Dr M C Deo

- Summary
- Distinctions and Honorary Works
- List of publications
- Ph D thesis supervised
- M Tech dissertations supervised
- Short Term Courses / Conferences / Workshops Organized
- Externally funded projects

Summary

Name	**:**	Dr. M. C. Deo
Office Address	**:**	Emeritus Fellow, Dept. of Civil Engineering Indian Institute of Technology, Bombay Powai, Mumbai, 400 076.
Phone, Fax, Email	**:**	(91) 22 2576 7330 (O) (91) 22 2576 8330 (R) mcdeo@civil.iitb.ac.in
Qualifications	**:**	Ph. D., I.I.T. Bombay, 1983 M. Tech. (Civil Engg.), I.I.T. Bombay, 1979 B. E. (Civil Engg.), CoEP, PoonaUniv., 1975
Experience	**:**	*Faculty, IIT Bombay~1983 to date* *Director, VJTI, Mumbai during 2011-'12.* *Head, Civil Engg. Dept., (2005-08);* *Coordinator, QIP/CDP/EFIP (2002-05)* *Post-doc: 1985, 1989 at Liverpool University, UK* *Research Assistant, CWPRS Pune – 1975-'77*
Research Interest	**:**	**Coastal and ocean engineering, hydrology, hydraulics** – Climate change: Impact assessment; Application of artificial intelligence and advanced statistical methods

Distinctions and Honorary Works

- Lifetime Achievement Award – 2019, of Indian Society for Hydraulics
- Institute Chair Professor (2014~20)
- Fellow, INAE, 2013
- Prof. H H Mathur Award for Excellence in Applied Research- 2009
- IIT Bombay research award for best paper- 2006
- Jalavigyan Puraskar -1998 given by Indian Society for Hydraulics
- Special recognition for "Distinguished and meritorious service to ASCE as an outstanding Associate Editor"
- Excellence in Teaching Award, - 2016, 2018
- The most cited author in civil engineering from India as per Google Scholar (~1400), Nov. 2012
- Total citations: around 5,000; h-index: 27 (25.11.2019) as per Scopus Citation Overview
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- President, Indian Society for Hydraulics (2020~)
- Chairman, Editorial Board, ISH Journal of Hydraulic Engineering, Taylor and Francis, UK
- Member, Editorial Board, Applied Ocean Research, Elsevier,

- Member, Editorial Board, Ocean Engineering, Elsevier
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- **Served in the past as**
- President, The Indian Society for Hydraulics (2004-08),
- Member, Board of Directors, Konkan Railway Corporation (2008~2011)
- Member, Governing Council, CWPRS, Ministry of WR, GOI, Pune (2012~)
- Member, Technical Advisory Committee, CWPRS, Pune (2011~)
- Member, Advisory Committee, IEOT, ONGC
- Member, Maharashtra Coastal Zone Regulation Authority (2012~)
- Member, Technical Advisory Council, NIOT, Chennai, (2011~)
- Member, Project Management Board, NIOT, Chennai (2010~)
- Member, Research Advisory committee, ICMAM, MoES, Chennai (2013~)
- Member, Technical Advisory Board, Indian Register of Shipping
- Member, Advisory Board, National Water Academy
- Member, Scientific advisory committees, INCOIS, NIOT
- Member, Hydrology project group, Govt. of Maharashtra (2010~)
- Consultant, World Bank, Institutional review, 2013
- Associate Editor of ASCE Journal of Computing in Civil Engg. (2000-2012)
- Chief Editor, 'International Journal of Ocean and Climate Systems', SAGE Publi.., UK.
- Chairman, Review Committee for CWPRS Pune, Ministry of Water Resources, 2009
- Chair and Co-chair: Hydro2005, 2006, 2007, 2012 conferences
- Session Chair of a large number of conferences held in India and abroad
- Delivered key notes, invited talks' at large number of workshops, seminars, conferences .
- Examined Ph D thesis of candidates from Delft Univ., (2011), IIT's, IISc,….
- Editor: Special issues of the ISH Journal of Hydraulic Engineering – 2002-2010
- Member, Editorial Board, Journal of Advances in Civil Engineering,Hindawi Publications
- Member, Editorial Board of Civil-Comp conferences, U. K.
- Member, Editorial Board, Open Ocean Engineering Journal, Bentham Press, UK.
- Member, Faculty Selection Committees of five IIT's, I ISc, NITs
- Member, Scientists Selection Committee of some Government and other organizations
- Member, Advisory Boards of UPSC
- Member, Selection Committees of CSIR
- Member, Monitoring Committees of AICTE projects
- Member, various Accreditation Committees of National Board of Accreditation
- Member of Governing councils, Curriculum boards,.. of various engineering colleges, institutes
- Member, Program approval committees of the AICTE
- Reviewer of innumerable international and national journal papers
- Reviewer, research proposals under UK's EPSRC scheme, (2013, 2014)
- Reviewer, research proposal, Croatia Govt. (2013)

List of Publications:

Refereed Journals

94. Patil R G, M C Deo. 2020. Forthcoming. Sea Level Rise and Shoreline Change under the Changing Climate at a Series of Locations along the Indian Coastline. ASCE Journal of Waterways, Port, Coastal and Ocean Division. 2020, 146(5): 04020002 DOI: 10.1061/(ASCE)WW.1943-5460.0000586.

