

Dr.NASAR Thuvanismail (Ph.D., IIT Madras)



Associate Professor
Department of Water Resources and Ocean Engineering
(Formerly Applied Mechanics and Hydraulics)
National Institute of Technology Karnataka, Surathkal
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Research interest

Coastal Processes and Coastal Engineering, Marine Geotechnical and Foundation Engineering, Hydrodynamics of fixed and Floating structures, Liquid sloshing dynamics in engineering applications, development of smart materials, structural health monitoring

Consultancy Works Interest

Design of Coastal and Offshore structures, Design and development of Port and Harbour structures

Educational qualifications

Course	University	Year
Ph. D. (Ocean Engg.)	Indian Institute of Technology Madras (IITM), Chennai, India	2008
M.E. (Structures)	College of Engineering Guindy, Anna University, Chennai, India	2003
B. Tech. (Civil Engg.)	Arulmighu Kalasalingam College of Engineering, Madurai Kamarajar University, Madurai, India	1998

Professional experience

Designation/Position	Name of the institute/industry and duration
Associate Professor (Post under Govt. of India)	Department of Water Resources and Ocean Engineering, NITK Surathkal September 2019 – till date
Assistant Professor (Post under Govt. of India)	Department of Applied Mechanics and Hydraulics, NITK Surathkal March 2015 – September 2019
Professor	Department of Civil Engineering, TKM Institute of Technology, Kollam April 2014 – March 2015
Professor	Department of Civil Engineering, ToCH Institute of Science and Technology, Ernakulam October 2013 – March 2014
Assistant Professor (Post under Govt. of India)	Department of Naval Architecture and Ocean Engineering, Indian Maritime University, Cochin Campus December 2012 – August 2013
Professor	Department of Civil Engineering, Noorul Islam Centre for Higher Education, Nagercoil May 2010 - December 2012
Senior Marine Engineer	DAR AL-Handasah (Shair & Partners)

	Pune-411028, India November 2008 – April 2010
Research Scholar/ Assistant (during Ph.D)	Indian Institute of Technology Madras, Chennai January 2004 – October 2008
Project Officer	Indian Institute of Technology Madras, Chennai August 2003 – November 2003
Graduate Engineer Trainee	Venus constructions, Chennai July 1998 – May 2001

Publications

International Journals- 22 Nos

International Conferences -24 Nos

National Conferences / Seminars / Symposia – 15 Nos

Lectures delivered

1. “Tsunami Generation and Propagation”, National Level symposium on Recent advances in Civil Engineering, NIU, August 2011.
2. “Physical Modelling of Coastal Structures”, AICTE sponsored QIP programme in Coastal Processes and Modelling, March 2012, **IIT Bombay**.
3. “Nonlinear aspects of liquid sloshing dynamics”, Naval Research Board, India sponsored workshop on Numerical simulation of free surface waves, March 2013, **IIT Chennai**.
4. “Liquid sloshing dynamics in a seagoing vessel” Department of Naval Architecture and Ocean Engineering, **Osaka University, Osaka, Japan**, March 2016.
5. “Dynamics of floating systems and application to marine energy systems” National Workshop on Renewable Energy from Ocean: Potential along Indian Subcontinent 30th Sep’19-1st Oct’19, **IIT Bombay**.

Professional honour

-International reviewer member of a SCOPUS indexed journals ‘Marine Structures’, ‘Ocean Engineering’, ‘Ships and Offshore structures’, ‘Mechanical Systems and Signal Processing’

Countries visited

- Trondheim, Norway, to present paper in 36th OMAE 25th – 30th June, 2017
- Osaka University, Japan, Research interaction, 23rd April– 30th April, 2016
- Egypt, professional visit, January – January-March 2009
- Portugal, to present paper in 27th OMAE, 31st May – 5th June 2008

Research Guidance at NITK

- Marine structures (M.Tech) (Completed -18, Ongoing-5)
- Marine Structures (M.Tech, Research) (Completed -2)
- Ph.D (Completed -2, Ongoing – 2.5)

List of consultancy projects involved in IIT Madras (Read as Project title and Sponsored agency)

- (1) Design of effluent disposal and diffuser system for Textile Park, South Indian Mills Association Ltd (SIMA), Cuddalore.

