESG-Beton". In: *Kongress der Hafentechnischen Gesellschaft*. German Port Technology Association. Bremen, Sept. 2015.

[O13] G. David†, V. Röber, and **N. Goseberg**. "Introducing a pressure term for ship-induced waves into a Boussinesq-type model". In: *Proceedings of the 7th Chinese-German Joint Symposium on Hydraulic and Ocean Engineering (CGJOINT 2014)*. Leibniz Universität Hannover, Germany, Sept. 2014.

[O12] O. Lojek, **N. Goseberg**, and T. Schlurmann. "Numerical and in-situ Investigation of Feasability Studies of Reinstatement work for the port of Dagebüll". In: *Proceedings of the 7th Chinese-German Joint Symposium on Hydraulic and Ocean Engineering (CGJOINT 2014)*. Leibniz Universität Hannover, Germany, Sept. 2014.

[O11] A. Schendel, **N. Goseberg**, and T. Schlurmann. "Experimental study on the erosion stability of coarse grain materials under waves". In: *Proceedings of the 7th Chinese-German Joint Symposium on Hydraulic and Ocean Engineering (CGJOINT 2014)*. Leibniz Universität Hannover, Germany, Sept. 2014.

[O10] T. Schlurmann, **N. Goseberg**, and D. Bung. "Hydropower development, its implications and changes in hydrology,morphodynamics and ecology: Review and impact assessment from Germany". In: *Mekong Environmental Symposium*. Ho Chi Minh City, Vietnam, Mar. 2013.

[O9] **N. Goseberg**, B. Franz, and T. Schlurmann. "The potential co-use of aquaculture and offshore wind energy structures". In: *Proceedings of the 6th Chinese-German Joint Symposium on Hydraulic and Ocean Engineering (CGJOINT 2012)*. Vol. 6. National Taiwan Ocean University, Keelung, Taiwan, ROC, Sept. 2012, pp. 597–603.

[O8] A. Schendel, **N. Goseberg**, and T. Schlurmann. "Experimental study on erosion potentials and nearbed transport processes of coarse grain materials". In: *Proceedings of the 6h Chinese-German Joint Symposium on Hydraulic and Ocean Engineering (CGJOINT 2012)*. Vol. JOINT 2012. National Taiwan Ocean University, Keelung, Taiwan, ROC, 2012.

[O7] **N. Goseberg**. "Long wave generation in physical modelling". In: *hydralab III Young Researchers Workshop*. Hannover, Germany, 2010.

[O6] **N. Goseberg** and T. Schlurmann. "Highly resolved tsunami inundation study for Padang, Western Sumatra using a multi-scenario approach". In: *Meeting of the Asia Oceania Geosciences Society (AOGS)*. Singapore, 2009.

[O5] **N. Goseberg**, F. Verworn, and T. Schlurmann. "Highly resolved tsunami inundation study for Padang, Western Sumatra using a multi-scenario approach". In: *161. Annual meeting of the German Society for Geo Sciences*. Dresden, Germany, 2009.

[O4] J. Birkmann, S. Dech, **N. Goseberg**, H. Klüpfel, G. Lämmel, F. Moder, K. Nagel, M. Oczipka, T. Schlurmann, N. Setiadi, F. Siegert, G. Strunz, and H. Taubenböck. "Numerical Last-mile Tsunami Early Warning And Evacuation Information System (last-mile Evacuation)". In: *Proceedings of the International Conference on Tsunami Warning (ICTW) - Towards Safer Coastal Communities*. Nusa Dua, Bali, Indonesia, 2008, pp. 1–12.

[O3] **N. Goseberg** and T. Schlurmann. "Relevant factors on the extent of inundation based on tsunami scenarios for the city of Padang, West Sumatra". In: *Proceedings of the International Conference on Tsunami Warning (ICTW) - Towards Safer Coastal Communities*. Nusa Dua, Bali, Indonesia, 2008, pp. 1–8.

[O2] **N. Goseberg**, A. Stahlmann, S. Schimmels, and T. Schlurmann. "Highly resolved numerical modelling of tsunami run-up and inundation scenarios in the city of Padang, West Sumatra". In: *Poster proceedings of the International Conference on Coastal Engineering*. Hamburg, Germany, 2008.

