

Curriculum Vitae

1. Personal Information

- 1) Name: Ki-Ju Kang
- 2) Date of birth: Dec. 16, 1958
- 3) Nationality: Korea
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- 5) E-mail: kjkang@jnu.ac.kr
- 6) Current Affiliation: School of Mechanical Engineering, Chonnam National University

2. Educational Information including Dates

Ph. D., August 1988	Department of Mechanical Engineering Korea Advanced Institute of Science and Technology (Thesis : The Effects of Tensile and Compressive Residual Stresses on Fatigue Crack Growth and Crack Closure Behavior (Advisor : Y.Y. Earmme))
M.S., February 1983	Department of Mechanical Engineering, Korea Advanced Institute of Science and Technology (Thesis : Low Cycle Fatigue of Al 7039 (Advisor : Y.Y. Earmme))
B.S., February 1981	Department of Mechanical Engineering, Chonnam National University

3. Professional Experience

April 2000 – Feb. 2001	: Sabbatical Leave at Princeton University, Worked with A.G. Evans
July 1997 - June 1999	: Head of Department of Mechanical Engineering
July 1992 - present	: Professor, Associate Professor, Assistant Professor, Department of Mechanical Engineering, Chonnam National University
July 1991 - June 1992	: Postdoctoral Associate, Engineering Department, Cambridge University, England (Supervisor : N.A. Fleck)
Mar. 1989 - June 1991	: Assistant Professor, Department of Machine Design Engineering, Chonnam National University

Mar. 1987 - Aug. 1988

: Instructor, Department of Industrial Engineering,
Seongkyunkwan University

4. Honors and Awards

- 1) A paper titled "Method for Measuring Mechanical Behaviors of Thin Films at High Temperature" was selected as a **best paper** in KSME Spring Conference, May, 2002.
- 2) Appointed as a **National Research Laboratory** for Development of Manufacturing Technology for Truss Periodic Cellular Metals
- 3) A paper titled "Design and Manufacture of Creep Tester of Thin Film Form Specimen at high temperature," was selected as a **best paper** in KSME Spring Conference, May, 2006.
- 4) A paper titled "Mechanical Behaviors under Compression in Wire-woven Bulk Kagome Truss PCMs – Part II: Effects of Geometric and Material Imperfections," was selected as a **best paper** in KSME Spring Conference, June, 2007.
- 5) The **best scientist award** from Chonnam National University, December, 2007.
- 6) **Invited talk** titled "Residual Stress Measurements on Thin Films with A Focused Ion Beam Equipment", in ICRS-8: The Eighth International Conference on Residual Stress-8 held at Denver USA, August 6-8, 2008
- 7) **Yudam academic prize** from KSME, November, 2008.
- 8) **Hanwoon prize** from Engineering College, Chonnam National University, December, 2009.
- 9) **A best paper award** from The Korean Federation of Science and Technology Societies for a paper titled "Effect of Imperfection upon Mechanical Behaviors of Wire-woven Bulk Kagome truss PCMs under Shear Loading", July, 2010.
- 10) **Prime minister prize** from Korea Invention Patent Exhibition for a Korea patent No. 10-1029183, December, 2011.
- 11) **Academic prize** from Engineering College, Chonnam National University, December, 2011.
- 12) **Yongbong academic award** from Chonnam National University, June, 2012.

5. Publications

134 papers in journals (88 international) and 256 papers in conference proceedings (79 international)

44 Patents (10 foreign) registered among 59 Patents applied (11 international PCTs, 10 foreign)

International Journal Papers since 2010

- 1) Byung-Kon Lee and Ki-Ju Kang, "A Parametric Study on Compressive Characteristics of Wire-woven Bulk Kagome Truss Cores", Composites Structures, Vol.92, pp.445-453, 2010.
- 2) Feng-Xun Li, Jun Ding, Ki-Ju Kang, "Morphological Change Occurring near a Surface Groove On an Alumina Forming Alloy Subjected to Thermal and Mechanical Cycling," Surface and Coatings Technology, Vol.204, Issues 9-10, pp.1461-1468, 2010
- 3) Ji-Eun Choi, Gyoung-Dek Ko and Ki-Ju Kang, "Taguchi Method-Based Sensitivity Study of Design Parameters Representing Specific Strength of Wire-Woven Bulk Kagome under Compression," Composites Structures, Vol.92, pp. 2547–2553, 2010.
- 4) Heonsoo Kim, Jai-Hwang Joo and Ki-Ju Kang, "A Zigzag Formed Truss Core and Its Mechanical Performances," Journal of Sandwich Structures and Materials, Vol. 12, pp.351-368, 2010.

