

Jae-Boong (JB) Choi, PhD



Summary of Qualifications:

- Over 20 years of R&D experience in Convergence Design for Future IT products
- Over 20 years of R&D experience in Fracture Mechanics and Nuclear Safety
- Over 15 years of Teaching Experience in IT based Mechanical Engineering
- Over 10 years of Experience in University-Industry Collaboration

Employment Summary:

Mar. 2010 ~ Present Professor, Dept. of Mechanical Eng., Sungkyunkwan Univ.
Mar. 2006 ~ Feb. 2010 Associate Prof., Dept. of Mechanical Eng., Sungkyunkwan Univ.
Mar. 2002 ~ Feb. 2006 Assistant Prof., Dept. of Mechanical Eng., Sungkyunkwan Univ.

Education:

1993-1997: Ph.D, Mechanical Engineering, University of Waterloo, Canada
1991-1993: MSc, Mechanical Engineering, University of Waterloo, Canada
1983-1987: BSc, Mechanical Engineering, Sungkyunkwan Univ., Korea

Professional Career:

May, 2013 ~ Present Creative Director of Research & Business Foundation at Sungkyunkwan Univ
Mar, 2015 ~ Present Advisory Professor for SAMSUNG Electronics (SW Center, IoT group)
April, 2014 ~ May, 2016 Director of Wearable Smart Device Initiative (Korean Government)
Aug., 2013 ~ Aug., 2016 Commissioner of Nuclear Safety and Security Commission (Korean Government)
May, 2011 ~ Present Director of Smart Design Research Institute at Sungkyunkwan Univ
July 16, 2014 Presentation on Internet of Things at SAMSUNG group CEO forum

Industry-Collaboration Career:

- Leading Convergence Design for smart products in Korea. Dedicated to more than 20 smart product design and research including wearable smart band.
- Actively contributing to various smart product design consulting for small and medium size companies (120 product design consulting based on Smart Design Research Institute)
- Consulting a New business model for IoT and Wearable device for Korean companies including SAMSUNG electronics, SAMSUNG Group, e-Mart, Shinsege, GS group, kt, BGF retail, SK Telecom, Amore Pacific, Yuhan Kimberly etc.
- Delivered more than 300 lectures to Korean leading companies on the New era of Phono Sapiens explaining the 4th Industrial Revolution.

Research Capabilities:

- Korean Thesis
- (1) Probabilistic Damage Mechanics Assessment of Wall-Thinned Nuclear Piping Using Reliability Method and Monte-Carlo Simulation, KSME(The Korean Society of Mechanical Engineers) Vol.A, 2005
- (2) Establishment of Fatigue Life Evaluation and Management System for District Heating Pipes Considering Operating Temperature Transition Data, KSME(The Korean Society of Mechanical Engineers) Vol.A, 2005
- (3) Fatigue life Evaluation of Reactor Pressure Vessel Using three-dimensional Green's Functions, KPVP, 2005