[O1] H. Spekker, **N. Goseberg**, and C. Zimmermann. "Control Structures For Flood And Risk Management - Case Studies Of Mississippi River Delta And Weser River Estuary". In: *Proceedings of Port Development and Coastal Environment*. 2007.

Scientific Data

[D7] K. Keimer†, F. Kind†, I. Prüter†, V. Kosmalla†, O. Lojek, D. Schürenkamp, M. Prinz, S. Niewerth, J. Aberle, and **N. Goseberg**. *From seasonal field study to surrogate modeling: Investigating the biomechanical dynamics of Elymus sp. in salt marshes*. 2024. DOI: 10.24355/dbbs.084-202308161057-0. URL: https://doi.org/10.24355/dbbs.084-202308161057-0.

[D6] **N. Goseberg**, J. Stolle, I. Nistor, T. Shibayama, F. Spröer†, C. Krautwald†, and N. Goseberg. *Experimental dataset describing the debris motion due to the obstruction from fixed obstacles in tsunami-like flow conditions*. en. 2023. DOI: 10.24355/dbbs.084-202303091524-0. URL: https://doi.org/10.24355/dbbs.084-202303091524-0.

[D5] K. Keimer†, V. Kosmalla†, I. Prüter†, O. Lojek, D. Schürenkamp, and **N. Goseberg**. *Field measurements of geometrical and mechanical properties of Spartina anglica on Spiekeroog, Germany, from December 2021 to December 2022*. en. 2023. DOI: 10.24355/dbbs.084-202311010949-0. URL: https://doi.org/10.24355/dbbs.084-202311010949-0.

[D4] K. Keimer†, V. Kosmalla†, I. Prüter†, J.-M. Schönebeck, O. Lojek, D. Schürenkamp, and **N. Goseberg**. *Mini Buoy measurements to evaluate flooding frequency and duration in the salt marsh from January 2022 to March 2023 (Spiekeroog and Butjadingen, Germany)*. en. 2023. DOI: 10.24355/dbbs.084-202311010959-0. URL: https://doi.org/10.24355/dbbs.084-202311010959-0.

[D3] J. Hitzegrad†, S. Köster, C. Windt, and **N. Goseberg**. *Water Surface Elevations and Near-bed Velocity Measurements over Ultra-rough Bed Surfaces Subjected to Regular Waves*. Links to publications that cite or use the data: Title: Surrogates of Oyster Reef Bed Surfaces: Understanding the Role of Sharp Edges in the Propagation of Surface Gravity Waves, Authors: Jan Hitzegrad, Sebastian Köster, Christian Windt, Nils Goseberg, Journal: Submitted to: Journal of Geophysical Research: Oceans, Year: 2022. 2022. DOI: 10.24355/dbbs.084-202209221223-0. URL: https://doi.org/10.24355/dbbs.084-202209221223-0.

[D2] A. Korte†, C. Windt, and **N. Goseberg**. *Stakeholder questionnaire: Potential of tidal energy in Germany*. 2022. DOI: 10.24355/dbbs.084-202211161441-0. URL: https://doi.org/10.24355/dbbs.084-202211161441-0.

[D1] C. Krautwald†, H. von Häfen†, P. Niebuhr, K. Vögele, J. Stolle, S. Schimmels, D. Schürenkamp, M. Sieder, and **N. Goseberg**. *CollStruct - Videos of Collapsing Structures in Experimental Hydraulics in the Large Wave Flume (GWK) of the Coastal Research Center (FZK), Hannover, Germany*. 2022. DOI: 10.24355/dbbs.084-202202110737-0. URL: https://publikationsserver.tu-braunschweig.de/receive/dbbs_mods_00070273.

Talks and invited talks (selection)

2023 Marine growth and biofouling on oceanic surfaces: Implications for hydraulic structures and the wave climate, Symposium "Technical Challenges for Coastal Hydraulic Structures, Technical University of Delft, Delft, The Netherlands, May 16, (invited)

2023 Experimental Modelling for Coastal Sciences & Ocean Renewables: Large-scale testing with a large wave&current flume, 2023 Symposium on large scale experiments, Japan Society of Civil Engineering, Tokyo, Japan & Online

2023 Loads and effects of tsunami waves on the build environment, UCSC-Seminar 2023, Concepcion/Chile, March 30, (invited)

2022 Advances in Experimental Modelling for Coastal Sciences & Ocean Renewables: Large-scale testing with a focus on hydrodynamics and biochemical aspects, 2022 KWRA Annual Conference, Busan/Korea & Online, May 19-22, (invited)