93. Pooja Jain and M C Deo (2020). "Future Changes in the Long Term Significant Wave Heights at Indian Coasts". Indian Journal of Geo-Marine Sciences, 49(09), 1513-1520

92. Rajasree B. R. and M. C. Deo (2020). "Assessment of Coastal Vulnerability Considering the Future Climate – a Case Study along the Central West Coast of India". ASCE Journal of Waterways, Port, Coastal and Ocean Engineering Division, 146(2), DOI: 10.1061/(ASCE)WW.1943-5460.0000552

91. Rajasree B R and M C Deo (2019). Future geomorphologic changes under the changing climate. **Journal of coastal Research**, 89, 50-57

90. Rajasree B R and M C Deo (2018). Evaluation of estuary shoreline shift in response to climate change: A study from the Central West coast of India. **Land Degradation and Development,** Wiley, DOI: https://doi.org/10.1002/ldr.3074

89. Bansal P, Jain P and Deo M C (2018). Effect of different wind inputs in the evaluation of design waves. **Marine Technological Society Journal, MTS Washington**. 52 (4), July-Aug. 2018. 94-105.

88. Patil, K., & Deo, M. C. (2018). Basin-scale Prediction of Sea Surface Temperature with Artificial Neural Networks. **Journal of Atmospheric and Oceanic Technology, American Meteorological Society.** July 2018, Vol. 35, No. 7, DOI: 10.1175/JTECH-D-17-0217.1.

87. S Bhat, Pooja Jain and M C Deo (2018): Application of Regional Climate Models (RCMs) for Coastal Design Parameters along India, **Journal of Coastal Research**, DOI: 10.2112/JCOASTRES-D-17-00145

86. S. Kulkarni, M C Deo and S Ghosh (2018) Performance of the CORDEX Regional Climate Models in Simulating Offshore Wind and Wind Potential, **Theoretical and Applied Climatology,** https://doi.org/10.1007/s00704-018-2401-0

85. B Gopikrishna and M C Deo (2018): "Changes in the Shoreline at Paradip Port, India in Response to Climate Change", **Geomorphology,** Elsevier, DOI: 10.1016/j.geomorph.2017.12.012

84. B Gopikrishna and M C Deo (2017): "Sediment Transport and Shoreline Shifts in Response to Climate Change at the Tidal Inlets of Chilika, India", **Proceedings: Institution of Mechanical Engineers,** UK, **Part M: Journal of Engineering for the Maritime Environment,** DOI: 10.1177/1475090217748755

83. Sumeet Kulkarni, M C Deo and Subimal Ghosh (2017): "Framework for Assessment of Climate Change Impact on Offshore Wind Energy", **Meteorological Applications**, DOI: 10.1002/met.1673

82. Patil K, M C Deo (2017): "Prediction of Daily Sea Surface Temperature using Efficient Neural Networks", **Ocean Dynamics**, **Springer,** 10.1007/s10236-017-1032-9.

81. Sumeet Kulkarni, M C Deo, Subimal Ghosh (2017): "Impact of Active and Break Wind Spells on Wind Energy Demand-Supply Balance in India", **Meteorology and Atmospheric Physics, Springer**, DOI 10.1007/s00703-017-0501-5

80 E Roshin and M C Deo (2016): "Derivation of design waves along the Indian coastline incorporating climate change". **Journal of Marine Science and Technology**, Springer, 22(1), 61-70,DOI 10.1007/s00773-016-0393-y

79. Rajasree B R., M C Deo and Sheela Nair (2016): "Effect of Climate Change on Shoreline Shifts at a Straight and Continuous coast", **Estuarine, Coastal and Shelf Science, Elsevier**, DOI: http://dx.doi.org/10.1016/j.ecss.2016.10.034 183 (2016), 221-234

78. Dixit P, Londhe S, Deo M C (2016): "Review of applications of neuro wavelet techniques in water flows", **INAE Letters, Springer**, DOI: 10.1007/s41403-016-0015-3

77. Patil K, M C Deo, M Ravichandran (2016): " Prediction of sea surface temperature by combining

numerical and neural techniques", **Journal of Atmospheric and Oceanic Technology, American Meteorological Society**, August 2016, 1715-1726 DOI: http://dx.doi.org/10.1175/JTECH-D-15-0213.1

76. Dauji Saha, M C Deo, Kapilesh Bhargav (2016): "Interpolation of the gaps in current maps generated by High Frequency radar", **International Journal of Remote Sensing, Taylor and Francis**,Vol. 37, No. 21, 5135–5154; http://dx.doi.org/10.1080/01431161.2016.1230281

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74. Dauji Saha, M C Deo, Sudheer Joseph, Kapilesh Bhargava (2016): "A combined numerical and neural technique for short term prediction of ocean currents in the Indian Ocean". **Environmental Systems Research,** Springer, DOI: 10.1186/s40068-016-0057-2

73. Deshmukh, A, M. Deo, P. Bhaskaran, T.M. Balakrishna Nair, and KG Sandhya (2016): "Neural Network based Data Assimilation to Improve Numerical Ocean Wave Forecast". **IEEE Journal of Oceanic Engineering;** 41(4), 944-953. DoI 10.1109/JOE.2016.2521222

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71. Satyavathi G, M C Deo, Jyoti Kerkar, P Vethamony (2015): "Projected impact of climate change on waves at Mumbai High", Proceedings of the Institution of Civil Engineers, London, **Maritime Engineering,** 168, MA1, 20–29, ttp://dx.doi.org/10.1680/maen.14.00017

70. Saha Dauji, M.C. Deo & Kapilesh Bhargava (2015) Prediction of ocean currents with artificial neural networks, **ISH Journal of Hydraulic Engineering,** 21:1, 14-27, DOI: 10.1080/09715010.2014.938133

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68. Kulkarni S, Deo M C, Ghosh S, (2014). Changes in the design and operational wind due to climate change at the Indian offshore sites, **Marine Structures**, 37(2014), 33-53.

