Curriculum Vitae for Prof. Nicholas M. Patrikalakis ⊠

7 April 2025

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Researcher Unique Identifier: https://orcid.org/0000-0003-3842-5162

Researcher ID: https://www.webofscience.com/wos/author/record/G-9853-2011

Google Scholar: https://scholar.google.com/citations?user=cAaRCiUAAAAJ&hl=en

Education

Year	Faculty / Department – University / Institution - Country
1983	Ph.D. in Ocean Engineering, Department of Ocean Engineering, MIT, USA
1977	Diploma in Naval Architecture & Mechanical Engineering (5-Year Program), School of Mechanical Engineering, National Technical Univ. of Athens, Greece

Positions - Current and Previous

Year	Job Title – Employer - Country
1999-	Professor of Mechanical and Ocean Engineering Department of Mechanical Engineering, MIT, USA
1996-	Kawasaki Professor of Engineering, School of Engineering, MIT, USA
1991-	Tenured Faculty Member, MIT, USA
2010-2010	Singapore Research Professor of Robotics & Sensing, MIT, USA
2005-2008	Associate Head, Department of Mechanical Engineering, MIT, USA
1995-2004	Professor of Ocean Engineering, MIT, USA
1990-1995	Associate Professor of Ocean Engineering, MIT, USA
1988-1990	Doherty Assistant Professor of Ocean Utilization, MIT, USA
1985-1990	Assistant Professor of Ocean Engineering, MIT, USA
1983-1985	Postdoctoral Associate in Ocean Engineering, MIT, USA
1977-1983	Research and Teaching Assistant, MIT, USA

Project Management Experience

Year	Project - Role – Funding Agency
2008-2018	PI, CENSAM, START Center, MIT, USA & CREATE, Singapore. Director, WAVES Laboratory, Singapore funded by NRF, Singapore. CENSAM, START Center: Total Budget c. USD $90M; Subproject: c. USD $12M
1991-2024	Co-Director, Design Laboratory, Center for Ocean Engineering, MIT, USA
1985-	Lead-PI of over 20 major research projects funded by ONR, NSF, DARPA, NAVSEA, NOAA, USCG, USACE, NUWC in the USA, and NRF in Singapore and Industry in the USA and Japan. Total research expenditures c. USD $30M

Student Supervision

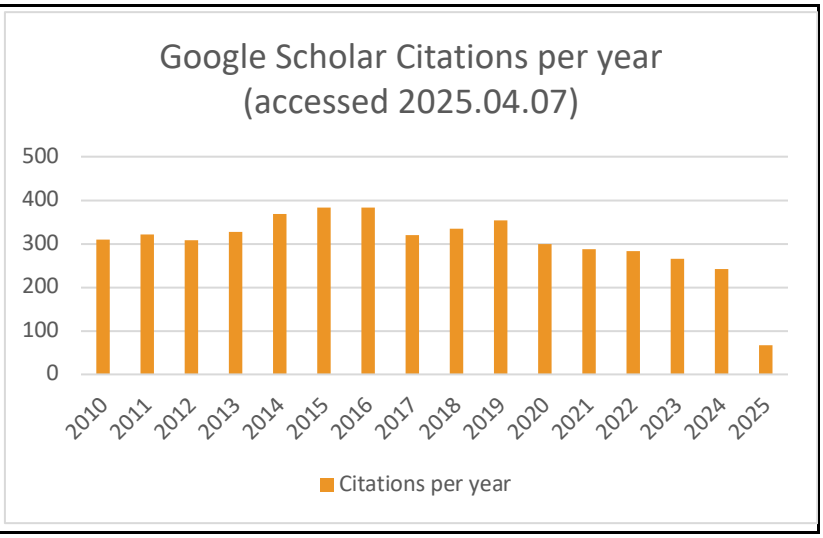
Master's Students	Ph.D. Students	Postdocs & Researchers	Ph.D. Committees	University / Institution - Country
>45	19	>50	>50	MIT, USA

Other Relevant Professional Experience

Year	Description - Role
1995-	Chair or Member of Academic Program Review Panels for Higher Education Authorities and Universities in the UK, Ireland, Greece and Cyprus.
1991-	Co-Editor-in-Chief, Editor, co-Editor, Associate Editor or Scientific Board Member of over 10 International Scientific Journals
1991-	Chair or co - Chair, Program Chair or Program co - Chair of over 10 International Scientific Conferences
1985-	Program Committee Member of over 30 International Scientific Conferences
1985-	Chair or Member of Research Proposal Review Panels, NSF, ONR (US) & EC (EU)

Track Record of Prof. Nicholas M. Patrikalakis

Google Scholar Indicator, April 7, 2025	No.
Total number of publications	>250
Intern. peer reviewed journal publications	>80
Book chapters, monographs	>20
Intern. peer reviewed conference papers	>100
International invited lectures	>50
h-index	46
i10-index	144
Total number of citations	9159



Representative Publications of Prof. Nicholas M. Patrikalakis

The following list includes representative publications since 2010. In all papers, his contribution was in problem formulation, writing, editing, critiquing manuscripts and supervising junior researchers:

1. 'Experiments on Surface Reconstruction for Partially Submerged Marine Structures' G. Papadopoulos, H. Kurniawati, A. Mohd Shariff, L. Wong, N. Patrikalakis. Journal of Field Robotics, 31(2)225–244, October 2014.
2. 'Cooperative AUV Navigation using a Single Maneuvering Surface Craft' M. Fallon, G. Papadopoulos, J. Leonard, N. Patrikalakis. Intern. Journal of Robotics Research, 29(12) 1461–1474, 2010.
3. 'Predicting Millimetre Wave Radar Spectra for Autonomous Navigation' E. Jose, M. Adams, J. Mullane, N. Patrikalakis. IEEE Sensors Journal. 10(5)960–971, 2010.
4. `Path Planning of Autonomous Underwater Vehicles for Adaptive Sampling Using Mixed Integer Linear Programming' N. Yilmaz, C. Evangelinos, P. Lermusiaux, N. Patrikalakis. IEEE Journal of Oceanic Engineering. 33(4)522-537, 2008. Cit: 214.
5. 'Harmful algal blooms in Singapore marine coastal ecosystem: autonomous vehicle, optical sensors and molecular technique' S. Leong, J. Kok, L. Lim, S. Kok, T. Taher, P. Tkalich, N. Patrikalakis, Kai Monthly, 48: 67–76, 2016.
6. `Multi-domain Autonomous Mobile Network for Sensing' T. Taher, V. Viswanathan, N. Patrikalakis, T. Varghese, H.Jiang, A.Cloitre, IEEE Oceans'16, Monterey, CA, 2016.
7. 'Asymptotically Optimal Inspection Planning using Systems with Differential Constraints' G. Papadopoulos, H. Kurniawati, N. Patrikalakis. IEEE Intern. Conference on Robotics and Automation (ICRA), Karlsruhe, Germany, pp. 4126–4133, 2013.
8. 'Modeling and Inspection Applications of a Coastal Distributed Autonomous Sensor Network' N. Patrikalakis, G. Weymouth, H. Kurniawati, P. Valdivia, T. Taher, R. Khan, J. Leighton, G. Papadopoulos. ASME OMAE Intern. Conference on Ocean Engineering, Brazil, 2012.
9. '3D-surface Reconstruction for Partially Submerged Marine Structures using an Autonomous Surface Vehicle" G. Papadopoulos, H. Kurniawati, A. Shariff, L. Wong, N. Patrikalakis. IEEE Intern. Conference on Intelligent Robots & Systems (IROS), S. Francisco, pp. 3551–3557, September 2011.
10. 'Collaborative Multi-vehicle Localization and Mapping in High Clutter Environments' M. Moratuwage, W. Wijesoma, B. Kalyan, N. Patrikalakis. IEEE Intern. Conference on Control, Automation, Robotics, and Vision, Singapore, 2010.

11. ‘A Random Finite Set Based Detection and Tracking Using 3D LIDAR in Dynamic Environments’ B. Kalyan, K. Lee, W. Wijesoma, D. Moratuwage, N. Patrikalakis. IEEE Systems Man & Cybernetics, Istanbul, Turkey, pp. 2288–2292, 2010.
12. ‘Cooperative Localization of Marine Vehicles using Nonlinear State Estimation’ G. Papadopoulos, M. Fallon, J. Leonard, N. Patrikalakis. IEEE/RSJ Intern. Conference on Intelligent Robots and Systems (IROS), Taipei, Taiwan, 2010.
13. ‘X-band Radar based SLAM in Singapore’s Offshore Environment’ J. Mullane, S. Keller, A. Rao, M. Adams, A. Yeo, F. Hover, N. Patrikalakis, IEEE Intern. Conference on Control, Automation, Robotics and Vision, Singapore, 2010.
14. ‘Construction of Reduced-Order Model for Real-Time Hydrodynamic Forecast’ H. Nguyen, M. Dao, P. Tkalich, N. Patrikalakis, Geophysical Research, EGU2010.6208, V.12, Austria, 2010.
15. ‘Collaborative Multivehicle Localization and Mapping in Marine Environments’ M. Moratuwage, W. Wijesoma, B. Kalyan, D. Feng, P. Senarathne, N. Patrikalakis, F. Hover. IEEE OCEANS’10 Conference, Sydney, 2010.
16. ‘MarineSIM: Robot Simulation for Marine Environments’ P. Senarathne, W. Wijesoma, B. Kalyan, M. Moratuwage, N. Patrikalakis, F. Hover. IEEE OCEANS’10 Conference, Sydney, 2010.
17. ‘Design of Field Experiments for Adaptive Sampling of the Ocean with Autonomous Vehicle’ H. Zheng, B. Ooi, W. Cho, M. Dao, P. Tkalich, N. Patrikalakis, Proceedings of 12th Intern. Conference on Enhancement & Promotion of Computational Methods, Macao, 2010.

TEXTBOOKS

1. ‘Shape Interrogation for Computer Aided Design and Manufacturing’ by N. M. Patrikalakis, T. Maekawa, W. Cho. Hyperbook under the Pappalardo Book Series in MIT Mechanical Engineering. 2010. http://web.mit.edu/hyperbook/Patrikalakis-Maekawa-Cho/
2. ‘Graphics and Visualization: Principles and Algorithms’ by. T. Theoharis, G. Papaioannou, N. Platis, N. M. Patrikalakis. Wellesley, MA: A. K. Peters Ltd. Publishers, 2008 & 2010. ISBN:978-1-56881-274-8, http://www.akpeters.com/product.asp?ProdCode=2744
3. ‘Shape Interrogation for Computer Aided Design and Manufacturing’ by N. M. Patrikalakis, T. Maekawa. Heidelberg, Germany: Springer Verlag, 2002. ISBN 3-540-42454-7. Translated to Mandarin, China Machine Press, 2005. ISBN 7-111-14976-9. Revised edition, 2010. http://deslab.mit.edu/DesignLab/pubs/N-T-Book.html

MIT Subjects Taught by Prof. Nicholas M. Patrikalakis

2.001 Mechanics and Materials I (Recitations and Labs)

2.22 Design Principles for Ocean Vehicles (Lectures)

2.154 Maneuvering and Control of Surface and Underwater Vehicles (Lectures)

2.158 Computational Geometry