- (4) Failure Probability Assessment of Gas Pipelines Considering Wall-Thinning Phenomenon, KSPE(Korean Society for Precision Engineering), 2005
- (5) Elastic Modulus Measurement of a Large Size Digital TV Display Unit, KSPE(Korean Society for Precision Engineering), 2005
- (6) A study on treatment of emulsified oil waste water in vessels by electrochemical treatment system, KSME(The Korean Society of Mechanical Engineers) Vol.A, 2005
- (7) Surface Conductance Modulation of Single-Walled Carbon Nanotubes and Effects on Dielectrophoresis, KSME(The Korean Society of Mechanical Engineers) Vol.A, 2006
- (8) Nano-Bio Applications Using Carbon Nanotube-Biomolecule Conjugates, KSPE(Korean Society for Precision Engineering), 2006
- (9) Separation of Single-Walled Carbon Nanotubes by Length and Diameter, KSPE(Korean Society for Precision Engineering), 2006
- (10) Evaluation of Crack Length and Thickness Effects of Fracture Specimen using Damage Mechanics, KSPE(Korean Society for Precision Engineering), 2006
- (11) Assessment of In-plane Size Effect of Nuclear Materials Based on Damage Mechanics, KSME(The Korean Society of Mechanical Engineers) Vol.A, 2006
- (12) Stress Classification Using Artificial Neural Networks and Fatigue Life Assessment, KSME(The Korean Society of Mechanical Engineers) Vol.A, 2006
- (13) Structural Integrity Evaluation Scheme by Linking Knowledge-based Information System and Large Scale Analysis System, KPVP, 2006
- (14) Fatigue life Evaluation of Heat Recovery Steam Generator Valve, KPVP, 2006
- (15) Optimization of District Heating Pipes Considering Thermal Fatigue Life, KSPE(Korean Society for Precision Engineering), 2006
- (16) Estimation of Local Stress Change of Wall – Thinned Pipes due to Fluid Flow, KIGAS, 2006
- (17) Experimental Study on Fatigue Crack Initiation and Propagation due to Fretting Damage in Press-fitted Shaft, KSME(The Korean Society of Mechanical Engineers) Vol.A, 2007
- (18) Study on the real-time measurement equipment for nanoparticle in low-pressure processes, Journal of the Korean Vacuum Society, 2007
- (19) The Effect of Fretting Wear on Fatigue Crack Initiation Site of Press-fitted Shaft, The Korean Society for Railway, 2007
- (20) The Effect of Fretting Wear on Fatigue Life of Press-fitted Shaft, KSME(The Korean Society of Mechanical Engineers) Vol.A, 2007
- (21) Estimation of Fracture Resistance Curves of Nuclear Materials Using Small Punch Specimen, KSME(The Korean Society of Mechanical Engineers) Vol.A, 2007
- (22) Development of an Web-based Crack/Wall-thinning Evaluation program for Secondary System Piping of Nuclear Power Plant, KPVP, 2008
- (23) A Study on Characteristics of Indoor-Air-Quality in Interior Space Equipped with System Air-Conditioner, SAREK, 2008
- (24) Evaluation of Thermal Stratification and Primary Water Environment Effects on Fatigue Life of Austenitic Piping, KSME(The Korean Society of Mechanical Engineers) Vol.A, 2008
- (25) Risk Assessment Technology of LNG Plant System, Journal of the Korean Society for Nondestructive Testing, 2009
- (26) Cholesterol Acyltransferase Inhibitor from Mylabris phalerate Pallas, KSME(The Korean Society of Mechanical Engineers) Vol.B, 2009

- (27) Numerical Fracture Mechanics Evaluation on Surface Cracks in a Spherical Oxygen Holder, KSME(The Korean Society of Mechanical Engineers) Vol.A, 2009
- (28) Development of Comfort Control Logic for VRF System in Summer Season by using 3 Environment Factors, SAREK, 2011
- (29) Development of Green's Functions for fatigue Damage Evaluation of CANDU Reactor Coolant System Components, KPVP, 2011
- (30) Applicability Evaluation of Methodology for Evaluating High Cycle Thermal Fatigue of a Mixing Tee in Nuclear Power Plants, KPVP, 2011
- (31) Tribological Properties of Chemical Vapor Deposited Graphene Coating Layer, The Korean Institute of Metals and Materials, 2012
- (32) A Prototype Design of Web-based Collaborative System using the Virtual Reality for LNG Plant, KCICI, 2012
- (33) Estimation of Brittle Fracture Behavior of SA508 Carbon Steel by Considering Temperature Dependence of Damage Model, KSME(The Korean Society of Mechanical Engineers) Vol.A, 2012
- (34) Study on Safety Design of Vertical-Type Heat Recovery Steam Generator Based on Large-Scale Analysis, KSME(The Korean Society of Mechanical Engineers) Vol.A, 2012
- (35) Qualitative RBI Analysis in Considered with Uncertain Variables by Probabilistic Distribution, SAREK, 2013
- (36) Development of Web-based Design Compatibility Assessment Program for High Temperature Reactor, Journal of the Korean Vacuum Society, 2013
- (37) A Case Study on the Human Interface Model Design for Product Branding, Journal of korean society of design science, 2013