2022 Large Wave Flume+ - R&D-environment for coastal and ocean research, Virtual Roundtable Talks "German Green Energy Solutions, Organised by German und New Zealand Embassies, 12. May 2022, Online

2021 Weiterentwicklung des Großen Wellenkanals am Forschungszentrum Küste: Herausforderungen des Klimawandels und der Energiewende, Forum Geotechnik und Baubetrieb, Online, January 14

2020 Flows Past Bivalve-Covered Surfaces, Lower Saxony–Scotland Joint Forum, Online, November 23-24

2019 The future of experiments in coastal engineering. Ocean Week 2019 Oceans in Change, Radisson Blue, Trondheim, Norway, Organizer NTNU, Norway, May 6-8

2019 Beyond rigidity – Collapsing structures in experimental hydraulics. Forum Experiment! conference 2019, Herrenhausen Palace, Hannover, Germany, Organizer Volkswagen Stiftung, Nov. 26-27

2018 Large-scale physical model testing of coastal environments: past and future, International Conference on Celebration of HIGH-Center, Rural Research Institute, Korea Rural Community Corporation, Gyeonggi-do, Republic of South Korea

2017 Modelling onshore tsunami loads and effects, Long Waves and Tsunamis Workshop, Discovery Point, Dundee, Scotland

Outreach Activities - Selection

2023/02 taz - Die Tageszeitung (Online media, in German): "Küstenschutz mit Salzwiesen: Gegen die Flut wächst ein Kraut", 04.02.2023, by Thea Marie Klinger

2022/10 Hannoversche Allgemeine Zeitung (Print media, in German): "Was tun, wenn der Meeresspiegel steigt?", 24.10.2022

2022/07 Braunschweig Newspaper (Print media, in German): "'What is a tsunami?"', 16.07. and 23.07.2022

2021/03 Deutsches Ingenieurblatt (Print media, in German, p. 14): "Wenn der Meeresboden zu Teig wird", 30.03.2021, `www.deutsches-ingenieurblatt.de`

2021/01 Spektrum.de (online, in German): "Meeresenergie: Strom aus dem Meer", 12.01.2021, Spektrum der Wissenschaft Verlagsgesellschaft mbH

2018/08 Zeit-Wissen Podcast: "Woher weißt Du das? / Nachhaltigkeit", 30.08.2018, Zeit Verlag

2018/04 Radio feature, NDR Info - Logo - Das Wissenschaftsmagazin, Title "Orkane und Tornados im Klimawandel. Welche Auswirkungen hat dies für Norddeutschland?", 20.04.2018, NDF Info

Contribution to research projects (selection)

Life-time summary: 48 in total, 22 selected

2024 /10 – 2027/09 **048: VesweED – Einfluss von räumlichen Vegetationsstrukturen auf strömungs- und welleninduzierte Erosionsprozesse an Dünen**, *Commissioned by: German Research Foundation (DFG)*, Role: Acquisition, PI

2024/07 – 2029/06 **047: AngryWaters – Scaling fluid-driven processes: Building Collapse in Extreme Flow Conditions**, *Commissioned by: European Research Council (ERC)*, Role: Acquisition, PI

2024/01 – 2026/12 **046: METAscales – New strategies of adaptation to future physical-oceanographic extreme scenarios at German coastlines, FKZ: 03F0955A**, *Commissioned by: Federal Ministry of Science and Education*, Role: Acquisition, PI with Dr. G. David

2024/01 – 2027/12 **045: INF4INiTY – Integrated Designs for Future Floating Offshore Wind Farm Technology, ID: 101136087**, *Commissioned by: European Commission Research Agency*, Role: Project coordinator, Acquisition, PI

2024/01 – 2027/12 **044: DuneFront – Demonstration of Dune-Dike hybrid blue-grey Nature-based Solutions, ID: 101135410**, *Commissioned by: European Commission Research Agency*, Role: Acquisition, PI

2023/07 – 2026/06 **043: NumSiLaSu – Numerical Simulation of Long-Period Waves in Embankment Areas**, *Commissioned by: Federal Waterways Engineering and Research Institute (BAW)*, Role: Acquisition, PI