- 5) Jai-Hwang Joo and Ki-Ju Kang, "Modified Octet Truss Cellular Metals Fabricated By Expanded Metal Process," *Journal of Sandwich Structures and Materials*, Vol.12, pp.327-349, 2010.
- 6) S. K. Sharma, G. D. Ko and K. J. Kang, "Strengthening effect of Cr₂O₃ thermally grown on alloy 617 foils at high temperature," *J. of Nuclear Materials*, Vol. 405, pp.165–170, 2010.
- 7) Insu Jeon, Tadashi Asahina, Ki-Ju Kang, Seyoung Im, Tian Jian Lu, "Finite element simulation of the plastic collapse of closed-cell aluminum foams with X-ray computed tomography," *Mechanics of Materials*, Vol.42, No.3, pp.227-236, 2010.
- 8) Ming-Zhen Li, Günter Stephani and Ki-Ju Kang, "New Cellular Metals with Enhanced Energy Absorption: Wire-woven Bulk Kagome (WBK)-Metal Hollow Sphere (MHS) Hybrids," *Advanced Engineering Materials*, Vol.13, No.1-2, pp.33-37, 2011.
- 9) J.S. Park; J.H. Joo; B.C. Lee; K.J. Kang, "Mechanical Behaviour of Tube-Woven Kagome Truss Cores Under Compression," *Intern J. of Mechanical Sciences*, Vol.53, pp.65-73, 2011.
- 10) J-H. Joo, K-J. Kang, T. Kim, T.J. Lu, "Forced Convective Heat Transfer in All Metallic Wire-Woven Bulk Kagome Sandwich Panels," *Inter. J. of Heat and Mass Transfer*, Volume 54, Issues 25-26, pp. 5658-5662, 2011.
- 11) S.S. Feng, M.Z. Li, J-H. Joo, K-J. Kang, T. Kim, T.J. Lu, "Thermo-mechanical properties of brazed wire-woven bulk Kagome cellular metals for multifunctional applications," *AIAA Journal of Thermophysics and Heat Transfer* Vol.26, No.1 pp.66-74, 2012
- 12) Byung-Chul Lee, Ki-Won Lee, Jun-Hyeung Byun and Ki-Ju Kang, "The compressive response of new composite truss cores," *Composites B*, Vol.43, No.2, pp.317-324, March 2012
- 13) Min-Geun Lee, Gyeong-Deuk Ko, Junye Song and Ki-Ju Kang, "Compressive Characteristics of A Wire-woven Cellular Metal," *Materials Science & Engineering A*, Vol.539, pp.185-193, 2012
- 14) Youngho Park, Sangil Hyun, Ki-Ju Kang, "Structural Analysis on Kagome Trusses under Dynamic External Loadings," *Journal of the Korean Physical Society*, Vol. 60, No. 3, pp.349-355, Feb., 2012.
- 15) Yun-Soo Lee, Byeong-Hoon Yeon, Soong-Keun Hyun, Ki-Ju Kang, "A new fabrication method to improve metal matrix composite dispersibility," *Materials Letters*, Vol.89, pp.279–282, 2012.
- 16) M.G Lee, K.W. Lee, H.K. Hur, K.J. Kang, "Mechanical behaviors of a wire-woven metal under compression," *Composite Structures*, Vol.95, pp.264-277, 2013.
- 17) Ki Won Lee, Jong-Sun Park, Insu Jeon, and Ki-Ju Kang, "Equivalent Material Properties of a Wire-Woven Cellular Core," *Mechanics of Materials*, Vol.57, pp.1-14, 2013.
- 18) Feng-Xun Li, Ki-Ju Kang, "Deformation and cracking near a hole in an oxide forming alloy foil subjected to thermal cycling," *Acta Materialia*, Vol.61, pp.385-398, 2013.
- 19) Feng-Xun Li, Ki-Ju Kang, "Deformation and cracking near a hole in an oxide forming alloy foil subjected to thermal cycling: Part II. Effects of Remote Applied Stress," *Acta Materialia*, Vol.61, pp. 2944–2952, 2013.
- 20) S.K. Sharma, D.Y. Kim, K.J. Kang, "Effect of Annealing on the Growth and the Microstructure of Thermally-grown Oxides on Foils of Alloy 617," *Journal of the Korean Physical Society*, Vol. 63, No. 9, November 2013, pp. 1755 ~ 1759
- 21) M.G. Lee, J.W. Yoon, S.M. Han, Y.S.Suh, K.J. Kang, "In-plane Compression Response of Wire-Woven Metal Cored Sandwich Panels," *Materials & Design*, Vol.55 pp.718-726, 2014.
- 22) M.G. Lee, V.M. Hoang, J.W. Yoon, S.M. Han, Y.S. Suh, K.J. Kang, "Effects of Cell Size and Orientation on Compressive Strength of WBK," *Composite Structures*, Vol.108, pp.635-645, 2014.
- 23) M.G. Lee, J.W. Yoon, S.M. Han, Y.S. Suh, K.J. Kang, "Bending Response of Sandwich Panels With Discontinuous Wire-Woven Metal Cores," *Materials & Design*, Vol.55 pp.707-717, 2014.
- 24) M.G Lee, K.J. Kang, "Feasibility of a wire-woven metal for application as a sandwich core," *International J.*