-English Thesis

- (1) Development of Corroded Gas Pipeline Assessment Program Based On Limit Load Solution, KEY ENGINEERING MATERIALS, Vol 297, 2005
- (2) Fatigue Life Evaluation of Press-Fitted Specimens by using Multiaxial Fatigue Theory at Contact Edge, KEY ENGINEERING MATERIALS, Vol 297, 2005
- (3) Alternative Fatigue Evaluation of Nuclear Piping Designed by ANSI B31.1 Code, KEY ENGINEERING MATERIALS, Vol.297, 2005
- (4) Development of a Fiber-Optic Accelerometer for Third-Party Damage Detection, KEY ENGINEERING MATERIALS, Vol.297, 2005
- (5) Development of a Fiber-Optic AE Sensor for On-Line Monitoring System, KEY ENGINEERING MATERIALS, Vol.297, 2005
- (6) Assessment of Geometry Independent Fracture Resistance Characteristics Based on Local Approach, KEY ENGINEERING MATERIALS, Vol.297, 2005
- (7) Application of Discrete Hamilton's Equation for Parallel Processing of Impact Problems, KEY ENGINEERING MATERIALS, Vol.297, 2005
- (8) Parallel Process System And Its Application to Steam Generator Structural Analysis, JOURNAL OF MECHANICAL SCIENCE AND TECHNOLOGY, Vol. 19, 2005
- (9) The Effects of Residual Stress of Contact Fatigue Life for Railway Wheels, KEY ENGINEERING MATERIALS, Vol.297, 2005
- (10) Cleavage Fracture Evaluation using Local Approach for SA508 Carbon Steel at -60°C, SOLID STATE PHENOMENA, Vol.110, 2006

- (11) Development of a Neural Network-based Real-time Fatigue Monitoring System for the Heavy Load Carrying Facility, SOLID STATE PHENOMENA, Vol.110, 2006
- (12) On-Line Monitoring to Detect Third-Party Damage on Underground Natural Gas Pipelines Using Accelerometer, SOLID STATE PHENOMENA, Vol.110, 2006
- (13) Risk Assessments of Columns Using RBI Program in Petrochemical Plant, SOLID STATE PHENOMENA, Vol.110, 2006
- (14) Simplified Static Analysis for Shock Behavior Evaluation of Thin Glass Plates, SOLID STATE PHENOMENA, Vol.110, 2006
- (15) Structural Stress Based Fatigue Life Evaluation for Heat Exchanger Motor Operated Valve, SOLID STATE PHENOMENA, Vol.110, 2006
- (16) Study on Large Scale Analysis for Infra-Structure, SOLID STATE PHENOMENA, Vol.110, 2006
- (17) Dielectrophoresis of Surface Conductance Modulated Single-Walled Carbon Nanotubes Using Catanionic Surfactants, JOURNAL OF PHYSICAL CHEMISTRY B, Vol.110, 2006
- (18) Failure probability assessment of wall-thinned nuclear pipes using probabilistic fracture mechanics, NUCLEAR ENGINEERING AND DESIGN, Vol.236, 2006
- (19) Structural Integrity Assessment of Major Nuclear Components using Probabilistic Fracture Mechanics, KEY ENGINEERING MATERIALS, Vol.306, 2006
- (20) Application of Grid-based Approach for Auto Mesh Generation of Vacuum Chamber, KEY ENGINEERING MATERIALS, Vol.306, 2006
- (21) The DNA hybridization assay using single-walled carbon nanotubes as ultrasensitive, long-term optical labels, Nanotechnology, 2006
- (22) Failure Probability Assessment of an API 5LX52 Gas Pipeline with a Wall-thinned Section, International Journal of Precision Engineering and Manufacturing, 2006
- (23) Application of an Enhanced RBI Method for Petrochemical Equipments, JOURNAL OF PRESSURE VESSEL TECHNOLOGY, 2006
- (24) The Effects of Acid Treatment Methods on the Diameter Dependent Length Separation of Single Walled Carbon Nanotubes, Synthetic Metals, 2006
- (25) Application of Modified Grid-based Approach for Auto Mesh Generation of IT-Related Products, KEY ENGINEERING MATERIALS, Vol.321, 2006
- (26) Fluid-Structure Interaction Analyses on Wall-Thinned Pipes, KEY ENGINEERING MATERIALS, Vol.321, 2006
- (27) Formulation of three-dimensional Green's function and its application to fatigue life evaluation of pressurizer, KEY ENGINEERING MATERIALS, Vol.324, 2006
- (28) Weibull Statistics as a Basis for Assessment of Ductile-Brittle Transition Behavior, KEY ENGINEERING MATERIALS, Vol.326, 2006
- (29) Quantification of Crack Length and Thickness Effects on J-R Curves by Ductile Damage Models, KEY ENGINEERING MATERIALS, Vol.326, 2006
- (30) Fatigue Life Evaluation for Nuclear Power Plant using Green's Function and Real Operating Data, KEY ENGINEERING MATERIALS, Vol.326, 2006
- (31) Development of an Integrity Evaluation System for Steam Generator Tubes in a Nuclear Power Plant, SOLID STATE PHENOMENA, Vol.120, 2006
- (32) Development of Web-based Fatigue Life Evaluation System for Reactor Pressure Vessel, SOLID STATE PHENOMENA, Vol.120, 2006