67. A.R. Kambekar and M.C. Deo (2014): "Real time wave forecasting using wind time history and genetic programming" special issue of **"The International Journal of Ocean and Climate Systems**", Volume 5, Number 4, December, 2014. Pp.249-259. Multi-Science Publications, UK (ISSN 1759-3131), www.multi-science.co.uk.

66. Cini and M C Deo (2013): Real Time Current Prediction with Recurrent Neural Networks and Model Tree, **International Journal of Ocean System Engineering,** 3(3) (2013) 116-130
http://dx.doi.org/10.5574/IJOSE.2013.3.3.116

65. Mahongo S B, M C Deo (2013): Using Artificial Neural Networks to Forecast Monthly and Seasonal Sea Surface Temperature Anomalies in the Western Indian Ocean, **The International Journal of Ocean and Climate Systems,** Multi-Science, 4 (2), 133-150

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http://dx.doi.org/10.1155/2013/302479

63. Radhika S, M C Deo and G Latha (2013): "Evaluation of the design wave height used in the design of

offshore structures considering the effect of climate change", Proceedings of the **Institutions of Mechanical Engineers, Part M, Journal of Engineering for the Maritime Environment,** 2013, 227-233,DOI: 10.1177/1475090212443177.

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59.Pooja Jain, M C Deo, G Latha and V Rajendran (2011): "Real time wave forecasting using wind time history and numerical model", **Ocean Modelling,** Elsevier, .36 (2011) 26–39

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55. M C Deo (2009): "Recent data driven methods and applications in coastal and hydrologic data analysis", **ISH Journal of Hydraulic Engineering,** 15(1), 310-327.

54. SuhasiniSakhare and M C Deo (2009): "Derivation of wave spectrum using data driven methods", **Marine Structures,** Elsevier, Elsevier, doi: 10.1016/j.marstruc.2008.12.994

53. Agarwal M, Goyal M and M C Deo (2008): "Locally weighted projection regression to predict hydraulic parameters", **Civil Engineering and Environmental Systems**, Taylor and Francis, ISSN 1028-6608 print/ISSN 1029-0249 online, DOI: 10.1080/10286600802517491.

52. MansiDaga and M C Deo (2008): "Alternative data driven methods to estimate wind from waves by inverse modeling", **Natural Hazards**, Springer, Article 9299, DOI 10.1007/s11069-008-9299-2

51. S B Charate, M C Deo and S N Londhe (2009): "Genetic programming for real time prediction of offshore wind", **International Journal of Ships and Offshore Structures,** Taylor and Francis, in print, TSOS 349431, DOI: 10.1080/17445300802492638,http://dx.doi.org/10.1080/17445300802492638

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49. Surabhi Gaur and M C Deo (2008): "Real time wave forecasting using Genetic programming", **Ocean Engineering,** Elsevier, 35(2008), 1166-1172.

48. Pooja Jain and M C Deo (2008): "Artificial intelligence tools to forecast ocean waves in real time", **The Open Ocean Engineering Journal**, Bentham Science, 2008, 1, 13-21.

47. Ketaki Ustoorikar and M C Deo (2008): "Filling up Gaps in Wave Data with Genetic Programming",

Marine Structures, Elsevier, 21(2008, 177-195.

46. A. K. Singh, M C Deo and V Sanil Kumar (2008): "Prediction of littoral drift with artificial neural networks", **Hydrology and Earth Systems Sciences,** European Geophysical Union, 12, 267–275, 2008

45. Ruchi Kalra, M C Deo, Raj Kumar, Vijay K Agarwal (2008): "Genetic programming to estimate coastal waves from deep water measurements", **International Journal of Ecology and Development**, Indian Society for Development and Environment Research Roorkee, India, ISSN 0972-9984, 10, S08, 67-76

44. Omkar Deo, V Jothiprakash and M C Deo (2008): "Genetic Programming to predict spillway scour", **International Journal of Tomography and Statistics**, Roorkee, 8, W08, 32-45, ISSN 097209976

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40. Pooja Jain and M C Deo (2007): "Real time wave forecasts off western Indian coast", **Applied Ocean Research,** Elsevier, 29 (2007), 72-79

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38. Pankaj Singh, M.C. Deo, (2007) "Suitability of different neural networks in daily flow forecasting, **Applied Soft Computing,** Elsevier; 7(2007), 968-978.

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35. Pooja Jain and M C Deo (2006): "Neural networks in ocean engineering", accepted in **International Journal of Ships and Offshore Structures,** Taylor and Francis, UK., 1(1), 25-35

34. Shailesh Namekar and M C Deo (2006): "Application of artificial neural network model in estimation of wave spectra", **ASCE Journal of Waterways, Port, Coastal and Ocean Division,** Technical note, 132(5), 1-4.

