선박 해양플랜트 기술 연구원
THE SHIP AND OFFSHORE RESEARCH INSTITUTE

Curriculum Vitae

Name: Jeom Kee Paik

Birth Date: 7th January 1957

Affiliation: Professor of Ship and Offshore Structural Mechanics, Department of Naval Architecture and Ocean Engineering, Pusan National University, 63 Beon-Gil, Jangjeon-Dong, Geumjeong-Gu, Busan 609-735, Korea (Tel) +82-(0)51-510-2429 (Office), +82-(0)10-3853-8757 (Mobile) (Fax) +82-(0)51-512-8836,
(E-mail) jeompaik@pusan.ac.kr, (URL) http://www.kosori.org

Citizenship: Korean

Degree: Dr. Eng., First Class Naval Architect

Current Position at the Affiliation:

1989.03~	Ship and Offshore Structural Mechanics Laboratory, Department of Naval Architecture and Ocean Engineering, Pusan National University	Professor and Director
2006.03~	Brain Korea 21 Program on Marine and Information Technology, Department of Naval Architecture and Ocean Engineering, Pusan National University, funded by Ministry of Education, Science and Technology	Director
2006.04~	National Research Laboratory on Ship and Offshore Structural Design, funded by National Research Foundation of Korea	Director
2008.01~	Lloyd's Register Educational Trust (LRET) Research Centre of Excellence, Pusan National University	Director
2008.10~	World Class University Program on Nonlinear Structural Mechanics in association with Limit States and Risk-based Approaches, funded by Ministry of Education, Science and Technology	Director
2009.12~	Pusan National University-Lloyd's Register International Joint R&D Centre	Director
2011.12~	The Ship and Offshore Research Institute, Pusan National University	President

Academic Membership: FRINA (UK), FSNAME (USA), MSNAK (Korea)

R&D Interests and Expertise:

- Buckling and ultimate strength
- Limit states design
- Impact engineering, e.g., structural crashworthiness due to collision and grounding
- Condition assessment (health monitoring) of aged structures
- Mathematical modeling for corrosion wastage
- Limit state assessment under impact pressure actions arising from sloshing, slamming and green water
- Hydrocarbon fire engineering
- Hydrocarbon explosion engineering
- Arctic engineering
- Reliability and risk assessment and management

Academic History:

2012.03	University of Liege, Belgium		Doctor Honoris Causa (Honorary Doctor)
1984.04~1987.01	Osaka University, Japan	Naval architecture and ocean engineering	Doctor of Engineering
1982.03~1984.03	Osaka University, Japan	Naval architecture and ocean engineering	Master of Engineering
1975.02~1981.02 (Military service during 1978.01 ~1980.04.07)	Pusan National University, Korea	Naval architecture and ocean engineering	Bachelor of Engineering

Professional History:

1989.03~	Pusan National University, Department of Naval Architecture and Ocean Engineering	Assistant Professor, Associate Professor, Full Professor
1993.03~1995.02, 2006.07~2007.02	Pusan National University, Department of Naval Architecture and Ocean Engineering	Department Head
1993.09~1994.08	Technical University of Denmark	Visiting Professor
1994.12~1995.02	University of California at Berkeley, USA	Visiting Professor
1999.09~2000.02	Virginia Tech., USA	Visiting Professor
2000.03~2000.08	American Bureau of Shipping, USA	Visiting Scholar
2006.02~2006.07	University of Newcastle, Australia	Visiting Professor
1987.03~1989.02	Korea Institute of Machinery and Metals	Senior Research Engineer
1988.03~1989.02	Pusan National University, Department of Naval Architecture and Ocean Engineering	Lecturer

Activities for Academic Societies:

1994.09~1997.08	Specialist Committee on Structural Design against Collisions and Grounding, International Ship and Offshore Structures Congress (ISSC)	Member
1997.09~2000.08	Technical Committee on Ultimate Strength, International Ship and Offshore Structures Congress (ISSC)	Member
2000.09~2003.08	Specialist Committee on Ship Collisions and Grounding, International Ship and Offshore Structures Congress (ISSC)	Chairman
2000.01~Present	Council, Royal Institution of Naval Architects (RINA), UK	Member
2000.01~Present	Publications Committee, Royal Institution of Naval Architects (RINA), UK	Member
2003.09~2006.08	Specialist Committee on Condition Assessment of Aged Ships, International Ship and Offshore Structures Congress (ISSC)	Chairman
2004.01~Present	Korean Branch, Royal Institution of Naval Architects (RINA), UK	Chairman
2005.09~Present	Technical & Research Steering Committee, Society of Naval Architects and Marine Engineers (SNAME), USA	Member
2006.09~2009.08	Technical Committee on Ultimate Strength, International Ship and Offshore Structures Congress (ISSC)	Chairman
2008.10~Present	Forum on Structural Longevity	Co-Chairman
2009.09~Present	Technical Committee on Ultimate Strength, International Ship and Offshore Structures Congress (ISSC)	Chairman
2012.01~Present	Korea Ship and Offshore Structures Congress, The Society of Naval Architects of Korea	President

Activities for International Organizations:

2001.10~	TC8/SC8/WG3, ISO 18072 on Limit State Assessment of Ship Structures, International Organization for Standardization (ISO)	Convenor
2006.10~	EOLSS 6.177 Ships and Offshore Structures, Encyclopedia Of Life Support System, UNESCO	Editor-in-Chief

Activities for Advisory Committees:

1993.01~	Technical Committee, Korean Register of Shipping	Member
1998.01~	Advisory Committee on Ship and Marine Technology, Ministry of Commerce, Industry and Energy	Member
2000.01~	Advisory Committee, MarineTalk, Canada	Member
2003.01~2006.12	Technical Committee, Lloyd's Register	Member
2005.08~2007.07	Advisory Committee, Ministry of Education, Science and Technology	Member
2007.03~2008.12	Advisory Committee, Korea Research Council of Fundamental Science & Technology	Member
2008.01~	The 1860-2010 Committee for 150th Anniversary, RINA, UK	Member
2008.10~	Advisory Committee, Gyeong Nam Province	Member
2009.04~2011.05	Korean Shipbuilding Advisory Committee, Resgistro Italiano Navale, Italy	Member
2011.05~	Korean Shipbuilding Advisory Committee, Resgistro Italiano Navale, Italy	Chairman

Activities for Editorship of Peer-Reviewed International Journals:

2000.01~	International Journal of Maritime Engineering	RINA, UK	Board member
2005.01~	Journal of Engineering for the Maritime Environment	Institution of Mechanical Engineers, UK	Board member
2005.01~	Journal of Ship Mechanics	Chinese Society of Naval Architects and Marine Engineers, China	Board member
2006.01~	Ships and Offshore Structures	Taylor & Francis, UK	Editor-in-Chief
2008.01~	Ocean Engineering	Elsevier, UK	Associate Editor
2008.01~	International Journal of Impact Engineering	Elsevier, UK	Board member
2008.01~	Journal of Marine Science and Technology	Springer, Japan	Board member
2008.10~	Computer Modeling in Engineering and Sciences	Tech Science Press, USA	Board member
2009.01~	Structural Longevity	Tech Science Press,	Editor-in-Chief

		USA	
2009.01~	Thin-Walled Structures	Elsevier, UK	Board member
2009.01~	Journal of the Society of Naval Architects of Korea	Society of Naval Architects of Korea	Board member
2009.06~	Marine Technology	SNAME, USA	Board member

Activities for Peer-Review of International Journals (Except for the Journals of Board Membership):

- Corrosion Sciences
- Engineering Structures
- International Journal of Offshore and Polar Engineering
- Journal of Ship Research
- Journal of Ship Production
- Marine Structures
- Aerospace Science and Technology
- AIAA Journal
- Australian Journal of Structural Engineering
- Central European Journal of Engineering
- Computer Materials and Continua
- Computers & Structures
- Indian Journal of Engineering and Materials Sciences
- International Journal of Nonlinear Mechanics
- Journal of Marine Science and Technology
- Journal of Mechanical Engineering Science
- Journal of Ship Production and Design
- Marine Science and Application
- Open Ocean Engineering Journal
- Structural Engineering and Mechanics
- Structural Stability and Dynamics

Activities for International Scientific Committees:

ICTWS 2004, International Conference on Thin-Walled Structures, 22-24 June 2004, Loughborough, UK	Member
OMAE 2006, International Conference on Offshore Mechanics and Arctic Engineering, 4-9 June 2006, Hamburg, Germany	Member
HIPER 2006, International Conference on High-Performance of Marine Vehicles, 8-10 November 2006, Tasmania, Australia	Member
ICSOT 2006, International Conference on Ship and Offshore Technology, RINA, 14-15 September 2006, Busan, Korea	Chairman
OMAE 2007, International Conference on Offshore Mechanics and Arctic Engineering, 10-15 June 2007, San Diego, USA	Member
The Professor Jim Rhodes Retiral Conference on Thin-Walled Structures, 26-27 June 2007, Glasgow, UK	Member
MARSTRUCT 2007, International Conference on Advancements in Marine	Member

Structures, 12-14 March 2007, Glasgow, UK	
ASRANet 2008, 4th International ASRANet Colloquium, 25-27 June 2008, Athens, Greece	Member
ICTWS 2008, 5th International Conference on Thin-Walled Structures, 18-20 June 2008, Brisbane, Australia	Member
RELMAS 2008, International Conference on Reliability of Materials and Structures, 16-19 June 2008, St. Petersburg, Russia	Member
ICTWS 2008, International Conference on Thin-Walled Structures, June 18-20 2008, Brisbane, Australia	Member
OMAE 2008, International Conference on Offshore Mechanics and Arctic Engineering, 15-20 June 2008, Estoril, Portugal	Member
ICCES 2009, International Conference on Computational & Experimental Engineering and Sciences, 8-13 April 2009, Phuket, Thailand	Mini-Symposium Chairman
OMAE 2009, International Conference on Offshore Mechanics and Arctic Engineering, 31May-5 June 2009, Hawaii, USA	Member
MARSTRUCT 2009, International Conference on Advancements in Marine Structures, 16-18 March 2009, Lisbon, Portugal	Member
International Conference on Floating Structures for Deepwater Operations, 21-23 September 2009, Glasgow, UK	Member
ICCES 2009, Meshless & Other Novel Computational Methods, August 21-September 2 2009, Slovenia	Member
ICSOT 2009, International Conference on Ship and Offshore Technology, RINA, September 2009, Busan, Korea	Chairman
Alaa E. Mansour Symposium on Ship and Offshore Structural Design, OMAE 2010, 6-11 June 2010, Shanghai, China	Co-Chairman
Global Forum on Structural Longevity, October 2010, Orlando, USA	Co-Chairman
ASRANET 2010, 5th International ASRANet Conference, 14-16 June 2010, Edinburgh, Scotland, UK	Member
HIPER2010, 7th International Conference on High-Performance Marine Vehicles, 11-15 October 2010, Florida, USA	Member
ICCES 2010, International Conference on Computational & Experimental Engineering and Sciences, 28 March-1 April 2010, Las Vegas, USA	Mini-Symposium Chairman
ICCES MM 2010, Special Symposium on Meshless and Other Computational Methods, 17-21 August 2010, Busan, Korea	Co-chairman

