Curriculum Vitae

Name: **Sangyeop Kim**

Affiliation: School of Mechanical Engineering

Sungkyunkwan University, Republic of Korea

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Education

2019 Feb. **B.S.E.** in Mechanical Engineering, Sungkyunkwan University, Gyeonggi-do, Republic of Korea

Research Interests

- Computational mechanics (non-linear finite element methods, multi-physics)
- High temperature experiments (creep, fatigue, creep-fatigue, small punch test)

Research Experiences

2019-present **Research Assistant** at Material Strength & Computational Bioengineering Lab, Sungkyunkwan University, Republic of Korea

- Center for Nanotubes and Nanostructured Composites (2021-2030, MOE)
- Wire arc graded additive manufacturing of carbon steel valve items and development of technical standards to replace production discontinued carbon steel valve located in secondary system of nuclear power plant (2021-2023, KHNP)
- Next Generation Lifetime Assessment of High Temperature Materials in Nuclear Power Plants using Small Punch Test (2019-2020, NRF)
- An Advanced Creep-Fatigue Damage Evaluation Method Based on Interrupt

Creep Test (2016-2019, NRF)

Awards and Honors

2022 **Excellence Poster Award**, *Graduate Student Workshop from School of Mechanical Engineering of Sungkyunkwan University*, Korea.

2020 **Student Presentation Award**, *The KSME Annual Spring Conference*, Korea.

Publications

Journal Articles:

[2] **Kim, S.**, Ro, J., Kim, Y.H., Kim, M.K., "Evaluation of Creep Properties Using Small Punch Creep Test for Modified 9Cr-1Mo Steel", *Journal of Mechanical Science and Technology*, 36 (9) (2022).

[1] Ro, J.[#], **Kim, S.**[#], Kim, Y., Kim, M.K., "Creep-Fatigue damage analysis of modified 9Cr-1Mo steel based on a Voronoi crystalline model", *International Journal of Pressure Vessels and Piping*, 194 (2021) 104541.

[#]: equally contributed

Conference Proceedings and Posters:

[11] **Kim, S.**, Ro, J., Kim, Y., Kim, M.K., "Assessment of Creep Properties Using Small Punch Creep Test for Grade 91 Steel", *The KSME Annual Spring Conference*, Busan, May, 2022.

[10] Ro, J., **Kim, S.**, Lee, T., Kim, M.K., "Development of machine learning based parameter-free creep model for 9% Cr steel", *The KSME Annual Spring Conference*, Busan, May, 2022.

[9] **Kim, S.**, Ro, J., Kim, M.K., "Creep-Fatigue Interaction Damage Evaluation Using Continuum Damage Model for Modified Grade 91 Steel", *The ASME 2020 International Mechanical Engineering Virtual Conference*, Online, November, 2020.

[8] Ro, J., Kim, J.H., **Kim, S.**, Kim, M.K., "A Direct Creep Life Assessment Method for Small Punch Creep Test", *The ASME 2020 International Mechanical Engineering Virtual Conference*, Online, November, 2020.

[7] **Kim, S.**, Ro, J., Kim, M.K., "Creep-fatigue Damage Interaction of the Modified 9Cr-1Mo Steel Based on Continuum Damage Mechanics", *The KSME Annual Spring Conference*, Gyeongju, August, 2020.

[6] **Kim, S.**, Kim, J.H., Ro, J., Kim, M.K., "Prediction of Long-term Creep Life Using Continuum Damage Model for Grade 91 steel", *APCOM 2019*, Taipei, December, 2019.

[5] Ro, J., Kim, J.H., **Kim, S.Y.**, Kim, M.K., "A Creep-fatigue Damage Diagram of Grade 91 Steel Using an Alternative Two-step Testing Method", *APCOM 2019*, Taipei, December, 2019.

[4] Ro, J., **Kim, S.**, Kim, M.K., "Analysis on Creep-Fatigue Damage Interaction of the Modified 9Cr-1Mo Steel Based on Continuum Damage Mechanics", *ASME 2019 IMECE*, Salt Lake City, November, 2019.

[3] Kim, J.H., Ro, J., **Kim, S.**, Kim, M.K., "A creep life prediction method of metallic materials based on small punch creep test", *The 6th Korea Multi-Scale Mechanics*, Seoul, July, 2019.

[2] Ro, J., Kim, J.H., **Kim, S.Y.**, Kim, M.K., "Continuum damage mechanics-based evaluation of creep-fatigue interaction of Grade 91 steel", *The KSME Annual Spring Conference*, Jeju, April, 2019.

[1] **Kim, S.Y.**, Kim, J.H., Ro, J., Kim, M.K., "Prediction of Long-term Creep Life Using Continuum Damage Model for Grade 91 steel", *The KSME Annual Spring Conference*, Jeju, April, 2019.