- (2) Stability assessment of Rubble Mound Breakwater armoured with Accropode units at Karaikal port, MARG Engineering Ltd, Chennai, India.
- (3) Design of Outfall Facilities for 1050MW Natural Gas/LNG based combined cycle power plant at KOVAYA, GSPC Pipavav Power Company Ltd, Gujarat.
- (4) Research project on Stability assessment of Rubble Mound Breakwater armoured with **KOLOS** (Modified DOLOS) at Krishnapatnam port, Andhra Pradesh, India.
- (5) Hydrodynamic performance of Geobags and Gabions, Garware Wall Ropes Ltd., Pune.
- (6) Stability study of CORE-LOC armoured rubble mound breakwater at Pawas Bay, Finolex Industries Ltd., Mumbai, India.
- (7) Series of bathymetry surveys at Kanyakumari district (Periathalai, Manakudi and Enaiyam villages), Public Works Department, Tamilnadu Government.
- (8) Improvement of Pondicherry fishing harbour – Bathymetry survey, Department of Fisheries, Government of Pondicherry.
- (9) Anti sea erosion work – Coastline north of Royapuram Fishing Harbour, Tamil Nadu Water Resources Organization, Public Works Department, Chennai.
- (10) Development of adequate road connectivity to Chennai and Ennore Port – Sea protection work – Hydrographic surveys, RDS Project Limited, Chennai.
- (11) Hydrographic survey at Nizampatnam, Good Earth Maritime Ltd., Chennai.
- (12) Tranquility studies of Chennai port, Tamilnadu Government, India.
- (13) Preliminary studies and Bathymetry survey at Idinthakarai, for construction of Fishing Harbour - Public Works Department, Tamilnadu Government, India.

R&D projects (Ongoing/Completed)

1. Funding Agency -SERB, DST, GOI; Project Amount – INR.32.67Lakhs

Title of the project: Optimal damping of porous screen in TLD-Structure interaction (File No ECR/2015/000176); Duration: 2016-20.

Role: Principal Investigator

2. Funding Agency -MHRD, GOI; Project Amount – INR 78 Lakhs

Title of the project: " Renewable energies from Ocean: Adoptable and Sustainable technologies for Indian conditions"- File Number: SPARC/2018-2019/P689/SL, Duration: 2019-20.

Role: Co Investigator

3. Funding Agency -DST, GOI; Project Amount – INR150 Lakhs

Title of the project: "Impounding of River flood waters along Dakshina Kannada Coast: A sustainable strategy for water resource development"- File Number: IMP/2018/001298, Duration: 2019-21.

Role: Co Investigator

Consultancy works Ongoing/Completed at NITK

Total amount: 85 Lakhs

Professional Membership:

- Life member of Indian Society for Hydraulics (Membership No: 1338)
- Life member of The Indian Science Congress Association (Membership No: L33873)
- Life member of Ships, Offshore, Coastal and Environmental Research Society (Membership No: 5002017018)

Professional society activities, events, conferences organized etc

- i) Organized an expert lecture titled ‘Surfzone Processes and Sediment Transport’ on 16.08.2016. Expert Name and details: Dr.Seelam Jayakumar, Principal scientist, NIO Goa
- ii) Organized MIKE-21 training programme between 22.08.2016-26.08.2016. Course instructor: Dr.Susant Misra, DHI, Delhi
- iii) Five days GIAN course on Environmental Loads and Design Approach for Fixed and Floating Offshore Structures, Course instructor: Dr. Krish P Thiagarajan, Endowed Chair in Renewable Energy & Professor, Department of Mechanical & Industrial Engineering, University of Massachusetts Amherst

Publications (Last 3 years)