Book Publications:

- Paik, J.K. and Thayamballi, A.K., Ultimate Limit State Design of Steel-Plated Structures, John Wiley & Sons, UK, 2003
- Paik, J.K. and Thayamballi, A.K., Ship-Shaped Offshore Installations: Design, Building, and Operation, Cambridge University Press, UK, 2007
- Paik, J.K. and Melchers, R.E., Condition Assessment of Aged Structures, CRC Press, UK, 2008
- Hughes, O.F. and Paik, J.K., Ship Structural Analysis and Design, SNAME, USA, 2010

Book Chapter Publications:

- J.K. Paik, Ultimate Strength of Ships and Offshore Structures, Edited by C. Guedes Soares, Portugal, 2011
- J.K. Paik and O.F. Hughes, Chapter 10 Ship Structures, In: Modeling Complex Engineering Structures, Edited by R.E. Melchers and R. Hough, American Society of Civil Engineers, USA, 2006
- J.K. Paik and A.K. Thayamballi, Chapter 39 Reliability Assessment of Ships, In: Engineering Design Reliability Handbook, Edited by E. Nikolaidis, D.M. Ghiocel and S. Singhal, CRC Press, New York, USA, 2005

Best Paper Awards and Honors:

1995	Engineering Prize	Pusan National University, Korea
1995	Best Paper Award by the paper titled 'Hull Collapse of an Aging Bulk Carrier under Combined Longitudinal Bending and Shearing Force'	RINA, UK
1995	Best paper Award by the paper titled 'Damage and Residual Strength of Double Hull Tankers in Grounding'	The Society of Naval Architects of Korea
1996	Best Paper Award by the paper titled 'Damage and Residual Strength of Double Hull Tankers in Grounding'	The Korean Federation of Science and Technology Societies, Korea
1999~	Who's Who in the World	Marquis Who's Who, USA
1999~	Who's Who in Science and Engineering	Marquis Who's Who, USA
1999	New Century Leaders 500 Award	Barons Who's Who, USA
1999	Decree of Merit	International Biographical Centre, Cambridge, UK
2000	American Bureau of Shipping – Captain Joseph H. Linnard Prize by the paper titled 'On rational Design of Double Hull Tanker Structures against Collision'	SNAME, USA
2003	Best paper Award by the paper titled 'Ultimate Strength of Ageing Ships'	Journal of Engineering for the Maritime Environment, The Institution of Mechanical Engineers, UK
2003	Best Paper Award by the paper titled 'A Time-Dependent Corrosion Wastage Model for Bulk Carrier Structures'	International Journal of Maritime Engineering, RINA, UK

2004	The Vice Admiral E.L. Cochrane Award by the paper titled 'A Time-Dependent Corrosion Wastage Model for the Structures of Single- and Double-Hull Tankers and FSOs and FPSOs'	SNAME, USA
2008	Medal of Exceptional Merit	The Royal Institution of Naval Architects, UK
2008	Engineering Prize for the contribution to Nonlinear Structural Mechanics	The Society of Naval Architects of Korea, Korea
2010	Best Paper Award by the paper titled 'Ultimate Strength Performance of Suezmax Class Double Hull Oil Tanker Structures: CRS versus Pre-CSR Designs'	The Royal Institution of Naval Architects, UK
2011	Premier Professor	Pusan National University
2011	The T.H.H. Pian Medal	International Conference on Computational & Experimental Engineering & Sciences, USA
2012	Doctor Honoris Causa (Honorary Doctor)	University of Liege, Belgium

Invited (Keynote) Lectures:

2004.06.24	Recent Advances and Future Trends in Ultimate Limit State Design of Steel-Plated Structures	International Workshop, Department of Aeronautical and Automotive Engineering, Loughborough University, Loughborough, UK
2005.01.14	Toward Ultimate Limit State Based Design and Safety Assessment of Ships and Offshore Structures	US Coast Guard, USA
2005.07.26~27	Recent Advances and Future Trends in Limit State Design and Assessment Technology of Ships and Offshore Structures	Department of Naval Architecture and Ocean Engineering, Shanghai Jiaotong University and China Ship Scientific Research Center, China
2006.09.08	Condition Assessment of Aged Ships	Det Norske Veritas, Busan, Korea
2006.02.08	Advanced Engineering for Ship-Shaped Offshore Installations	American Bureau of Shipping, Busan, Korea
2008.03.27~28	Strategic project planning and management for designing, building, and FPSO operations	FPSO Asia-Pacific, Singapore
2008.06.18~20	Recent advances and future trends on design and strength assessment of ships and offshore installations	International Conference on Thin-Walled Structures, Brisbane, Australia

2008.06.25~27	Recent advances and future trends in nonlinear structural mechanics for ships and offshore installations	ASRANet Colloquium, Athens, Greece
2009.04.08~13	Limit states and risk-based approaches on ships and offshore structures –Current practices and future trends-	ICCES2009, Phuket, Tailand
2010.07.18	Incremental Galerkin method for nonlinear analysis of plates and stiffened panels	ICCES MM 2010, Busan, Korea
2012.01.17	Recent advances and future trends on ship and offshore engineering: Arctic and subsea technologies	1st International Workshop, Paradise Hotel Busan, Korea
2012.03.22	Recent advances and future trends on ship and offshore structural design	Conference, Ecole Central Nantes (ECN), Nantesn, France
2012.03.23	Lessons learned from past accidents: Why accidents like Costa Concordia may still happen in 2012?	Conference, The University of Liege, Belgium

Peer-reviewed International Journal Papers:

[1] Paik, J.K., Sohn, J.M., Shin, Y.S. and Suh, Y.S., Nonlinear structural analysis of membrane-type LNG carrier cargo containment system under cargo static pressure loads at the cryogenic condition with a temperature of -163^{o}C", Ships and Offshore Structures, Vol.6, No.4, pp.311-322.

