

Curriculum Vitae

Hyunjoo Choi

Ph.D

Professor

School of Materials Science and Engineering, Kookmin University,
77, Jeongneung-ro, Seongbuk-gu, Seoul, 136-702, Korea
Tel:82-10-8533-9875, E-mail: hyunjoo@kookmin.ac.kr



Education: Yonsei University, Seoul, South Korea

Ph.D., Metallurgical Engineering

Sep. 2005 – Aug. 2010

Thesis: Reinforcing effect of carbon nanotubes in aluminum matrix nanocomposites

Yonsei University, Seoul, South Korea

B.S., Metallurgical Engineering

Mar. 2001 – Aug. 2005

Work Experience:

Professor

Kookmin University, Seoul, South Korea

Mar. 2022 – Present

Associate Professor

Kookmin University, Seoul, South Korea

Mar. 2017 – Dec. 2021

Assistant Professor

Kookmin University, Seoul, South Korea

Sep. 2012 – Feb. 2017

Postdoctoral Associate

Massachusetts Institute of Technology, Cambridge, USA

Feb. 2011 – Aug. 2012

Postdoctoral Associate

Yonsei University, Seoul, South Korea

Sep. 2010 – Dec. 2010

Publications:

- 1) S. Nam, S. Kim, D. Kim, S. Song, J. Lee, H.S. Kim, H. Sung, **H.J. Choi*** “Enhancing thermal conductivity of 6061 Al plate via graphene dip coating” J. Mater. Res. Technol **29** 3126 (2024)
- 2) J.Y. Han, S.J. Nam, Y.T Choi, T.J. Jang, C.H. Jung, S.S. Sohn, H.S. Kim, **H.J. Choi*** “Grain boundary strengthening in nanocrystalline Mo0. 2CoNi medium-entropy alloys produced via high-pressure torsion” Int. J. Refract. Met. Hard Mat. **119** 106535 (2024)
- 3) S.Y. Ahn, Farahnaz Haftlang*, E.S. Kim, J.S. Lee, S.G. Jeong, J.B. Seol, **H.J. Choi**, H.S. Kim* “Cellular structure engineering of additive manufactured CoCrFeMnNi high-entropy composite: The role of hard ceramic reinforcements in elemental segregation of constitutive elements” Addit. Manuf. Lett. **7** 100172 (2023)

- 4) S.J. Nam, D.G. Park, Y.W. Song, J.H. Kim, C.H. Jung, M.S. Kim, S.H. Kim, J.H. Bae, Y.S. Kwon, J.H. Moon, H. Kang, S.S. Sohn, **H.J. Choi*** “Additive manufacturing-based combinatorial approach to improve bonding strength and heat transfer performance in wrought-cast Al compound casting” *Mater. Des.* **233** 112225 (2023)
- 5) K. Lee, Y. Song, S. Kim, M. Kim, J. Seol, K. Cho, **H.J. Choi*** " Genetic design of new aluminum alloys to overcome strength-ductility trade-off dilemma" *J. Alloys Compd.* **947** 169546 (2023)
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- 7) K.C. Nayak, J.Y. Han, S.W. Park, M.R. Joo, K.B. Lee, D.H. Bae*, **H.J. Choi*** “Synergistic strengthening of aluminum with SiC by grain refinement and dispersion hardening” *J. Am. Ceram. Soc.* **106** 7340 (2023)
- 8) K.B. Lee*, K.C. Nayak, C.H. Shim, H.I. Lee, S.H. Kim, **H.J. Choi***, J.P. Ahn* “Tensile Properties of Aluminum Matrix Composites Produced via a Nitrogen-Induced Self-Forming Process” *J. Compos. Sci.* **7** 457 (2023)
- 9) P. Kahhal, H. Ghorbani-Menghari, H.J. Kim, **H.J. Choi**, P.R. Cha, J.H. Kim “Metaheuristic Optimization of Powder Size Distribution in Powder Forming Process Using Multi-Particle Finite Element Method Coupled with Artificial Neural Network and Genetic Algorithm” *Mater. Trans.* **64** 2648 (2023)
- 10) **H.J. Choi**, J.J. Kim, P.R. Cha, H.S. Kim* “Review of “Integrated Computer-Aided Process Engineering Session in the International Symposium on Innovation in Materials Processing (ISIMP, 26–29 October 2021)”” *Mater. Trans.* **64** 2542 (2023)
- 11) G.S. Joo, Y.W. Song, M.S. Kim, S.W. Park, J.H. Shin, S.M. Choi, **H.J. Choi**, S.H. Kim* “Effect of Mg Content on Precipitation Hardening Behavior of Al–Mg–Si–(Cu) Alloys” *Mater. Trans.* **64** 2225 (2023)
- 12) K.C. Nayak, J.Y. Han, C.H. Jung, M.R. Joo, K.B. Lee, D.H. Bae, **H.J. Choi*** " Synergetic effect of milling speed and duration on particle morphology and mechanical properties of nanocrystalline Al matrix containing SiC" *Powder Metall.* **66** 1 (2023)
- 13) G.S. Joo, Y.W. Song, M.S. Kim, J.H. Shin, S.M. Choi, **H.J. Choi**, S.H. Kim " Effect of Minor Elements Content on the Phase Formation and Mechanical Properties of 6xxx Series Aluminum Alloy Sheets" *J. Mater. Eng. Perform.* **1** (2023)
- 14) M.R. Joo, J.H. Jeon, J.G. Jeon, S.J. Lee, K.M. Choi, T.W. Oh, J.W. Lee, S.E. Shin, **H.J. Choi**, H. Kang, J.H. Shin, K. Ikeda, D.H. Bae " High-ductility aluminium alloys including small sub-grains with wide low angle boundary" *J. Alloys Compd.* **934** 167868 (2023)
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- 37) S.J. Nam, Y.W. Song, M.H. Son, K.A. Lee, G.H. Yoo, E.S. Park, **H.J. Choi***, C.S.-Y. Lee*, “High-temperature mechanical and thermochemical properties of NbMoTaW refractory high-entropy alloy coatings produced via Nano Particle Deposition System (NPDS)”, *Int J Refract Met H* **99** (2021)
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- 51) D. Park, K. Kim, H.-S. Kim, H. Seo, H. S. Lee, **H Choi**^{*}, J.-H. Kim^{*}, “Microstructure Design of Carbon-Coated Nb₂O₅-Si Composites as Reversible Li Storage Materials”, *Electron Mater Lett*, **16** 376 (2020)
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- 53) J. Kim, Y. Lee, D. Kwon, H. Kim, **H. J. Choi**^{*}, “Enhancement of the Packing Fraction of Iron-Based Soft Magnetic Amorphous Powders by Bimodal Powder Mixing”, *J Mag* **25** 215 (2020)
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- 55) D.-Y. Kim, P.-R. Cha, H.-S. Nam, **H.-J. Choi**^{*}, K.-B. Lee^{*}, “Effect of Material and Process Variables on Characteristics of Nitridation-Induced Self-Formed Aluminum Matrix Composites-Part 1: Effect of Reinforcement Volume Fraction, Size, and Processing Temperatures”, *Materials* **13** 1309 (2020)
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