International Journals

1. A I Shirkol and Nasar, T (2018). Coupled boundary element method and finite element method for hydroelastic analysis of floating plate. *Journal of Ocean Engineering and Science*, Vol. 3(1), pp 19-37. <https://doi.org/10.1016/j.joes.2017.11.003>.
2. A I Shirkol and Nasar, T (2019). Coupled BEM and FEM for the analysis of floating elastic plate with an arbitrary shape. *Ships and Offshore Structures*, Vol.14 (8), pp 818-828. <https://doi.org/10.1080/17445302.2018.1564540>
3. T. Nasar, and S. A. Sannasiraj (2019). Sloshing Dynamics and performance of porous baffle arrangements in a barge carrying liquid tank. *Ocean Engineering*, Vol.183, pp 24-39. <https://doi.org/10.1016/j.oceaneng.2019.04.022>
4. T. Nasar, and S.A.Sannasiraj, V.Sundar (2021). Performance assessment of porous baffles on liquid sloshing dynamics in a barge carrying liquid tank. *Ocean Engineering, Ships and Offshore Structures*, Vol.16(7), pp 773-786. <https://doi.org/10.1080/17445302.2020.1781746>
5. **Sahaj K. V.**, T. Nasar and Vijay K. G. (2021) “Experimental Study on Liquid Sloshing with dual Vertical Porous Baffles in a Sway Excited Tank”. *Ocean Systems Engineering*. Vol.11, No.4 (2021) 353-371. <https://doi.org/10.12989/ose.2021.11.4.353>
6. **Kunhimammu Paravath**, Nasar. T. and Jhoga Parth (2021). “Geomorphologic Impact of Construction of Breakwaters at Ponnani Fishery Harbour in Kerala”. *IOP Conf. Series: Earth and Environmental Science* 809 (2021) 012016. doi:10.1088/1755-1315/809/1/012016.
7. **Sahaj K. V.**, Shwethashri and T. Nasar “Experimental Study on Liquid Sloshing Dynamics in a Sway Excited Rectangular Tank”. *Journal of Institute of Engineers series A* (First review submitted).
8. **Sahaj K. V.**, Shwethashri and T. Nasar “Sloshing Dynamics in a Sway Excited Rectangular Scaled Tanks”. *Journal of marine science and application* (First review submitted).
9. **Sahaj K. V.**, Kumaran V. and T. Nasar “Sloshing dynamics with a Vertical Porous Baffle in a Sway Excited Tank- Physical and Numerical Approach”. *Ships and offshore structures* (Under review).
10. Chithuloori Pravallika., **Sahaj K. V.**, T. Nasar and Jin Man Kim “Liquid Sloshing in Laterally excited tank Equipped with single baffle”. *Korean Society of Civil Engineering* (Under review).
11. Mallikarjun, S.B and Nasar, T. (2022). “Drag coefficient of porous screen in an non-oscillation perpendicular to plane-inflow”,

International Conferences

1. Jhoga.P, **Nasar.T**, and Kunhimammu P (2018). Numerical approach to understand sediment transport and nearshore wave transformation after construction of breakwaters-Ponnani Harbour, Kerala, India. *International conference on HDYRO 2018*, NIT Patna, 19-21 December.