[2] Paik, J.K., B.J. Kim, D.K. Park and B.S. Jang, "On quasi-static crushing of thin-walled steel structures in cold temperature: Experimental and numerical studies", International Journal of Impact Engineering, Vol.38, pp.13-28, 2011.

[3] T.S. Jang, H.S. Baek and Paik, J.K., "A new method for the non-linear deflection analysis of an infinite beam resting on a non-linear elastic foundation", International Journal of Non-Linear Mechanics, Vol.46, No.1, pp.339-346, 2011.

[4] J.K. Seo, M. Mahendran and Paik, J.K., "Numerical method for predicting the elastic lateral distortional buckling moment of a mono-symmetric beam with web openings", Thin-Walled Structures, Vol.49, pp.713-723, 2011.

[5] J.K. Seo, B.J. Kim, H.S. Ryu, Y.C. Ha and Paik, J.K., "Validation of the equivalent plate thickness approach for ultimate strength analysis of stiffened panels with non-uniform plate thickness", Thin-Walled Structures, Vol.49, pp.753-761, 2011.

[6] Y. Sharifi and Paik, J.K., "Ultimate strength reliability analysis of corroded steel-box girder bridges", Thin-Walled Structures, Vol.49, pp.157-166, 2011.

[7] N. Jones and Paik, J.K., "Impact perforation of aluminium alloy plates", International Journal of Impact Engineering, 2011(in press).

[8] B.J. Kim, J.Y. Yoon, G.C. Yu, H.S. Ryu, Y.C. Ha and Paik, J.K., "Heat flow analysis of an FPSO topside model with wind effect taken into account: A wind-tunnel test and CFD simulation", Ocean Engineering, Vol.38, pp.41130-1140, 2011.

[9] Paik, J.K., J. Czujko, B.J. Kim, J.K. Seo, H.S. Ryu, Y.C. Ha, P. Janiszewski and B. Musial, "Quantitative assessment of hydrocarbon explosion and fire risks in offshore installations", Marine Structures, Vol.24, pp.73-96, 2011.

[10] H.H. Dai, Paik, J.K. and S.N. Atluri, "The Global Nonlinear Galerkin Method for the Analysis of Elastic Large Deflections of Plates under Combined Loads: A Scalar Homotopy Method for the Direct Solution of Nonlinear Algebraic Equations", Computer Materials & Continua (CMC), Vol.23, No.1, pp.69-100, 2011.

[11] H.H. Dai, Paik, J.K. and S.N. Atluri, "The Global Nonlinear Galerkin Method for the Solution of von Karman Nonlinear Plate Equation: An Optimal & Faster lterative Method for the Direct Solution of Nonlinear Algebraic Equations F(x)=0, using $\dot{x} = \lambda[\alpha F+(1-\alpha)B^T F]$", Computer Materials & Continua(CMC), Vol.23, No.2, pp.155-186, 2011.

[12] Paik, J.K. and J. Czujko, "Explosion and Fire Engineering of FPSOs(EFEF JIP): Definition of Design Fire Loads", FABIG Newsletter, Issue 58, pp. 15-28, 2011.

[13] Paik, J.K. and J. Czujko, "Assessment of Hydrocarbon Explosion and Fire Risks in Offshore Installations: Recent Advanced and Future Trends", The IES Journal Part A: Civil & Structural Engineering, Vol. 4, No.3, pp. 167-179, 2011.

[14] Jang, T.S., Baek, H.S. and Paik, J.K., "Comparison of Hot Spot Stress Evaluation Methods for Welded Structures", International Journal of Naval Architecture and Ocean Engineering, Vol.2, No.4, pp.200-210, 2010.

[15] Cai, Y.C., Paik, J.K. and Atluri, S.N., "A Triangular Plate Element with Drilling Degrees of Freedom, for Large Rotation Analyses of Built-up Plate/Shell Structures, Based on the Reissner Variational Principle and the von Karman Nonlinear Theory in the Co-rotational Reference Frame", Computer Modelling in Engineering & Sciences, Vol.61, No.3, pp.273-312, 2010.

[16] Cai, Y.C., Paik, J.K. and Atluri, S.N., "Locking-free Thick-Thin Rod/Beam Element for Large Deformation Analyses of Space-Frame Structures, Based on the Reissner Variational Principle and A Von Karman Type Nonlinear Theory", Computer Modelling in Engineering & Sciences, Vol.58, No.1, pp.75-108, 2010.

[17] Zhu, H.H., Cai, Y.C., Paik, J.K. and Atluri, S.N., "Locking-free Thick-Thin Rod/Beam Element Based on a von Karman Type Nonlinear Theory in Rotated Reference Frames For Large Deformation Analyses of Space-Frame Structures", Computer Modelling in Engineering & Sciences, Vol.57, No.2, pp.175-204, 2010.

