

## **BIODATA – DR SUNIL KUMAR P G**

*Professor of Naval Architecture & Dean (Research), Sree Narayana Gurukulam College of Engineering,  
Kadayiruppu, Kerala*

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### **SNAPSHOT**

I am currently working as Professor of Naval Architecture & Shipbuilding and Dean of Research at Sree Narayana Gurukulam College of Engineering, Kadayiruppu. I am a Navy veteran, commissioned as Acting Sub Lieutenant on 06 Aug 1990, and opted for premature retirement on 30 Apr 2012 in the rank of Commander. I am an alumnus of Cochin University of Science and Technology, Indian Institute of Technology New Delhi and University College London, and have PhD in Ship Structures. My experience as a professional engineer in academia and industry for more than 3 decades covers teaching in reputed universities and colleges, academic and industrial research guidance and mentoring, design and analysis of ships, operations and maintenance of engineering assets etc. I am chairman/member of various committees of APJ Abdul Kalam Technological University including the Board of Studies in Marine Engineering.

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### **Academic Qualifications**

- **B Tech** (Naval Architecture & Shipbuilding) - Cochin University of Science & Technology. (2<sup>nd</sup> Rank) (79.8% Marks) **(1990)**
- **PG Diploma** (Naval Construction) - Indian Institute of Technology, New Delhi (First Rank) **(1993)** (CGPA 9.89/10)
- **M Sc** (Naval Architecture) - University College London.(67% Marks) **(1998)**
- **Ph D** (Thesis Title: Finite Element Analysis of Warship Structures) - Cochin University of Science and Technology. **(2011)**

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➤ Date of Birth : 10 Sep 1967 : Age : 53 years : Marital Status – Married

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### **Professional Competencies & Strengths**

- Teaching at UG and PG levels in engineering and technology in Cochin University of Science and Technology and Sree Narayana Gurukulam College of Engineering, Kadayiruppu
- Academic and research coordination in affiliated engineering college.
- Experience in academic and administrative affairs being followed in APJAKTU as Chairman/member of various committees for Naval Architecture & Shipbuilding.
- Hands on expertise in formulating Learning Outcomes-based Curriculum Framework for Undergraduate Education
- Research including PhD guidance, both at academic and applied fields.
- Mentoring of subordinate staff and students for continuous interdisciplinary academic and leadership improvement.
- Proven leadership capabilities in corporate management.
- Expertise in project management of complex and high value multi-disciplinary design, construction and repair projects.

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## **Work Experience & Career Highlights**

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### Academics/Research

- Served on the teaching faculty of Naval Architecture at the Dept of Ship Technology, Cochin University of Science and Technology from 2002 to 2008. Serving as Professor (Naval Architecture & Shipbuilding) and Dean (Research) in a reputed college now.
- Member, curriculum committee, APJ Abdul Kalam Technological University since 2014 and AMET University, Chennai in 2012.
- Member, Board of Studies in Marine Engineering, APJ Abdul Kalam Technological University
- Chairman, Question paper setting committee and question paper scrutiny committee for Naval Architecture and Shipbuilding, APJ Abdul Kalam Technological University since 2018.
- Chairman, Pass board for Naval Architecture and Shipbuilding, APJ Abdul Kalam Technological University since 2018.
- Research Guide (External) for PhD at University of Petroleum & Energy Studies, Dehradun. Ongoing work – ‘Measuring and Improving Operational Efficiency of Offshore Support Vessels in Arabian Gulf’
- Research Guide for PhD at Indian Maritime University, Chennai. Ongoing work – ‘Development of container ship design model to minimize loss of containers in rough seas’
- External examiner at Cochin University of Science and Technology, Kerala University of Fisheries and Ocean Sciences and University of Petroleum & Energy Studies, Dehradun since 2002
- R&D experience Naval Science and Technological Laboratory (2010-2012)
- 16 years experience in design, maintenance and repair of ships and submarines in defence as well as commercial organisations.
- Papers in journals and conferences (List attached)

### Industrial

- Headed several production workshops with a work force of above 400 personnel at Naval Dockyards both at Mumbai and at Visakhapatnam, controlling multimillion dollars worth assets. Directly responsible for Work scheduling, Quality Control, Industrial Safety, Labour Management and Human Resource Management.
- Industrial & Labour Management. Headed the Dry Docks and Slipway Dept of Naval Dockyard, Visakhapatnam. As the leader of a team of multi-disciplinary professionals, undertook certain operations which were appreciated at national and international levels.
- Project Management, Operations and Maintenance Management and Materials/ Logistics Management as part of staff duties assigned in various projects.