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32. Reena Naithani and M C Deo (2005): "Estimation of wave spectral shapes using ANN", **Advances in Engineering Software**, Elsevier, 36(2005), 750-756

31. Ruchi Kalra, M C Deo, Raj Kumar and Vijay K Agarwal (2005): "Artificial neural network to translate offshore satellite wave data to coastal locations", **Ocean Engineering**, Elsevier, 32(2005), 1917-1932

30. Ruchi Kalra, M C Deo, Raj Kumar and Vijay K Agarwal (2005): "Relating deep water waves with coastal waves using ANN", Journal of Hydraulic Research, Indian Society for Hydraulics, 11(3), 152-162.

29. H Md Azmathullah, M C Deo and P B Deolalikar (2005): "Neural networks for estimation of scour downstream of ski-jump bucket", **ASCE Journal of Hydraulic Engineering,** 131(10), 898-908

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25. Kambekar A R and M C Deo (2003): "Estimation of pile group scour using neural networks", **Applied Ocean Research,** Elsevier, Oxford, UK, 25(4), 225-234.

24. Londhe S N and M C Deo (2003): "Artificial neural networks for wave prediction", **Journal of Coastal Research,** Coastal Research and Education Foundation, USA, No.03-0014RRR, Vol. 120, 165-173.

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11. Deo M. C. and C. Sridhar Naidu (1999):"Real time wave forecasting using neural networks", **Ocean Engineering,** Elsevier, U.K., 26(1999), 191-203.

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8. Deo M. C. and G. Chaudhari(1998):"Tide prediction using neural networks", **Journal of Computer-Aided Civil and Infrastructural Engineering,** Blackwell Publishers, Oxford, UK,13(1998), 113-120.

7. KondaThirumalaiah and M. C. Deo(1998):"River stage forecasting using artificial neural networks", **ASCE Journal of Hydrological Engineering,**" 3(1), 26-32.

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4. H. R. Soni, M. C. Deo and S. Narasimhan(1989):"Statistical estimation of extreme wave heights", **Journal of the Institution of Engineers (India),**Volume 70, may 1989, pp 26-30.

3. M. C. Deo and S. Narasimhan(1988):"Generalized estimation of wave force spectra", **ASCE Journal of Waterways, Port, Coastal and Ocean division**, March, 1988, Volume 114, No. 2, pp 175-190.

2. S. Narasimhan and M. C. Deo(1987): "Short and long term wave statistics at some Indian loctions", **Journal of the Institution of Naval Architects, India,** 1,PO1-PO10.

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Conference Proceedings

94. Patil R G and M C Deo (2019). Future rise in sea levels and impact on shorelines at the Indian Ports. Hydro-2019 International Conference, Hotel Marriot, Hyderabad, Dec. 18-20, 2019. ISBN 978-93-8935-484-3. Vol. I, pp 327-336.

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92. Rajasree B R and M C Deo (2018). "Projecting coastal vulnerability under climate change scenario". American Geophysical Union Fall Meeting, Washington D C. Dec. 10-14, 2018.

91. Patil, K., and Deo, M. C. (2018). "Sea Surface Temperature Prediction using Neural Networks over a Sea Basin." OCEANS'18 MTS/IEEE Kobe/TechnoOcean 2018, 2018 Kobe, Japan.

90. Rajasree B R and Deo M C (2018): "Prediction of changes in the shoreline interrupted by a river mouth based on future climate and ANN", Ocean Science Meeting, American Geophysical Union: OSM-2018, Portland, Oregon

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88. Satyavathi P, Roshin E, Bansal P, Bhat S, Jain P and Deo M C: (2017): "Evaluation of design waves considering climate change," International Workshop on Waves, Strom Surges and Coastal Hazards, Sept. 10-15, 2017,2017, Liverpool, UK Session C4.

87. Rajasree B R and Deo M C (2017): "Effect of climate change on morphology around a port.," American Geophysical Union Fall Meeting, 2017, New Orleans

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84. Rajasree B R, Kulkarni S, Roshin E and Deo M C (2017): "Impact of climate change on coastal environment," 3rd National Conference: SWARDAM-2016, July 4-5, 2016, Aurangabad,2017, Aurangabad; pp 45-46.

83. Patil K R and Deo M C (2017): "Real Time Prediction of Sea Surface Temperature with Soft and Hard Computing," 22nd International conference on Hydraulics, Water Resources, Coastal and Environmental Engineering (HYDRO 2017), L D College of Engineering, Ahmedabad.

82. Rajasree B R and M C Deo (2016). "Shoreline change at New Mangalore Port, India in past and over future". American Geophysical Union Fall meeting, #EP23A-0940.

81.Dauji Saha, M C Deo and Kapilesh Bhargava (2016): "In-Filling The Missing Information In Hf Radar Data", Hydro-2016 International Conference, CWPRS, Pune, Dec. 8019, 2916; 2397-2404

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72. M C Deo (2013): “Modern data driven methods to solve problems in coastal engineering”, Annual INAE conventions, SOS University, Bhubaneswar, Dec. 12-13, 2013.

71. G Satyavathi, Sumeet Kulkarni and M C Deo (2013): “Effect of climate change on waves and wind at some Indian offshore locations”, Conference: ISTAM-2013 (Indian Society for Theoretical and Applied Mechanics-2013), Bengal Engineering and Science University, Kolkata, December 18-21, 2013.