[18] Kim, B.J., Seo, J.K., Park, J.H., Jeong, J.S., Oh, B.K., Kim, S.H., Park, C.H. and Paik, J.K., "Load Characteristics of Steel and Concrete Tubular Members under Jet Fire: An Experimental and Numerical Study", Ocean Engineering, Vol.37, Issue 13, pp.1159-1168, 2010.

[19] Kim, U.N., Choe, I.H., Kwon, J.C. and Paik, J.K., "A Study on the Buckling Strength of Plate Panels with Opening", Journal of the Society of Naval Architects of Korea, Vol.47, No.2, pp.210-224, 2010.

[20] Melchers, R.E. and Paik, J.K., "Effect of Flexure on Rusting of Ship's Steel Plating", Ships and Offshore Structures, Vol.5, Issue 1, pp.25-31, 2010.

[21] Paik, J.K., Kim, B.J., Jeong, J.S., Kim, S.H., Jang, Y.S., Kim, G.S., Woo, J.H., Kim, Y.S., Chun, M.J., Shin, Y.S. and Czujko, J., "CFD Simulations of Gas Explosion and Fire Actions", Ships and Offshore Structures, Vol.5, Issue 1, pp.3-12, 2010.

[22] Paik, J.K., "Some Recent Advances and Future Trends in Nonlinear Structural Mechanics for Ships and Offshore Structures", Marine Technology, Vol.47, No.1, pp.17-26, 2010.

[23] Sharifi, Y. and Paik, J.K., "Environmental Effects on Ultimate Strength Reliability of Corroded Steel Box Girder Bridges", Structural Longevity, 2010.

[24] Cai, Y.C., Paik, J.K. and Atluri, S.N., "Large Deformation Analyses of Space-Frame Structures, Using Explicit Tangent Stiffness Matrices, Based on the Reissner variational principle and a von Karman Type Nonlinear Theory in Rotated Reference Frames", Vol.54, No.3, pp.335-368, 2009.
[25] Cai, Y.C., Paik, J.K. and Atluri, S.N., "Large Deformation Analyses of Space-Frame Structures, with Members of arbitrary Cross-Section, Using Explicit Tangent Stiffness Matrices, Based on a von Karman Type Nonlinear Theory in Rotated Reference Frames", Computer Modelling in Engineering & Sciences, Vol.53, No.2, pp.123-152, 2009.
[26] Mishra, S.K., Paik, J.K., Atluri, S.N., "Modelling of the Inhibition-Mechanism Triggered by 'Smartly' Sensed Interfacial Stress Corrosion and Cracking", Computer Modeling in Engineering & Sciences, Vol.50, No.1, pp.67-96, 2009.
[27] Paik, J.K., "Mechanical Properties of Friction Stir Welded Aluminum Alloys 5083 and 5383", International Journal of Naval Architecture and Ocean Engineering, Vol.1, No.1, pp.39-49, 2009.
[28] Paik, J.K., Thayamballi, A.K., "Recent Advances and Future Trends on Design and Strength Assessment of Ships and Offshore Structures", Structural Longevity, Vol.1, No.1, pp.37-59, 2009.
[29] Paik, J.K., Kim, D.K. and Kim, M.S., "Ultimate Strength Performance of Suezmax Tanker Structures: Pre-CSR versus CSR Designs", International Journal of Maritime Engineering, Vol.151, Part A2, 2009.
[30] Wang, F., Cui, W.C., and Paik, J.K., "Residual Ultimate Strength of Structural Members with Multiple Crack Damage", Thin-Walled Structures, Vol.47, Issue 12, pp.1439-1446, 2009.
[31] Melchers, R.E. and Paik, J.K., "Effect of Tensile Strain on the Rate of Marine Corrosion of Steel Plates", Corrosion Science, Vol.51, Issue 10, pp. 2298-2303, 2009.
[32] Paik, J.K., "Residual Ultimate Strength of Steel Plates with Longitudinal Cracks under Axial Compression – Nonlinear Finite Element Method Investigations", Ocean Engineering, Vol.36, Issue 3-4, pp.266-276, 2009.
[33] Kim, U.N., Choe, I.H. and Paik, J.K., "Buckling and Ultimate Strength of Perforated Plate Panels Subject to Axial Compression: Experimental and Numerical Investigations with Design Formulations", Ships and Offshore Structures, Vol.4, No.4, pp.337-361, 2009.
[34] Paik, J.K., "Collision-Accidental Limit States Performance of Double Hull Oil Tanker Structures: Pre-CSR versus CSR Designs", Marine Technology, Vol.46, No.4, pp.183-191, 2009.
[35] Paik, J.K., "Ultimate Limit State Performance of 300k Double Hull Oil Tanker Structures: Pre-CSR versus CSR Designs", Marine Technology, 2009 (in Press).
[36] Paik, J.K., "Ultimate Limit State Performance of 170k Bulk Carrier Structures: Pre-CSR versus CSR Designs", Marine Technology, Vol.46, No.3, pp.174-182, 2009.
[37] Paik, J.K. and Seo, J.K., "Nonlinear Finite Element Method Models for Ultimate Strength Analysis of Steel Stiffened-Plate Structures under Combined Biaxial Compression and Lateral Pressure Actions (Part I: Plate Elements)", Thin-Walled Structures, Vol.47, Issue 8-9, pp.1008-1017, 2009.
[38] Paik, J.K. and Seo, J.K., "Nonlinear Finite Element Method Models for Ultimate Strength Analysis of Steel Stiffened-Plate Structures Under Combined Biaxial Compression and Lateral Pressure Actions (Part II: Stiffened Panels)", Thin-Walled Structures, Vol.47, Issue 8-9, pp.998-1007, 2009.
[39] Rajendran, R., Paik, J.K., Lee, J.M., Chae, Y.H. and Lee, M.S., "Creep Life Prediction of a High Strength Steel Plate", Vol.29, Issue 2, pp.427-435, 2008.