- (33) The effects of ball milling process on the diameter dependent fracture of single walled carbon nanotubes, *SCRIPTA MATERIALIA*, Vol.56, 2007
- (34) Electrical Transport Characteristics of Surface-Conductance-Contrilled, Dielectrophoretically Separated Single-Walled Carbon Nanotubes, *langmuir*, Vol.23, 2007
- (35) Electrical Transport Characteristics of Surface-Conductance-Contrilled, Dielectrophoretically Separated Single-Walled Carbon Nanotubes, *langmuir*, Vol.23, 2007
- (36) Development of Toughness Scale Diagram Considering Temperature Dependency, *KEY ENGINEERING MATERIALS*, Vol. 345, 2007
- (37) Assessment of In-plane Size Effect for Nuclear Carbon Steels Using Damage Models, *KEY ENGINEERING MATERIALS*, Vol.345, 2007
- (38) Development of Web-based Fatigue Life Evaluation System for Reactor Pressure Vessel, *Solid state phenomena*, Vol.120, 2007
- (39) Development of an Integrity Evaluation System for Steam Generator Tubes in a Nuclear Power Plant, *Solid state phenomena*, Vol.120, 2007
- (40) Protection of underground gas pipelines from third party damage by on-line monitoring using piezoelectric accelerometers, *PROCEEDINGS OF THE INSTITUTION OF MECHANICAL ENGINEERS PART E-JOURNAL OF PROCESS MECHANICAL ENGINEERING*, Vol.221, 2007
- (41) Detection of Ions and Radicals by Using Single-Walled Carbon Nanotubes, *Journal of the Korean Physical Society*, Vol.51, 2007
- (42) Fatigue data acquisition, evaluation and optimization of district heating pipes, *Applied Thermal Engineering*, Vol.27, 2007
- (43) Experimental Study of Nanoparticle Generation During High-Density Plasma Chemical Vapor Deposition of Poly-Silicon Films, *Journal of the Korean Physical Society*, Vol.51, 2007
- (44) Risk Based Approach of In-service Inspection and Maintenance for Petrochemical Industries, *Key Engineering Materials*, Vol.353, 2007
- (45) The Evolution of Surface Damage in Press-Fitted Shaft According to the Bending Stress, *ADVANCED MATERIALS & PROCESSES*,
- (46) Optical characterization of DNA-Wrapped Single-Walled Carbon Nanotubes Irradiated with Ultraviolet Light, *Journal of Nanoscience & Nanotechnology*, 2007
- (47) The Evaluation of Individual Dispersion of Single-Walled Carbon nanotubes using Absorption and Fluorescence Spectroscopic Techniques, *Journal of Nanoscience and Nanotechnology*, Vol.7, 2007
- (48) Neutralized fluorine radical detection using single-walled carbon nanotube network, *Carbon*, Vol.46, 2008
- (49) Flow and Dynamic Characteristic between FPD and Contact-Free Handler Nozzles, *Advanced in Fracture and Materials Behavior*, 2008
- (50) Stress Classification and Fatigue Life Assessment of Modular Component with Asymmetric Perforated Parts, *Advanced in Fracture and Materials Behavior*, 2008
- (51) Immersed finite element method for rigid body motions in the incompressible Navier–Stokes flow, *Computer methods in applied mechanics and engineering*, Vol.197, 2008
- (52) Effects of metal removal and residual stress on the contact fatigue life of railway wheels, *Fatigue*, Vol.30, 2008
- (53) Effect of slip boundary condition on the design of nanoparticle focusing lenses, *Journal of Nanoscience & Nanotechnology*, Vol.8, 2008