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69. Radhika S, M C Deo and G Latha (2012): “Effect of climate change on extreme waves”, 8th International Conference On Coastal And Port Engineering In Developing Countries, COPEDEC 2012, 20-24 February 2012

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67. A R Kambekar and M C Deo (2010): “Real time prediction of ocean waves using wind time series”, Proceedings, Water-2010, Quebec, Canada, July, 5-7, 2010

66. Thanu E Mathew and M C Deo (2010): “Machine learning methods to retrieve wind data in HF radar measurements, Proceedings, Hydro-2010, Mulana, Dec. 14-16, 2010.

65. Nayak M A and M C Deo (2010): “Real time prediction of wind using neural networks”, **Recent Advances in Fluid Mechanics and Solid Mechanics, N I T Rourkela**, Feb. 27-28, 2010, Paper 118/2010.

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63. A R Kambekar, M C Deo, G Latha and V Rajendran (2009): “Genetic Programming for wave simulation”, **National Conference on Coastal Processes, Resources and Management, Centre for Earth Sciences, Thiruvananthapuram,** Feb. 5-7, 2010, 154-159,

62. M C Deo (2010): “ Artificial neuralnetworks in coastal and ocean engineering”, **National Conference on Coastal Processes, Resources and Management, Centre for Earth Sciences, Thiruvananthapuram**, Feb. 5-7, 2010, 115.

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57. M C Deo, A R Kambekar, G Latha and V Rajendran (2009): "Data driven methods to analyze and model ocean data", International conference on ocean engineering, **ICOE2009, IIT Madras**, Feb. 1-5, 2009. 455-464.

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23. Sharief M., M. C. Deo and A. Sarkar (1995):" Wave height interpolation", **Seminar on recent advances in ocean engineering and underwater technology,** "N.I.O. Bombay, pp 13-21

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19. Vinod P. C. and M. C. Deo (1992):" Interference effects in a tethered float system", **National seminar on offshore structures,** Visakhapatnam," C7 - C14

18. S. Ghoshal, M. C. Deo and S. Narasimhan (1992):" Vortex shedding and transverse force areound rough and inclined structural members", **International seminar on emerging trends in offshore technology and safety,"** New Delhi, pp 80-89

17. P. Pagrut and M. C. Deo (1992):" Extreme wave height estimates", **Second international conference on offshore and polar engineering, ISOPE-92,** Volume III, pp 186-193

16. S. Ghoshal, M. C. Deo and S. Narasimhan (1991):"Wave force coefficients for rough and inclined cylinders", **First international conference on offshore and polar engineering," ISOPE-91,** Edinburgh, UK, Volume III, pp 220-227

15. M. C. Deo and B. Venugopal (1991):" Estimation of design wave heights for coastal structures", **Second international symposium on coastal ocean space utilization, COSU-II,** Long Beach, California

14. P. Goswami, M. C. Deo and S. Narasimhan (1991):" Long term estimation of waves using directional data"," **Fourth Indian conference on ocean engineering, INCOE-91,** Goa, pp 33-40

13. Kiran kumar, M. C. Deo, P. K. Pant and S. Narasimhan (1989):"Long term estimation of waves", **Third international coference on dock and harbour engineering,** Surathkal, pp 57-64

12. M. C. Deo and R. Burrows (1986):" Extreme wave prediction using directional data", **20th ASCE international conference on coastal engineering,**Taipei, Taiwan, Volume I, pp 135-149

11. A. V. Hegde and M. C. Deo (1986):"Effect of current on wave climate", **Third Indian conference on ocean engineering, INCOE-86,** I. I. T. Bombay, Volume I, pp A29-A36

10. M. C. Deo and S. Narasimhan (1984):"Hydrodynamic wave force coefficients by stochastic analysis", **IV IAHR Symposium on stochastic hydraulics,** Urbana Champaign, USA, IAHR No. 6575, Group 16-17

9. M. C. Deo and S. Narasimhan (1983):" Theoretical estimation of wave force spectra", **Second Indian conference on ocean engineering, INCOE-83,** C. W. P. R. S., Pune, Volume I, pp 109-122

8. M. C. Deo and S. Narasimhan (1982):"Estimates of cross spectral densities of wave forces on inclined cylinders"," **Behaviour of offshore structures,** "M. I. T., USA. Volume I, pp 486-489

7. M. C. Deo (1982):"Wave force Coefficients for inclined members of offshore structures", **Workshop on structures on marine deposites,**AndhraUniversity, Visakhapatnam

6. S. Narasimhan and M. C. Deo (1981):"Behaviour of ocean waves at Bombay High and their statistical prediction", **First Indian conference on ocean engineering, INCOE-81,**I. I. T. Madras, Volume 1, pp I.67-I.74

5. M. C. Deo (1981):"Random wave forces on inclined cylinders in multi-directional seas", **First Indian conference on ocean engineering,** I. I. T. Madras, Volume I, pp I.9-I.13

4. S. Narasimhan and M. C. Deo (1980):"Probabilistic wave forces on arbitrarily inclined cylinders", **II Conference of Indian Society of Probability and its Applications**, IIT Bombay