[40] Paik, J.K. and Lee, S.K., "Risk Evaluation for Sloping-slipway Launched Ships Against Collisions with Bridge Located Near the Shipyard", International Journal of Maritime Engineering, Vol.150, Part A1, pp.228-240, 2008.
[41] Paik, J.K., "Residual Ultimate Strength of Steel Plates with Longitudinal Cracks under Axial Compression - Experiments", Ocean engineering, Vol.35, No.17-18, pp.1775-1783, 2008.
[42] Paik, J.K., Andrieu, C. and Cojeen, H.P., "Mechanical Collapse Testing on Aluminium Stiffened Plate Structures for Marine Applications", Marine Technology, Vol.45, No.4, pp. 228-240, 2008.
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[44] Paik, J.K and Kim, B.J., "Progressive Collapse Analysis of Thin-Walled Box Columns", Thin-Walled Structures, Vol.46, Issue 5, pp.541-550, 2008.
[45] Paik, J.K., Kim, B.J. and Seo, J.K., "Ultimate Limit State Assessment of the M.V. Derbyshire Hull Structure", Journal of Offshore Mechanics and Arctic Engineering, Vol. 130, No.2, pp.021002-1-021002-9, 2008.
[46] Paik, J.K., Thayamballi, A.K. and Melchers, R.E., "Some Recent Developments in Corrosion Assessment and Management for Steel Ships and Offshore Structures", Marine Technology, Vol.45, No.2, pp.94-100, 2008.
[47] Paik, J.K., "Ultimate Strength of Perforated Steel Plates under Combined Biaxial Compression and Edge Shear Loads", Thin-Walled Structures, Vol.46, Issue 2, pp.207-213, 2008.
[48] Paik, J.K., Kim, B.J. and Seo, J.K., "Methods for Ultimate Limit State Assessment of Ships and Ship-Shaped Offshore Structures (Part I Unstiffened Plates)", Ocean Engineering, Vol.35, Issue 2, pp.261-270, 2008.
[49] Paik, J.K., Kim, B.J. and Seo, J.K., "Methods for Ultimate Limit State Assessment of Ships and Ship-Shaped Offshore Structures (Part II Stiffened Panels)", Ocean Engineering, Vol.35, Issue 2, pp.271-280, 2008.
[50] Paik, J.K., Kim, B.J. and Seo, J.K., "Methods for Ultimate Limit State Assessment of Ships and Ship-Shaped Offshore Structures (Part III Hull Girders)", Ocean Engineering, Vol.35, Issue 2, pp.281-286, 2008.
[51] Rajendran, R., Paik, J.K., Lee, J.M., Chae, Y.H. and Lee, M.S., "Creep Life Prediction of a High Strength Steel Plate", Materials & Design, Vol. 29, Issue 2, pp.427-435, 2008.
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Research Projects: PI = Principal Investigator, RS = Research Staff

PI	Ship collision analysis-Part 1	1997.03.01	1998.02.28	Hyundai Heavy Industries
PI	Ultimate strength of ship double bottom structures	1997.05.01	1998.08.31	American Bureau of Shipping
PI	Impact strength of thin-walled members for automobile structures	1997.07.01	1998.06.30	Ministry of Education, Science and Technology
RS	Fatigue tests on load-carrying box fillet weld toes	1997.11.01	1999.03.30	Hyundai Heavy Industries
PI	Strength analysis of WIG structures under impact pressure	1997.12.01	1998.09.30	Samsung Heavy Industries
PI	Strength analysis of aluminum sandwich panels for large weight-critical structures	1998.03.01	1999.02.28	Seoul National University
PI	Ship collision analysis-Part 2	1998.03.01	1999.02.28	Hyundai Heavy Industries
PI	Strength analysis of 5000 ton class rescue vessel	1998.09.01	1999.08.31	Korean Maritime Technology
PI	Ultimate strength design method for ship stiffened panels	1998.09.01	1999.08.31	American Bureau of Shipping
PI	Transverse strength analysis of 300 ton class coast guard ship	1999.02.22	1999.3.13	Korea Maritime Technology
PI	Corrosion damage model for bulk carrier	2000.12.01	2001.11.30	Korean Register