- (54) Derivation of ductile fracture resistance by use of small punch specimens, Engineering Fracture Mechanics, Vol.75, 2008
- (55) Experimental and Numerical Investigations on Brittle Failure Probability and Ductile Resistance Property, INTERNATIONAL JOURNAL OF PRESSURE VESSELS AND PIPING, Vol.85, 2008
- (56) Single-Walled Carbon Nanotube Sensor Monitoring the Dissociation of Argon Gas, Journal of Nanoscience and Nanotechnology, Vol.8, 2008
- (57) Optical Characterization of DNA-Wrapped Single Walled Carbon Nanotubes Irradiated with Ultraviolet Light, Journal of Nanoscience and Nanotechnology, Vol.8, 2008
- (58) Silver-plated carbon nanotubes for silver/conducting polymer composites, Nanotechnology, Vol.19, 2008
- (59) Complexity science of multiscale materials via stochastic computations, INTERNATIONAL JOURNAL FOR NUMERICAL METHODS IN ENGINEERING, Vol.80, 2009
- (60) Effects of Sandwich-Like Catalyst on the Vertical Growth of Carbon Nanotubes Synthesized by Using Chemical Vapor Deposition, Journal of the Korean Physical Society, Vol.54, 2009
- (61) Optimized Dynamic Simulation of a Molecular Plate with Dual Flaws under Tensile Loading, Journal of the Korean Physical Society, Vol.54, 2009
- (62) Determination of Drag and Lift Forces Around a Circular Cylinder by Using a Modified Immersed Finite-Element Method, Journal of the Korean Physical Society, Vol.54, 2009
- (63) Numerical Analysis of the Effect of Contact Pressure on the Fretting Fatigue Life in a Press-Fitted Shaft, Journal of the Korean Physical Society, Vol.54, 2009
- (64) Real-Time Diagnosis of Nano-Sized Contaminant Particles Generated in TiN Metal Organic Chemical Vapor Deposition, Applied Physics Express 2, Vol.2, 2009
- (65) Impact reliability estimation of lead free solder joint with IMC layer, Thin Solid Films, Vol.517, 2009
- (66) Fluid effects on structural integrity of pipes with an orifice and elbows with a wall-thinned part, Journal of Loss Prevention in the Process Industries, Vol.22, 2009
- (67) Single-Walled Carbon Nanotube Sensors for Monitoring Partial Discharge Induced Dissociation of SF₆, Journal of Nanoscience & Nanotechnology, Vol.9, 2009
- (68) Numerical Simulation of a Nanoparticle Focusing Lens in a Microfluidic Channel by Using Immersed Finite Element Method, Journal of Nanoscience & Nanotechnology, Vol.9, 2009
- (69) Development of a web-based aging monitoring system for an integrity evaluation of the major components in a nuclear power plant, International Journal of Pressure Vessels and Piping, Vol.87, 2010
- (70) Kinetics of catalyst size dependent carbon nanotube growth by growth interruption studies, APPLIED PHYSICS LETTERS, Vol.96, 2010
- (71) Enhancement of J estimation for typical nuclear pipes with a circumferential surface crack under tensile load, Journal of Mechanical Science and Technology, Vol.24, 2010
- (72) A novel approach to use of elastomer for monitoring of pressure using plastic optical fiber, Review of Scientific Instruments, Vol.81, 2010
- (73) Effects of Catalyst on the Super-Growth of Multi-Walled Carbon Nanotubes, Journal of Nanoscience and Nanotechnology, Vol.10, 2010