of Mechanical Science, Vol. 80, 81-92, 2014.

- 25) X.H. Yang, J.X. Bai, K-J. Kang, T.J. Lu, T. Kim, "Experimental Investigations of Natural Convection in Wire-Woven Bulk Kagome," *Transport in Porous Media*, Vol. 105, pp.1-22, 2014.
- 26) Hara Kim, Bong Hyun Cho, Hae Gue Hurr, Ki-Ju Kang, "A Composite Sandwich Panel Integrally Woven with Truss Core," *Materials & Design*, Vol.65 pp.231-242, 2014.
- 27) M.G. Lee, K.J. Kang, "Mechanical Properties of Three Variations of a Wire-woven metal subjected to shear," *International Journal of Solids and Structures*, Vol.51, pp.4504-4518, 2014.
- 28) Xiaohu Yang, Jiayi Bai, Ki-Ju Kang, Tianjian Lu, Tongbeum Kim, "Effective thermal conductivity of wire-woven bulk Kagome sandwich panels," *Theoretical & Applied Mechanics Letters*, Vol. 4, pp. 051010-1-7, 2014.
- 29) H.B. Yan, T. Mew, M-G. Lee, K-J. Kang, T.J. Lu, F.W. Kienhofer, T. Kim, "Thermo-Fluidic Characteristics of a Porous Ventilated Brake Disc," *ASME Journal of Heat Transfer*, Vol.137, pp. 022601-1-11, 2015.
- 30) K.J. Kang, "Wire-woven cellular metals: the present and future", *Progress in Materials Science*, Vol. 69, pp.213-307, 2015.
- 31) Timothy D. Mew, Ki-ju Kang, Frank W. Kienhofer, Tongbeum Kim, "Transient thermal response of a highly porous ventilated brake disc," *Proc IMechE Part D: J Automobile Engineering*, Vol. 229, pp.674-683, 2015.
- 32) Seung Chul Han, Jeong Woo Lee, Kiju Kang, "A New Type of Low Density Material; Shellular", *Advanced Materials*, Vol.27, pp.5506-5511, 2015.
- 33) Min Geun Lee, Jeong Woo Lee, Seung Chul Han, Kiju Kang, Mechanical Analyses of "Shellular", an Ultralow-density Cellular Metal, *Acta Materialia*, Vol. 103, pp.595-607, 2016.
- 34) Ban Dang Nguyen¹, Jeong Shik Cho², Kiju Kang, Optimal Design of "Shellular", a Micro-Architected Material with Ultralow Density, *Materials & Design*, Vol.95, pp.490-500, 2016.