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PI	Ultimate strength of stiffened panels	2002.03.01	2003.02.28	Hyundai Heavy Industries
PI	Ship ultimate strength design rules considering corrosion wastage	2002.04.01	2002.12.31	Korean Register of Shipping
PI	Safety assessment and maintenance warning system for large commercial vessels against collapse sinking-Part 1	2002.05.17	2003.05.16	Ministry of Land, Transportation and Maritime Affairs
PI	Design automation for bin/bunker/duct/stack	2002.08.12	2003.06.30	POSCO Construction
PI	Ultimate limit state based strength assessment of ship structures-Part 1	2002.09.01	2003.08.31	Korean Agency for Technology and Standards
PI	Advanced ship design technology against ship collisions	2003.02.01	2005.01.31	Hyundai Mipo Ship Building
PI	Ultimate strength failure of lightweight, multi-hull ships	2003.04.14	2004.04.15	Office of Naval Research, USA
PI	Safety assessment and maintenance warning system for large commercial vessels against collapse sinking-Part 1	2003.07.03	2004.07.02	Ministry of Land, Transportation and Maritime Affairs
PI	Structural design of mechanical systems	2003.07.28	2003.12.25	POSCO Construction
PI	Ultimate limit state based strength assessment of ship structures-Part 1	2003.09.01	2004.08.31	Korean Agency for Technology and Standards
PI	Damage evaluation and safety measures for shipyards due to ship collisions with bridge	2003.11.14	2004.03.12	Geoje City
PI	Digital mock-up based virtual shipyard technology-Part 1	2003.12.01	2004.08.30	Korea Institute for Advancement of Technology
PI	Feasibility study for maritime industry center	2004.01.05	2004.11.30	GyeongNam Province
PI	Residual strength of damaged ship structures	2004.07.31	2005.07.30	Korea Institute of Machinery & Metals
PI	Digital mock-up based virtual shipyard technology-Part 2	2004.09.01	2005.08.31	Korea Institute for Advancement of Technology
PI	Safety assessment of engineering structures	2004.11.25	2005.12.30	POSCO Construction
PI	Digital mock-up based virtual shipyard technology-Part 3	2005.09.01	2006.08.31	Korea Institute for Advancement of Technology
PI	Ship strength analysis considering CSR	2006.03.01	2007.02.28	Samsung Heavy Industries

PI	Advanced technology for ship and offshore structural analysis	2006.04.01	2011.03.31	National Research Foundation of Korea
PI	Strength of membrane structures of MARK III type LNG carriers	2006.06.01	2006.12.31	Hyundai Heavy Industries
PI	Damage evaluation of MARK III type LNG CCS and FPSO hull structures under dropped object impacts	2007.01.01	2008.08.31	Samsung Heavy Industries
PI	Changeable-die system for forming three dimensionally curved ship hull plates	2007.02.01	2008.02.28	Hanjin Shipbuilding and Construction Company
PI	Survey of ISO standards for maritime industries	2007.02.01	2007.03.31	Korea Marine Equipment Research Institute
PI	Ship collisions	2007.02.07	2007.04.06	National Research Foundation of Korea
PI	Feasibility study for construction of MARINA in East coastline	2007.08.01	2008.07.31	Ministry of Land, Transportation and Maritime Affairs
PI	Buckling collapse testing of friction stir welded aluminum stiffened plate structures	2007.10.01	2008.09.30	American Bureau of Shipping
PI	Innovative technology for ship and offshore structural design	2008.01.01	2012.12.31	Lloyd's Register Educational Trust, UK
PI	Fire and explosion engineering of FPSOs	2008.03.01	2010.03.31	Hyudai Heavy Industries
PI	EFEF JIP – explosion and fire engineering of FPSOs	2008.04.08	2010.03.31	American Bureau of Shipping
PI	Changeable-die system for forming curved metal plates – application study	2008.06.01	2009.05.31	Kukdong Industries
PI	Stress analysis of engineering duct system	2008.06.20	2009.04.30	Doosan Heavy Industries
PI	Fire and explosion engineering of FPSOs	2008.09.01	2010.03.31	Daewoo Shipbuilding and Marine Engineering
PI	Feasibility study for global maritime industry network	2008.11.07	2009.02.06	GyeongNam Province
PI	Nonlinear structural mechanics in association with limit states and risk-based approaches	2008.12.01	2013.08.31	Ministry of Education, Science and

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PI	Serviceability limit states design criteria for steel hull plates – Critical plate deflection	2009.01.01	2009.08.31	American Bureau of Shipping
PI	Strength of membrane corrugations in MARK III type LNG carrier cargo tanks	2009.01.01	2009.12.31	American Bureau of Shipping

A Short Curriculum Vitae of Prof. Jeom Kee Paik

Dr J.K. Paik is Professor of Ship and Offshore Structural Mechanics in Pusan National University (PNU), Korea (E-mail: jeompaik@pusan.ac.kr). He was born in Sacheon City, Gyungnam Province, Korea, in 7th January 1957. He received his Bachelor Degree of Engineering (1981) from PNU, and his Master Degree of Engineering (1984) and Doctor of Engineering (1987) from Osaka University, Japan. He has been Visiting Professor in Technical University of Denmark (1993-1994), Virginia Polytechnic and State University, USA (1999-2000), and University of Newcastle, Australia (2006). Prof. Paik received the insignia of Doctor Honoris Causa (Honory Doctor degree) from The University of Liege, Belgium on March 2012.

He is Director of the Lloyd's Register Educational Trust (LRET) Research Centre of Excellence at PNU, with the focus on Nonlinear Structural Mechanics in association with Limit States and Risk-based Approaches. He has some 25 years experience of teaching and research in the area, and he has authored over 500 technical papers and several books and book chapters. His book publications include "Condition Assessment of Aged Structures" (CRC Press, USA, 2008), "Ship-Shaped Offshore Installations: Design, Building, and Operation" (Cambridge University Press, UK, 2007), "Ultimate Limit State Design of Steel-Plated Structures" (John Wiley & Sons, UK, 2003), and "Ship Structural Design and Analysis" (The Society of Naval Architects and Marine Engineers, USA). His book chapters include Chapter 8 Ship Structures in the book titled "Modeling Complex Engineering Structures" (The American Society of Civil Engineers, USA, 2007), edited by R.E. Melchers and R. Hough, Chapter 39 Reliability Assessment of Ships in the book titled "Engineering Design Reliability Handbook" (CRC Press, USA, 2005), edited by E. Nikolaidis, D.M. Ghiocel and S. Singhal, and Ultimate strength of Ships and Offshore Structures in the book "Marine Technology and Engineering" (CENTEC, Portugal, 2011), edited by C. Guedes Soares.