2023/02 – 2027/01 **042: Anemoi – Chemical emissions from offshore wind farms: assessing impacts, gaps and opportunities**, *Commissioned by: European Commissions Research Agency through Interreg North Sea programme*, Role: Acquisition, PI

2022/11 – 2025/10 **041: Future Lab – Water Resources Management for Lower Saxony, ID: ZN3994**, *Commissioned by: Provincial Ministry of Science (MWK)*, Role: Acquisition, Co-PI

2022/11 – 2025/10 **040: HystCon – Hydraulic stability, damage processes and mitigation strategies of coastal defense structures - Contacts and interfaces subjected to wave run-up and overtopping, ID: 03F0925B**, *Commissioned by: Federal Ministry of Science and Education*, Role: Acquisition, PI

2022/11 – 2025/10 **039: VemoLahn – Interaction of vegetation and morphodynamics in brushwood fence-stabilized coastal wetlands, ID: 03F0929A**, *Commissioned by: Federal Ministry of Science and Education*, Role: Acquisition, PI

2021/12 – 2024/11 **038: CoastalFutures - Scenarios to Promote Sustainable Futures of Contested Marine Areas, Influence of biogeomorphologic roughness elements in maintenance and climate scenarios**, *Commissioned by: Federal Ministry of Science and Education*, Role: Acquisition, PI

2021/07 – 2025/06 **037: Junior Research Group: Future Urban Coastlines Individualized and Eco-Integrated Coastal Protection using Digital Technologies**, *Commissioned by: DFG and Technische Universität Braunschweig, Exu-Funds*, Role: Co-Initiator, with B. Schröder-Esselbach and H. Klopf

2021/04 – 2024/04 **036: TsunamiRisk – Multi-Risk Assessment and Cascading Effects Analysis in cooperation between Indonesia and Germany Joint Research on Volcanic and Landslide induced Tsunamis**, *Commissioned by: Federal Ministry of Science and Education*, Role: Acquisition, PI

2020/11 – 2023/10 **035: Sandküste St. Peter-Ording – Ecological enhancement of a Wadden Sea area and adaptation to the accelerated sea level rise**, *Commissioned by: Federal Ministry of Environment, Nature Conservation and Nuclear Safety*, Role: Acquisition, Co-PI

2020/09 – 2023/08 **034: Nulimas - Numerical Modelling of Liquefaction Around Marine Structures**, *Commissioned by: Federal Ministry of Economy and Energy Affairs*, Role: Acquisition, PI, Coordination

2020/07 – 2023/06 **033: NumSiSSI: Development of numerical methods for modelling ship-generated waves and their interaction with embankments**, *Commissioned by: Federal Waterways Engineering and Research Institute (BAW)*, Role: Acquisition, PI

2020/04 – 2023/03 **032: Augmenting grid stability through Low-head Pumped Hydro Energy Utilization & Storage**, *Commissioned by: European Commissions Research Agency in H2020*, Role: Acquisition, Co-PI

2020/01 – 2024/12 **031: Gute Küste Niedersachsen - Real-world laboratories investigations towards ecosystem-wise coastal protection**, *Commissioned by: Lower Saxonian Ministry of Science and Culture*, Role: Acquisition, Co-PI

2019/12 – 2024/05 **030: EnviSim4Mare - Test bed development and investigation on the influence of marine growth on drag and inertia coefficients of offshore wind structures**, *Commissioned by: Federal Ministry of Economy and Energy Affairs*, Role: Acquisition, PI, Coordination

2019/09 – 2022/08 **029: BIVA-WATT - Roughness effects of Oyster reefs and blue mussel beds on waves and currents**, *Commissioned by: Federal Ministry of Science and Education*, Role: Acquisition, PI, Coordination

2018/04 – 2019/10 **028: Beyond rigidity - Collapsing structures in experimental hydraulics**, *Commissioned by: Volkswagen Foundation through their highly-competitive "Experiment"-funds*, Role: Acquisition, PI, Coordination

2018/01 – 2019/12 **027: Large-scale research facility: Long-wave generation device, INST398192031**, *Commissioned by: German Research Foundation, DFG*
Role: Acquisition, Project management, PI

2017/07 – 2023/12 **026: marTech - Testing and development of maritime technologies for reliable energy supply**, *Commissioned by: Federal Ministry of Economy and Energy Affairs*, Role: Acquisition, Project management, Co-PI

Braunschweig, October 11, 2024

(Nils Goseberg)