3. S. Narasimhan and M. C. Deo (1980):"Wave spectral characteristics at Bombay High", **III IAHR international symposium on stochastic hydraulics,**Tokyo, pp 747-758

2. S. Narasimhan and M. C. Deo (1979):"Spectral analysis of ocean waves - A study", **International conference on computer applications in civil engineering,**University of Roorkee, Roorkee, Volume 1, pp V.7-V.12

1. S. Narasimhan and M. C. Deo (1979):"Spectral analysis of ocean waves", **Civil Engineering in the Oceans IV,**SanFransisco, Volume II, pp 877-892

Articles in Books

Rajasree B R, Sumeet Kulkarni, E Roshin and M C Deo (2017): "Impact of climate change on coastal environment and infrastructure", Ch. 11, in ***Sustainable Holistic Water Resources Management in a Changing Climate***" Ed. K Srinivasa Raju and A Vasan, Jain Brothers. New Delhi

Deo M C (2014): "Soft Computing", Ch. No. 361, Encyclopedia of Estuaries, Springer

Deo M C (2014): "Neural Networks", Ch. No. 400, Encyclopedia of Estuaries, Springer

Deo M C (2006): 'Waves and Structures', Openware book available at http://www.civil.iitb.ac.in/~mcdeo/

Deo M C and Thisumalaiah K (2000) "Real time forecasting using neural networks", in Artificial neural neyworks in hydrology edited by R S Govindaraju and A R Rao, Kluwer Academic Publishers, The Netherlands, Chapter 3, 53-71.

Deo M C (1998):" Wind Waves", in "Handbook of harbour and coastal engineering", edited by S. Narasimhan, NIOT Publication, pp

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Deo M C (1989):" Directional spectrum and applications", in "ocean wave studies and applications", Edited by M. Baba and S. ShahulHameed, Centre of Earth Sciences Studies Publication, Trivandrumpp 45-

60

Ph. D. Thesis Guided(Main supervisor)

No	Student	Thesis Title	Year
1	S. Ghoshal	Hydrodynamic coefficients for rough and inclined cylinders	1988
2	M. P. Wakdikar	Effect of outliers on stochastic modeling and design of a dynamic stochastic model	1995
3	KondaThirumalaiah	Application of artificial neural networks and object oriented programming to hydrological forecasting	1997
4	MasoodSharief	Estimation of wave heights using disaggregation models and artificial neural networks	1998
5	V. Sanil kumar	Analysis of directional spreading of wave energy with special reference to Indian coast	1999
6	J. D. Agrawal	Wave analysis and forecasting using stochastic and neural techniques	2002
7	S N Londhe	Short wave propagation using neural networks	2003
8	M Azmath	Neural Networks for scour around hydraulic Structures	2006
9	Pooja Jain	Real time wave forecasting with soft computing	2008
10	S B Charhate	Applications of genetic programming to solve coastal and ocean problems	2008
11	A R Kambekar	Application of soft computing tools for wind-wave simulation and forecasting	2010
12	G Satyavathi	Effect of climate change on design waves	2015
13	Dauji Saha	Real time prediction of coastal currents using artificial intelligence	2016
14	Sumeet Kulkarni	Impact of climate change on local wind and wind power	2017
15	Kalpesh Patil	Location specific and basin scale prediction of SST using ANNs	2018
16.	Rajasree B R	Shoreline change and coastal vulnerability using projected climate	2018
17	Gopikrishna	Impact of climate change on shorelines	2018

M Tech Dissertations Guided (Main Supervisor)

No	Student	Thesis Title	Year
1	H. K. Mishra	Flood routing by FEM	1984
2	Anil Chaudhari	Wave forces on groups of cylinders	1985
3	A. V. Hegde	Effect of current on random waves and wave forces	1986
4	H. R. Soni	Estimation of design waves using wave data	1987
5	J. L. Gupta	Flood routing by FEM	1987
6	Kiran Kumar	Prediction of wave heights using wind data	1988
7	M. P. Wakdikar	Extreme value prediction using hydrological data	1988
8	K. K. Goyal	Time series analysis and modeling of hydrological data	1989
9	P. Goswami	Statistical prediction of design waves using directionality	1990
10	B. Venugopal	Long term wave directionality	1991
11	V. K. Sharma	Design wave selection around Indian coastline	1991
12	M. K. shrimali	Long term wave force distributions	1992
13	P. Pagrut	Estimation of design waves	1992
14	P. C. Vinod	Interference effects in tethered float systems	1993