- (74) Effects of Process Variables on TiN Particle Formation during Metallorganic Chemical Vapor Deposition, *Electrochemical and Solid-State Letters*, Vol.13, 2010
- (75) Adaptive analysis of 3D cavity flow using hierarchical mesh, *Computational Mechanics*, Vol.46, 2010
- (76) Synthesis of ultra-long Super-aligned Double Walled Carbon Nanotube Forests, *Journal of Nanoscience & Nanotechnology*, Vol.11, 2010
- (77) Numerical simulation of cylinder oscillation by using a direct forcing technique, *Nuclear Engineering and Design*, Vol. 240, 2010
- (78) FATIGUE LIFE ASSESSMENT OF REACTOR COOLANT SYSTEM COMPONENTS BY USING TRANSFER FUNCTIONS OF INTEGRATED FE MODEL, *Nuclear Engineering and Technology*, Vol.42, 2010
- (79) A Statistical Study on Nanoparticle Movements in a Microfluidic Channel, *Journal of Nanoscience & Nanotechnology*, Vol.11, 2011
- (80) Synthesis of ultra-long Super-aligned Double Walled Carbon Nanotube Forests, *Journal of Nanoscience & Nanotechnology*, Vol.11, 2011
- (81) Flow-dependent directional growth of carbon nanotube forests by chemical vapor deposition, *Nanotechnology*, Vol.22, 2011
- (82) Prediction of Anisotropic Behavior of Nano/Micro Composite Based on Damage Mechanics with Cell Modeling, *Journal of Nanoscience and Nanotechnology*, Vol.11, 2011
- (83) Resonant behavior and microfluidic manipulation of silicone cilia due to an added mass effect, *Soft Matter*, Vol.7, 2011
- (84) Tower construction by the manicure crab *Cleistostoma dilatatum* during dry periods on an intertidal mudflat, *JOURNAL OF ETHOLOGY*, 2011
- (85) Evaluation of slant crack propagation under RCF in railway rail , *Journal of Mechanical Science and Technology*, Vol.25, 2011
- (86) Detection of Acetone Vapor Using Graphene on Polymer Optical Fiber, *Journal of Nanoscience and Nanotechnology*, Vol.11, 2011
- (87) Development and Calibration of Differential Mobility Analyzer for 20 to 80 nm Particles Under Low Pressure Conditions, *Journal of Nanoscience and Nanotechnology*, Vol.11, 2011
- (88) Enhanced bioreaction efficiency of a microfluidic mixer toward high-throughput and low-cost bioassays, *Microfluid Nanofluid*, Vol.12, 2011
- (89) MnO₂/graphene composite electrodes for supercapacitors: the effect of graphene intercalation on capacitance, *Journal of Materials Chemistry*, 2011
- (90) High-Performance Graphene-Based Transparent Flexible Heaters, *Nano Letters*, Vol.11, 2011
- (91) Evaluation of Stress Intensity Factor on Axial Crack in CRDM Mockup Nozzle due to Welding Residual Stress, 2012 *IJMME*, Vol.1, 2012
- (92) A parametric study on the fatigue life of railways under rolling contact fatigue by three-dimensional numerical analysis, *Journal of Mechanical Science and Technology* , Vol.26, 2012
- (93) Efficient Transfer of Large-Area Graphene Films onto Rigid Substrates by Hot Pressing, *ACS nano*, Vol.6, 2012
- (94) Evaluation of Multi-Layered Graphene Surface Plasmon Resonance-Based Transmission Type Fiber Optic Sensor, *Journal of Nanoscience and Nanotechnology*, Vol.12, 2012
- (95) Enhanced bioreaction efficiency of a microfluidic mixer toward high-throughput and low-cost bioassays, *Microfluidics and Nanofluidics*, Vol.12, 2012