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### **Membership of Professional Bodies:**

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- Member of Institution of Naval Architects, India since 1991
  - Member of Royal Institution of Naval Architects, UK since 2012
  - Member of Institution of Engineers, India since 2016
  - Chartered Engineer Institution of Engineers, India since 2016
  - Senior Fellow of Defence Research and Studies, Kochi, a think tank NGO.
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**Awards:**

- Winner of American Bureau of Shipping silver medal for academic excellence twice during the B Tech course at Cochin University (1987, 1988).
- Winner of S Paramanandan Gold Medal for best academic performance at IIT, Delhi (1993).
- Recipient of Commendation by the Chief of Naval Staff for developing a welding process to prevent cracking of austenitic steels during hotwork. (1995).
- Innovation Mentoring certificate for 'Autonomous Underwater Vehicle', 4<sup>th</sup> Technological Congress of KTU TECHFEST 2019, organised by APJ Abdul Kalam Technological University and Kerala State Council for Science, Technology and Environment, in February 2019. Won the third prize in Robotics section

**Work Experience:**

Sl No	Organisation	From	To	Designation
a)	Sree Narayana Gurukulam College of Engineering, Kadayiruppu, Kolenchery, Ernakulam District, Kerala	17 Jul 17	Till date	Professor (Naval Architecture) and Dean (Research)
b)	Aries International Maritime Research Institute, Sharjah/ Kochi	09 May 13	30 Jun 17	Director
c)	Larsen & Toubro Shipbuilding, Chennai	15 Jun 12	18 Mar 13	Dy General Manager (Ship Design)
d)	Naval Science & Technological Laboratory, Visakhapatnam	09 Sep 10	30 Apr 12	Team leader - design and construction of a research vessel
e)	Naval Dockyard, Visakhapatnam	24 Jun 08	09 Sep 10	Manager Dry Docks & Slipway
f)	Dept of Ship Technology, Cochin University of Science and Technology	28 Jul 02	18 Jun 08	Faculty in Naval Architecture (Officer in Charge, Naval Construction Wing)
g)	Directorate of Surface Ship Design, Naval Headquarters	23 Sep 98	20 Jul 02	Deputy Director (Structural Design)
h)	M Sc (Naval Architecture) Course at University College London	20 Sep 97	19 Sep 98	Department of Mechanical Engineering
i)	Directorate of Submarine Design, Naval Headquarters	29 Feb 96	14 Sep 97	Assistant Director (Structural Design)
j)	Naval Dockyard, Mumbai	30 Oct 93	25 Feb 96	Assistant Manager (Fabrication)
k)	Professional Courses in the Indian Navy	06 Aug 90	29 Oct 93	IIT Delhi, Shipwright School, Indian Naval Academy

## List of Publications

### Journal Publications:

1. KV Ramakrishnan, **P G Sunil Kumar** – ‘Applications of Sandwich Plate System for Ship Structures’, IOSR Journal of Mechanical and Civil Engineering (IOSR-JMCE) e-ISSN: 2278-1684, p-ISSN: 2320-334X, PP 83-90. (2016) (UGC Approved)
2. S Sathish Kumar, **P G Sunil Kumar** - ‘Ultimate Strength Analysis of Ship Structures’ International Journal of Design and Manufacturing Technology (IIDMT), ISSN 0976 – 6995 (Print) ISSN 0976 – 7002 (Online) Volume 5, Issue 3, September - December (2014). (UGC Approved)
3. **P G Sunil Kumar**, A.K. Sujith, A. Mathew, S. Shajan & S. Pai G. - ‘Development of autonomous underwater vehicle’, Marine Technology and Ocean Engineering Series Vol 3, Sustainable Development and Innovations in Marine Technologies – Georgiev & Guedes Soares (eds) © 2020 Taylor & Francis Group, London, ISBN 978-0-367-40951-7 pp 380-385 (Scopus)
4. Ajith P.J, T.Bangar Raju, B.K.Chaturvedi, **P G Sunil Kumar**. - ‘Review of energy efficiency in offshore vessels’ International Journal of Research and Analytical Reviews (IJRAR), December 2018, Volume 5, Issue 12, E-ISSN 2348-1269, P- ISSN 2349-5138, pp 231-245 (UGC Approved)
5. Pooja C, Allwyn Sebastian M, Aldrin Benher, Abijith Shibu, **Sunil Kumar P G**, ‘Recent Developments in Stealth Considerations for Surface Warship Design’ GRD Journals- Global Research and Development Journal for Engineering, Volume 4, Issue 2, January (2019), ISSN: 2455-5703, pp 6-10
6. Pooja C, **Sunil Kumar P G**, ‘Renewable Energy and Alternative Fuels in Maritime Field’, International Journal of Latest Trends in Engineering and Technology , Vol.(17), Issue(4), October 2020, pp.013-017, DOI: <http://dx.doi.org/10.21172/1.174.04>, e-ISSN:2278-621X
7. Nithi E Sadan, Akash P S, **Sunil Kumar P G**, ‘Biofouling impacts and toxicity of antifouling agents on marine environment: a qualitative study’, Journal of Sustainability, Agri, Food and Environmental Research, (ISSN: 0719-3726), 10(X), 2022.
8. Aravind K Mohan, Patric Paul, Geethika Dev, **Sunil Kumar P G**, ‘Microplastics as contaminants in marine environment, Journal of Sustainability, Agri, Food and Environmental Research, (ISSN: 0719-3726), 10(X), 2022