Prof. Paik is the recipient of numerous awards and honors including the Medal of Exceptional Merit (The Royal Institution of Naval Architects, UK, 2008), the Engineering Prize (The Society of Naval Architects of Korea, 2008), the RINA best paper awards (The Royal Institution of Naval Architects, UK, 1995 & 2000), the SNAME best paper awards (The Society of Naval Architects and Marine Engineers, USA, 2000 & 2004), the IME best paper award (The Institution of Mechanical Engineers, UK, 2003), the Engineering Prize (Busan Metropolitan City Government and Kukje Newspaper, Korea, 2000), and the SNAK best paper award (The Society of Naval Architects of Korea, 1995).

Prof. Paik has been very active in the activities of international academic societies. He is Fellow of the Royal Institution of Naval Architects (UK) and Member of the Society of Naval Architects and Marine Engineers (USA). He has been the Council Member and Publication Committee Member of the Royal Institution of Naval Architects (UK), and Chairman of the RINA Korean Branch. He has also been a Member of Technical and Research Steering Committee of the Society of Naval Architects and Marine Engineers, USA. Prof. Paik has significantly contributed to the activities of International Ship and Offshore Structures Congress (ISSC) for the last 12 years. Prof. Paik has been chairing ISSC Committees on Ultimate Strength (2006-present), Condition Assessment of Aged Ships (2003-2006), and Ship Collisions and Grounding (2000-

2003). Prof. Paik was re-elected as Chairman of ISSC Committee III.1 Ultimate Strength until the Congress of ISSC 2012, Germany.

Prof. Paik has devoted to the activities of International Academic Journal Editorship. He is Editor-in-Chief of two internationally recognized journals, namely *Ships and Offshore Structures* (Taylor & Francis, UK) and *Structural Longevity* (Tech Science Press, USA). He is also Associate Editor or Editorial Board member of 10 other international journals, which include *Ocean Engineering* (Elsevier, UK), *International Journal of Impact Engineering* (Elsevier, UK), *Thin-Walled Structures* (Elsevier, UK), *Journal of Marine Science and Technology* (Springer, Germany), *International Journal of Maritime Engineering* (The Royal Institution of Naval Architects, UK), *Computer Modeling of Engineering and Sciences* (Tech Science Press, USA), *Marine Technology* (SNAME, USA), *Journal of Engineering for the Marine Environment* (Institution of Mechanical Engineers, UK), *International Journal of Naval Architecture and Ocean Engineering* (The Society of Naval Architects of Korea), and *Journal of Ship Mechanics* (The Chinese Society of Naval Architects and Marine Engineers, China).

Prof. Paik has been Keynote Speaker and/or Chairman or Member of International Scientific Committees for numerous international conferences, which include *4th Int. Conf. on Thin-Walled Structures* (England, UK, 2004), *25th Int. Conf. on Offshore Mechanics and Arctic Engineering* (Hamburg, Germany, 2006), *Int. Conf. on Ship and Offshore Technology* (Busan, Korea, 2006), *6th Int. Conf. on High Performance Marine Vehicles* (Tasmania, Australia, 2006), *Int. Conf. of Advancements in Marine Structures* (Glasgow, UK, 2007), *26th Int. Conf. on Offshore Mechanics and Arctic Engineering* (San Diego, USA, 2007), *The Professor Jim Rhodes Retiral Conference on Thin-Walled Structures* (Glasgow, UK, 2007), *5th Int. Conf. on Thin-Walled Structures* (Brisbane, Australia, 2008), *4th Int. ASRANet Colloquium* (Athens, Greece, 2008), *28th Int. Conf. on Ocean, Offshore and Arctic Engineering* (Hawaii, USA, 2009), *2nd Int. Conf. on Marine Structures* (Lisbon, Portugal, 2009), *Int. Conf. on Computational & Experimental Engineering and Sciences* (Phuket, Thailand, 2009), *Int. Conf. on Floating Structures for Deepwater Operations* (Glasgow, UK, 2009), and *Int. Conf. on Ships and Offshore Technology* (Busan, Korea, 2009).

Prof. Paik has also devoted to the development of International Standards in association with International Organization for Standardization (ISO). Prof. Paik has been Convenor of ISO Technical Committee 8 / Sub-Committee 8 / Working Group 3 to develop ISO Standards 18072 on *Requirements for Limit States Assessment of Ship Structures*, since 2000. Ship structures have traditionally been designed primarily based on past experience in terms of allowable working stress, which is typically given as a fraction of material properties such as yield strength. However, it is well recognized that it is not possible to determine the true margin of structural safety as long as limit states remain unknown. Prof. Paik has internationally emphasized the importance and necessity of limit states based design approaches, and directed significant efforts towards the development of International Standards in conjunction with limit states. ISO 18072-1: *General Requirements of Limit States Assessment of Ship Structures* then became effective in November 2007 under the leadership of Prof. Paik, and ISO 18072-2 is now under development.

As Editor-in-Chief, Prof. Paik is in charge of editing UNESCO EOLSS (Encyclopedia Of Life Support Systems) 6.177 Ships and Offshore Structures. He is a co-founder and co-chairman of the World Forum on Structural Longevity (http://fsl.icces.org).