

Professor Byung-Koog Jang

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Main Research Activities:

- 1) Thermal barrier coatings (TBCs) by EB-PVD and plasma-sprayed coatings for gas turbines
- 2) Environmental barrier coatings (EBCs) for gas turbines
- 3) Carbon nanotube- (CNT-) or graphene-reinforced nanocomposites such as $\text{Al}_2\text{O}_3/\text{CNTs}$, ZrO_2/CNTs , HAp/CNTs, $\text{Al}_2\text{O}_3/\text{graphene}$, $\text{ZrO}_2/\text{graphene}$, HAp/graphene
- 4) High temperature ceramics: non-oxide ceramics ($\text{Si}_3\text{N}_4\text{-SiC}$, $\text{Al}_2\text{O}_3\text{-SiC}$, porous & sintered SiC), wear properties of CNT composites, low thermal conductivity ZrO_2 composites, Ni-YSZ ceramics
- 5) Ceramic sintering and characterization: SPS (spark plasma sintering), reaction bonded sintering, thermal conductivity, mechanical properties, fatigue properties, etc.
- 6) Development of transparent ceramics (ZrO_2 , Y_2O_3) by spark plasma sintering

Education:

- Ph.D., Department of Materials Science, The University of Tokyo (Tokyo, Japan), 1994
- M.S., Department of Ceramic Engineering, Yonsei University (Seoul, Korea), 1986
- B.S., Department of Ceramic Engineering, Yonsei University (Seoul, Korea), 1981

Academic Societies:

- Vice President, Materials Science and Technology of Japan
- Editorial Committee & Board Member, Materials Science and Technology of Japan
- Board, Division of Engineering Ceramics, The Ceramic Society of Japan
- Memberships:
 - The American Ceramic Society, The Korean Ceramic Society,
 - The Ceramic Society of Japan, Japan Society of Mechanical Engineers,
 - The Japan Institute of Metals and Materials, Materials Science Society of Japan,
 - Japan Thermal Spray Society

Awards and Honors:

- 1) Outstanding paper award, The Ceramic Society of Japan (2018)
- 2) Distinguished achievement award, Materials Science and Technology of Japan (2017)
- 3) Distinguished contribution award, Materials Research Society of Korea (2017)
- 4) Distinguished academic award, Materials Science and Technology of Japan (2016)
- 5) Distinguished contribution award, Materials Science and Technology of Japan (2013)
- 6) Outstanding paper award, Journal of Ceramic Korea (2012)
- 7) Outstanding paper award, Materials Science and Technology of Japan (2011)