### Conference Papers

1. **P G Sunil Kumar**, C G Nandakumar, ‘Structural Reliability Analysis of Ships’, Marine and Offshore Engineering Technology Conference (MOETC) 2014, Automotive and Marine Engineering Technology, CTS, PAAET, Kuwait.
2. Abhijith KS, Aadith M, Adarsh K.S, Josna J, Sane S, Sreekumar Pai G, **P.G Sunil Kumar**, ‘Development of Underwater Drone, ROV Varuna’, Proceedings of the International Conference on Shipbuilding & Offshore Engineering 2018, (ICSOE 2018), October 25-26, 2018. Volume 1: ICSOE 2018, ISBN: 978-93-85434-72-3
3. **P G Sunil Kumar**, C G Nandakumar, ‘Risk Based Structural Reliability Analysis of Ships’, Frontiers of Construction Technology and Computational Mechanics 2018 (CTCM '18),

4. Abhijith KS, Aadith M, Adarsh K.S, Josna J, Sane S, Sreekumar Pai G, **P.G Sunil Kumar**, 'Development of Autonomous Underwater Vehicle, AUV Varuna', 4<sup>th</sup> Technological Congress – KETCON of KTU TECHFEST 2019, organised by APJ Abdul Kalam Technological University and Kerala State Council for Science, Technology and Environment, 15-17 February 2019. Adjudged as the Best Paper in Robotics section.
5. **P G Sunil Kumar**, Sohan Roy S K, 'Role of E-Learning in Maritime Education', Thirty Third National Convention of Marine Engineers, Institution of Engineers (India), Kochi 30-31 Aug 2019
6. Nikhita Menon, Silpa, **P G Sunil Kumar**, 'Impacts of IMO Environmental Regulations on Ship Design and Construction', Thirty Third National Convention of Marine Engineers, Institution of Engineers (India), Kochi 30-31 Aug 2019
7. Kiran George Varghese, Nair Vinay Gopi, Avinash Godey, **P G Sunil Kumar**, 'Study of Flow in the Test Section of a Circulating Water Channel by Varying the Honey Comb Cross Section', International Symposium on Marine Design and Construction 2019 (SMDC 2019)
8. Ann Mary, P.Y. Abia Azeen, Ashil John Aji, Rahul Babu and **P.G. Sunil Kumar**, 'Latest developments in the use of composite materials in shipbuilding', Maritime International Conference is being jointly organized by Indian Maritime University and Academy of Maritime Education and Training, Chennai, 4 - 5 November 2019.
9. Sandra K Anil, Arjun K R, **P G Sunil Kumar**, 'Safety and Fire Protection Considerations in Ship Design', National Conference on Safety and Fire Engineering, Organized by Division of Safety and Fire Engineering, School of Engineering, Cochin University of Science and Technology, Dec 2019
10. Innovation Mentoring 'Autonomous Underwater Vehicle', 4<sup>th</sup> Technological Congress of KTU TECHFEST 2019, organised by APJ Abdul Kalam Technological University, Kerala and Kerala State Council for Science, Technology and Environment, 15-17 February 2019. Won the third prize in Robotics section.
11. **P G Sunil Kumar**, C G Nandakumar, 'Standardisation in Shipbuilding', International Seminar on Nation Building through Shipbuilding, Federation of Indian Chambers of Commerce and Industry (FICCI), Indian Navy and National Maritime Foundation, July 25 - 26, 2019, pp 332-337.
12. Pooja C, **Sunil Kumar P G**, 'Renewable Energy and Alternative Fuels in Maritime Field', Blue Economy: Challenges and Opportunities in the Field of Marine Engineering, Annual Technical Volume of Marine Engineering Division Board, Volume III, 2020, pp 74-77.
13. Ann Mary, Athul Vinod, Jishnu S Sarma, **Sunil Kumar P G**, 'Sustainable Shipping Through Alternate Fuels and Renewable Technology', AICTE Sponsored National Conference on Sustainability in Performance Based Engineering Design and Construction, 4<sup>th</sup> - 6<sup>th</sup> August 2021
14. Athul Vinod, Jishnu S Sarma, Linda Perumal Johnson, **Sunil Kumar P G**, 'Concept Design of Autonomous Underwater Vessel Bio Mimicked From Black Marlin Fish', Third International Conference in Shipbuilding & Offshore Engineering 2021(ICSOE 2021), June 24-25, 2021.
15. Arunprasath P, Satheesh Babu P K, **Sunil Kumar P G**, V L Mangesh, 'Methodologies to be Followed to Minimize the Loss of Containers at Sea', Third International Conference in Shipbuilding & Offshore Engineering 2021(ICSOE 2021), June 24-25, 2021.