15	S. K. Srivastav	Hydrological data analysis using disaggregation models	1993
16	N. A. Telang	Spectral wave forces on tubular members	1994
17	S. A. Kankarej	Application of disggregation models to wave forecasting	1994
18	R. Bhadke	Real time flood forecasting using neural networks	1995
19	V. Venkata Rao	Wave height interpolation using neural networks	1995
20	S. S. Sahutre	Estimation of extreme flood	1995
21	C. S. Naidu	Real time wave forecasting using neural networks	1996
22	G. Chaudhari	Tide prediction using neural networks	1996
23	N. Kirankumar	Interpolation of wave heights	1996
24	A. Jha	Wind-wave mapping using neural networks	1996
25	G. V. Reddy	Real time flood forecasting using neural networks	1996
26	R. Thakkar	Expert system for analysis and design of submarine pipelines	1997
27	U. P. Talele	On-line wave forecasting using time series models	1997
28	A. Chaphekar	Wave forecasting using neural networks	1997
29	G. Gopakumar	Expert system for analysing the loads on anJacket platform	1997
30	N. Ravikumar	Estimation of wave heights from wind speeds using NN	1998
31	S. Datta	Wave height evaluation using neural networks	1998
32	D. S. Gondane	Analysis of wave directional spreading using neural networks	1999
33	A. Linganna	Design individual wave heights	1999
34	P Chandru	Design wave selection using neural networks	2000
35	S SJagdale	Prediction of breaking waves using neural networks	2001
36	Anurag More	Wind prediction using neural networks	2001
37	A R Kambekar	Prediction of oceanic pile scour using neural networks	2001
38	Reena Naithani	Derivation of wave spectrum using neural networks	2002
39	Shailesh Namekar	Advanced neural networks to derive wave spectra	2004
40	Pankaj Singh	Daily flow forecasting using advanced neural networks	2004
41	Randeep Das	GA/NN hybrid method for real time forecasting of waves	2005
42	Arvind K Singh	Alternative neuro-nets to estimate coastal sediment transport	2006
43	Surabhi Gaur	Genetic programming for real time wave forecasting	2006
44	Naveen Garg	Model trees for real time wave forecasting	2007
45	MansiDaga	Estimation of wave parameters from wind using genetic programming	2008
46	SuhasiniSakhare	Derivation of wave spectra using latest soft computing tools	2008
47	R Deepthi	Impact of climate change in offshore design	2009
48	Thanu E	Retrieval of wind speed from high frequency radar observations	2010
49	Radhika S	Uncertainties in assessing climate change impact on waves	2011
50	Cini	Real time forecasting of ocean currents using AI tools	2012
51	Kalpesh Patil	Forecasting of sea surface temperature using AI tools	2012
52	Sony George	Spatial expansion of neural network forecasts of waves	2014
53	Rajasree B R	Effect of climate change on shoreline shifts	2014
54	E Roshin	Impact of climate change on design waves	2015
55	Aditya Deshmukh	Wave prediction using combined numerical-neural methods	2015
56	Prerna Bansal	Design waves along the Indian coastline using alternative methods	2016
57	Shreyas Bhat	Impact of climate change on design waves using ……	2017
58	Shivam Pundir	Operational forecasting of waves using HF radar data	2017
59.	Aditya Thakur	Changing wave climate around the Indian coastline	2018
60.	Sunny Kumar	Long term statistical analysis of significant waves around India	2018
61.	R G Patil	Climate change impact on ocean parameters for India	2019
62.	Shubham Agrahari	Design Waves near major ports considering future cyclones	-2020
63.	Suchismita Das	Future sea levels and coastal erosion at selected Indian sites	-2020

Teaching

Post graduate:

- CE 680: Mechanics of water waves

- CE 681: Fluid Loading on Offshore Structures
- CE 689: Floating Structures and Submarine Pipelines
- CE 685: Offshore Construction
- CE 670: Marine Structures
- CE 705: Wave Mechanics Laboratory
- CE 605: Applied Statistics
- CE 708: Offshore Engineering

Undergraduate:

- CE 410: Introduction to Offshore Engineering
- CE xxx: Harbor and Coastal Engineering
- CE 102: Engineering Mechanics
- CE xxx: Engineering Mechanics Laboratory.

Short Term Courses / Conferences / Workshops Organized:(Organizing Secretary)

- ISTE course on "Dynamics of Offshore Structures", in December, 1991 for 2 weeks.
- QIP course on "Theoretical and Practical Aspects of Offshore Structures", May 1993, for 1 week.
- CEP course on "Offshore Engineering", for O.N.G.C. in Sept-Oct. 1993 for 2 months.
- CEP course on "Offshore Structures With Special Reference to Deep Water Structures", for O.N.G.C. in June-July, 1998 for 2 weeks.
- CEP course on "Neural Networks in Civil Engineering", for 1 week, July 12-13, 2001.
- Conference: "Hydro 2002" at IIT Bombay during Dec. 16-17, 2002
- CEP course on "Non-linear analysis of deep water structures", for ONGC, for 4 weeks, March 3-28, 2003
- CEP course on "Dynamic analysis of deep water platforms", for L and T, April 19-20, 2004
- Workshop on: "Model curriculum for M Tech Programs" at IIT B, April 6, 2004
- Workshop on: "Teaching science and practice (EFIP)" at IIT B during Sept. 13-17, 2004
- CD Seminar on: "Emerging trends in publishing technology and opportunity", Sept. 29, 2004.
- CEP course on "Irrigation and water resources management-state of the art", IMTI, Kota Nov. 1-2, 2004
- Workshop on: "Teaching management and practice (EFIP)" at IIT B, March 14-17, 2004.
- CEP course on "Advanced analysis and design of offshore structures", for Saipem India P S, March 6-24, 2006
- CEP course on "Civil Engineering for Senior Engineers", J M Baxi and Co, Sept. – Dec. 2006
- NRB Workshop on "Real Time Forecasting of Ocean Waves and Wind", IIT Bombay, Jan. 2, 2009.
- CEP Course on "Analysis and Design of Fixed Offshore Platforms", L and T, Powai, July 28-August 1, 2009.
- "Research Scholars' Confluence-2010", I I T Bombay
- Conference: Hydro-2012, IIT Bombay, Dec. 7-8, 2012, Conference Chair
- Seminar on "Climate resilient coastal protection and management", Dec. 8, 2016 at CWPRS, Pune