2. Bhargav.J, **Nasar.T** and Kunhimammu Paravath (2018) “A study on shoreline configuration dynamics of Beypore estuary using End point rate analysis – During and Post Construction of Breakwaters” *International conference on HDYRO 2018*, NIT Patna, 19-21 December.
3. Ashwin A., T. Nasar and S. Arun., (2020). Vibration based damage detection of structures using Artificial Neural Networks. Proceedings of the second ASCE India Conference on Challenges of Resilient and Sustainable Infrastructure Development in Emerging Economies (CRSIDE 2020), Kolkata. March 2-4.
4. Kunhimammu Paravath and Nasar T (2022) “Impact of Estuarine Breakwaters on Adjacent Shorelines at Muthalapozy Harbour in Kerala”. Paper presented in IEEE OCEANS 2022 Conference held during 21-24 Feb 2022 in IIT Madras Research Park.
5. Kunhimammu Paravath, Nasar. T. and Jhoga Parth (2021). “Geomorphologic Impact of Construction of Breakwaters at Ponnani Fishery Harbour in Kerala”. Presented in 8th International Conference on Coastal and Ocean Engineering 3-5 April 2021, Tokyo, Japan.
6. Kunhimammu Paravath, Ammu John and Nasar T (2021) “A Study on Morphodynamic Nature of Muthalapozy Fishery Harbour in Kerala Using Geospatial Approach”. Paper presented in the International Conference (online) on Civil Engineering Trends and Challenges for Sustainability (CTCS 2021) held during 19-20 Nov 2021 in NMAM Institute of Technology, Nitte, Karnataka.
7. Mallikarjun, S.B and Nasar, T. (2021). “Drag coefficient of porous screen in an non-oscillation perpendicular to plane-inflow”, *Proceedings of 40th International Conference on Ocean, Offshore and arctic Engineering (OMAE 2021)*, June 2021. <https://doi.org/10.1115/OMAE2021-62799>
8. Vijay Suryawanshi, Ramesh H, Nasar T and Stanley Philips (2022). “Integrated Ecological River Health Assessment of Netravathi Basin based on Physiochemical and Hydrochemical Analysis” *Ocean Conference and Exhibition, October 17-21, 2022. (Accepted)*
9. Vijay Suryawanshi, Ramesh H, and Nasar T (2022). “Assessment of groundwater quality index mapping in Netravati and Gurapura River Basin of Dakshina Kannada District, Karnataka using Hydro-geochemistry and GIS interpolation techniques” *37th International Conference on Coastal Engineering, Sydney 4-9 December 2022.*
10. **Sahaj K. V.** and T. Nasar “Experimental Study on Liquid Sloshing Dynamics in a Sway Excited Rectangular Tank” Proceedings of National Conference on Advances in Structural Technologies (CoAST-2019), 1st-3rd Feb, 2019. Department of Civil Engineering. NIT Silchar, Assam, India
11. **Sahaj K. V.** and T. Nasar “Experimental and Numerical Study on Liquid Sloshing Dynamics with Single Vertical Porous Baffle in a Sway Excited Ship Tank, EGU General Assembly 2020, Online, 4–8 May 2020, EGU2020-929, <https://doi.org/10.5194/egusphere-egu2020-929>.
12. **Sahaj K. V.** and T. Nasar “Effectiveness of Porous Baffle on Resonance Sloshing Motion: An Experimental Study”, proceedings in 2nd International conference on recent advances in fluid and thermal science (ICRAFT 2020), 19th-21st March, 2021. BITS Pilani, Dubai.
13. **Sahaj K. V.**, Pavan Kumar and T. Nasar “Effect of porous baffle on sloshing dynamics placed at $L/2$ location in a sway excited rectangular tank”, HYDRO 2020 – International conference on hydraulics, water resources and coastal engineering, 26th – 28th March, 2021. NIT Rourkela, Odisha, India. (ISBN 978-93-90631-56-8).
14. Sahaj K. V., and T. Nasar “Effect of porous baffles on sloshing dynamics placed at $L/3$ and $2L/3$ locations in a sway excited rectangular tank, 8th Asian conference on mechanics of functional materials and structures (ACMFMS 2022), 11th to 14th December 2022, IIT Guwahati, Assam, India. (Paper Accepted).

National Conferences / Seminars / Symposia

- 1) **T. Nasar**, M. Visweswaraiiah and S. A. Sannasiraj (2018) “Study on Draft influence in sloshing dynamics in a barge carrying tank” Proceedings of 6th National Conference on Coastal, Harbour and Ocean Engineering (INCHOE 2018), CWPRS, Pune, India, 26th – 28th September, 2018. (Full paper accepted)

- 2) Shwetha shri, K, **T. Nasar**, and Sahaj K.V (2019) “An experimental study on sloshing dynamic in a rectangular tank” National conference on advances in structural technologies, NIT Silchar, India, 1st – 3rd February, 2019.
- 3) Reshma Georgen Nasar,T “Physical model studies on breakwater armoured with double layer geotextile sand containers” at the Seventh National Conference of the Ocean Society of India: ocean for sustainable development (OSICON 2021) to be held at National Centre for Polar and Ocean Research from August 12-14, 2021.

Book chapters:

1. Chaitanya V.K., Nasar T., **Kunhimammu Paravath**. (2021) “A Study on Shore-Line Dynamics During and Post-construction of Breakwaters in Kasaragod Fishing Harbour’. In: Narasimhan M.C., George V., Udayakumar G., Kumar A. (eds) Trends in Civil Engineering and Challenges for Sustainability. Lecture Notes in Civil Engineering, Vol 99. Springer, Singapore. https://doi.org/10.1007/978-981-15-6828-2_61
2. Kunhimammu Paravath, Ammu John and Nasar T (2021) “A Study on Morphodynamic Nature of Muthalapozhi Fishery Harbour in Kerala Using Geospatial Approach”. Paper presented in the International Conference (online) on Civil Engineering Trends and Challenges for Sustainability (CTCS 2021) held during 19-20 Nov 2021 in NMAM Institute of Technology, Nitte, Karnataka. This Paper is now published in Springer Nature Singapore Pte Ltd L. Nandagiri ett al (eds). Recent Advances in Civil Engineering, Lecture Notes in Civil Engineering. 256, https://doi.org/10.1007/978-19-1862-9_29

M.Tech. And Ph.D theses

M.Tech theses completed: 16 Ongoing: 5

Ph.D theses completed : 2 Ongoing: 2

September 2022