

CV of Professor Toshio NAGASHIMA

AFFILIATION

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EDUCATION

Ph.D. in Engineering, the University of Tokyo, May 1999
M.S. in Engineering, the University of Tokyo, March 1987
B.S. in Engineering, the University of Tokyo, March 1985

ACADEMIC RESEARCH EXPERIENCE

2007 -present, Professor, Faculty of Science and Technology, Sophia University
2002 -2007, Associate Professor, Faculty of Science and Technology, Sophia University
2001-2002, Lecturer, Faculty of Science and Technology, Sophia University

INDUSTRIAL EXPERIENCE

1990-2001, Researcher, Mitsubishi Research Institute
1987-1990, Researcher, Hitachi Mechanical Engineering Research Laboratory

MAJOR PUBLICATIONS

- Nagashima, T. and Wang C.: XFEM analyses using two-dimensional quadrilateral elements enriched with only the Heaviside step function, *International Journal of Computational Methods*, 19-2 (2022).
- Nagashima, T.: Three-dimensional crack analyses under thermal stress field by XFEM using only the Heaviside step function, *Mechanical Engineering Journal*, Volume 7 Issue 4 Pages20-00098(2020).
- Nagashima, T., Sawada, M.: Development of a damage propagation analysis system based on level set XFEM using the cohesive zone model, *Computers and Structures*, 174(2016)42-53.
- Nagashima, T., Tsukuda, T.: Seismic Response Analysis of an Oil Storage Tank using Lagrangian Fluid Elements, *Coupled Systems Mechanics, An International Journal*. 2-4 (2013) 389-410.
- Nagashima, T., Tsukuda, T., Suemasu, H. and Sogabe, K.: Seismic response analysis methods of an oil storage tank with a floating roof by a strong coupling method, *Engineering Computations*, 28-6 (2011) 701-716.
- Nagashima, T. and Suemasu, H.: X-FEM analyses of a thin-walled composite shell structure with a delamination, *Computers and Structures*, 88 (2010) 549-557.
- Nagashima, T.: Sloshing Analysis of a Liquid Storage Container using the Level Set X-FEM, *Communications in Numerical Methods in Engineering*, 25-4 (2009) 357-379.
- Nagashima, T. and Miura, N.: Crack Analysis in Residual Stress Field by X-FEM, *Journal of Computational Science and Technology*. Vol3, (2009), No.1, 136-147.
- Nagashima, T. and Miura, N.: Three-dimensional crack analysis using X-FEM considering symmetric conditions, *Journal of Computational Science and Technology*, Vol.2, (2008), No.1, 210-221.
- Nagashima, T. and Suemasu, H.: Stress Analyses of Composite Laminate with Delamination using X-FEM, *International Journal of Computational Methods*, 3-4 (2006) 521-544.
- Nagashima, T., Omoto, Y. and Tani, S.: Stress Intensity Factor Analysis of Interface Cracks using X-FEM, *International Journal for Numerical Methods in Engineering*, 56 (2003) 1151-1173.
- Nagashima, T.: Development of a CAE system based on the Node-by-Node Meshless Method, *Computer Methods in Applied Mechanics and Engineering*, 187/1-2 (2000) 1-34.
- Nagashima, T.: Node-by-Node Meshless Approach and Its Applications to Structural Analyses, *International Journal for Numerical Methods in Engineering*, 46 (1999) 341-385.

Professor Toshio Nagashima's research interests lie in the areas of computational mechanics. He has been involved in the development of the extended finite element method (XFEM) in order to solve fracture problems of metal and composite structures. Other areas of interest include fluid-structure interaction problems, the stochastic Finite Element Method, and parallel computing.

He has received a computational mechanics achievements award from JSME (The Japan Society of Mechanical Engineers) in 2013. He is Fellow of JSME and Chair of JSME Certificate Committee of CM (Computational Mechanics) Engineer. He has been a board member of JSCES (The Japan Society for Computational Engineering and Science) since 2014. He had been an editorial committee member of editor of Transactions of JSASS (The Japan Society for Aeronautical and Space Sciences) from 2013 to 2014 and has been an editor of Transactions of JSCES since 2013.

Prof. Nagashima has published papers extensively over a period of 25 years in the field of computational mechanics. Not only in academic activity, he has been conducting many joint industry projects using his computational mechanics methods.