Externally Funded Projects

Non-commercial: (PI)

- "Impact of climate change on design waves along the Indian coastline", MoES, GoI
- "Improved prediction of sea surface temperature using neural networks", INCOIS,
- "Evaluation of design parameters of waves and current", ONGC

- “Statistical prediction of design waves using directional data”, DST
- “Directional wave modeling”, DST
- “Operational forecasting of waves”, DOD
- "Projection of deep water satellite data of waves and wind to shallow water using ANN", ISRO
- "Establishment of Artificial Intelligence Lab", DST-FIST program
- "Real time wave forecasting using soft computing tools", Naval Research Board
- "In-filling of gaps in the wave height time series using soft computing tools", DST
- "Validation of real time wave forecasting system with numerical models”, IRCC
- “Development of web-based wave forecasting system for NIOT”, NIOT, Chennai
- “Development of web-based wind-wave simulation and forecasting system for NIOT”, NIOT, Chennai
- “Improved prediction of sea surface temperatures using neural networks”, INCOIS, Hyderabad
- "Impact of climate change on extreme waves around the Indian coastline", MoES, Delhi

Significant Commercial: (PI)

- FDM solutions for flood routing in open channels, Nuclear Power Board”
- FEM solutions for flood routing in open channels, Nuclear Power Board”
- Model studies for cooling water intake at Ramagundam super thermal power station, NTPC
- Wave analysis at Gangavaram, Western India
- Model studies for pump houses of SardarSarovar project, NTPC
- Evaluation of hydrodynamic forces on Jacket structures, L and T
- Design of a temporary dyke at Kudankalan, HCC
- Friction loss in pipelines, HCC
- Design of roadside drainage systems, MMRDA
- Marine growth analysis of offshore platforms, ONGC
- Sedimentation in a harbor approach channel, Tata Powers
- Effect of climate change on design waves and wind in the western offshore, ONGC
- Study on drainage system of Nerul - CIDCO
- Assessment of the water supply pipeline project in A.P. - HCC Ltd
- Emergency action plan of Mulshi dam of Tata Power - Tata Power
- Cooling water outfall channel - Tata Power
- Surge Analysis and Protection at Rajgharh, Rajasthan - L and T Construction
- Surge analysis and protection system for the water supply scheme of Taranagar -Land T Const.
- Submarine pipeline design for Srilanka Port Authority - The Indian Register of Shipping
- Surge analysis and protection system for the water supply scheme of Bagidora - L and T Const.
- Performance evaluation of CWPRS Pune - Ministry of Water Resources, GOI
- Hydrological study of Mula River - Mulshi dam to Wakad bridge - Irrigation Division Pune
- Design of Kalpakkam Intake structure - Gammon India Limited
- Water supply scheme of NMC - Nashik Municipal Corporation
- Floating jetty at Guhagar, Ratnagiri - Harbor Engineer, Ratnagiri
- Tunnel below the Lonawala lake - Tata Power
- Surge analysis and protection for Umedsagar Rajasthan - L and T Construction
- Cooling Water Channel design - Tata Consulting Engineers
- Review of surge analysis study - HCC Ltd.
- Design of foreshore land development - Elel hotels and investments Ltd.
- Static inplace analysis for marine growth removal - ONGC Ltd.
- Hydrological study of Ram river in Pune District - Irrigation Division, Pune
- Surge Analysis for Pipelines in Ratnagarh-Sujabgarh Water Supply Project - L and T Const.
- Studies for integrity of Walvhan Dam - Tata Power Khopoli
- Surge analysis and protection system for the water supply scheme at ChotiSarwan,- L and T,
- Surge analysis and protection system at Rajasthan, Nagaur-TM03 L and T Construction,
- Surge analysis and protection system at Rajasthan, Nagaur - TM02 L and T Construction,

- Hydrological Study of rivers in Pune district - Pune Irrigation Division
- Surge analysis and protection at Rajasthan, Nagaur, TM01 - L and T Construction,
- Design verification of Kudankulam Jetty - Sanjay Construction Company
- Rehabilitation of the East Quay berth at Paradip Port. RITES Ltd. New Delhi
- Design flood and water levels for stretches of River Krishna - Sangli Irrigation Division
- Design flood and water levels for Warna and other rivers - Kolhapur Irrigation Division (N)
- Design flood and water levels for Vedaganga and other rivers - Sarathii Engineers
- Design flood and water levels for Koyna River at Patan - Chetak Engineers
- Design flood and water levels for Panchganga and other rivers – Kolhapur Irrigation Division (N)
- Design flood and water levels for Girna and other rivers – Malegaon Irrigation Division (N)
- Design flood and water levels for Bhima and other rivers – M/s A D Engineers
- Design flood and water levels for Bhama and other rivers – Chaskaman Irrigation Division
- Design flood and water levels for Walki and other rivers – Pune Irrigation Division
- Design flood and water levels for Khaparganga and other rivers – Pune Irrigation Division
- Design flood and water levels for Karha and other rivers – Pune Irrigation Division
- Design flood and water levels for Kudali and other rivers – Kolhapur Irrigation Division (N)
- Design of gravity Dam across Battisa nullah – M/s SMS Ltd.