- (96) Tribological properties of chemical vapor deposited graphene coating layer, Journal of Korean Institute of Metals and Materials, Vol.50, 2012
- (97) Enhancement of master curve method for inhomogeneous material, Journal of Mechanical Science and Technology, Vol.26, 2012
- (98) Prediction of anisotropic material behavior based on multiresolution continuum mechanics in consideration of a characteristic length scale, Journal of Mechanical Science and Technology, Vol.26, 2012
- (99) A modal analysis of carbon nanotube using elastic network model, Journal of Mechanical Science and Technology, Vol.26, 2012
- (100) Adaptive finite elements using hierarchical mesh and its application to crack propagation analysis, Computer methods in applied mechanics and engineering, Vol.253, 2013
- (101) Derivation of mechanical characteristics for Ni/Au intermetallic surface with SAC305 solder, Metals and Materials International, Vol.19, 2013
- (102) A mass weighted chemical elastic network model elucidates closed form domain motions in proteins, Protein Science, Vol.22,2013
- (103) A transparent and stretchable graphene-based actuator for tactile display, NANOTECHNOLOGY, Vol.24, 2013
- (104) A coupled cfd-fem analysis on the safety injection piping subjected to thermal stratification, NUCLEAR ENGINEERING AND TECHNOLOGY, Vol.45, 2013
- (105) Hydro-thermo-mechanical analysis on high cycle thermal fatigue induced by thermal striping in a T-junction, Journal of Mechanical Science and Technology, Vol.27, 2013
- (106) Finite Element Analysis for Shock Resistance Evaluation of Cushion-Packaged Multifunction Printer Considering Internal Modules, JOURNAL OF ELECTRONIC PACKAGING, Vol.135,2014
- (107) Efficient prediction of protein conformational pathways based on the hybrid elastic network model, Journal of Molecular Graphics and Modelling, Vol.47, 2014
- (108) Plastic limit loads for slanted through-wall cracks in cylinder and plate based on finite element limit analyses, Journal of Pressure Vessel Technology, Transactions of the ASME, Vol.136, 2014
- (109) Efficient prediction of protein conformational pathways based on the hybrid elastic network model, Journal of Molecular Graphics and Modelling, Vol.47, 2014
- (110) Development of Green's Function approach considering temperature-dependent material properties and its Application, Nuclear Engineering and Technology, Vol.46, 2014

스마트신인류가 이끄는 4차산업혁명의 시대

- 4차산업혁명을 위한 기업의 준비 -

강연자: 최재봉

Contents

- MEME의 진화와 신인류(Phono Sapiens)의 탄생
- 스마트신인류의 특성 및 시장 트렌드 변화
- Phono Sapiens 가 이끄는 제4차 산업혁명
- 4차 산업혁명의 키워드, 소프트파워
- 미래시장을 위한 기업의 준비 (CLICK-DESIGN)

Abstract

스마트폰 사용의 확산과 함께 형성된 초연결사회는 사람들의 사고와 행동방식을 급격하게 변화시킴으로써 스마트신인류(Phono Sapiens)의 시대로 급속히 이동중이다. 신산업으로 각광받고 있는 웨어러블, 사물인터넷은 이러한 초연결 사회의 소비패턴에 맞게 디자인되어야 확산될 수 있다. 글로벌 마켓의 특징은 소비자가 주도하는 시장으로 온라인 플랫폼 강화, 소비시장 세분화, 거대연합을 통한 생태계 구축으로 요약할 수 있다. 이를 비즈니스 모델에 반영하는 것이 빅데이터분석, 인공지능, 스마트팩토리 등 4차 산업혁명의 핵심 아젠다인 '소프트파워'이다. 이번 세미나에서는 혁명적 시장변화의 현황을 파악하고 이에 따른 기업과 사회의 발전방향에 대해 이야기하고자 한다.

Phono Sapiens leads the 4th industrial revolution

- corporation's preparation for 4th industrial revolution-

Speaker: Jae-Boong Choi

Contents

1. Evolution of Homo Sapiens into Phono Sapiens
2. Characteristics of Phono Sapiens and Changes in Market Trends
3. The 4th industrial revolutions led by Phono Sapiens
4. Keyword for the 4th industrial revolution : 'Soft Power'
5. Corporation's preparation for future Market : CLICK-DESIGN

Abstract

The hyper-connected society, which is built by widespread uses of smartphones, has drastically turned people on the planet into Phono Sapiens by rapidly changing our mindsets and behaviors. Wearable devices and Internet of Things (IoT) capture spotlights as a newly developed industries. To be widespread, these industries' design should be aligned to the consumption patterns of the hyper-connected society. The characteristics of Global markets, where consumers are the main market leaders, are strengthening of online platforms, consumer market segmentation, and construction of eco-systems by building huge alliances. The keyword/agenda for 4th industrial revolution is 'Soft Power' which reflects characteristics mentioned above into business models. 'Soft Power' refers to such as big data analysis, artificial intelligence, smart factory and etc. This seminar will focus on understandings of the revolutionary market trend changes and development directions for corporations and society.