**CV**

**Tadachika NAKAYAMA**



**Tadachika NAKAYAMA, Dr., Prof.**

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Department of Mechanical Engineering

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Nagaoka University of Technology

**Birthday**

June 18th, 1971 (at Kobe, Japan)

**Specialized field**

Inorganic material science, Pulse power engineering, Manufacturing technology, Environmental engineering

**Research object**

Contribution to the community by next-generation manufacturing and environmental design

**Career History**

2017 Advisor to the president, Nagaoka University of Technology (Strategic Project Manager)

2017 Senior URA　(University Research Administrator), Nagaoka University of Technology

2017 Professor, Nagaoka University of Technology

2010 JSPS Fellow @University of York (UK)

2008 Associate Professor, Nagaoka University of Technology

2005 Assistant Professor, Nagaoka University of Technology

2000 Assistant Professor, Osaka University

**Educational Background**

2000 Ph.D., Osaka University, Graduate School of Engineering Graduate, Department of Applied Chemistry (Supervisor; Prof. Koichi Niihara)

1997 Master of Eng., Osaka Prefecture University, Graduate School of Engineering, Department of Material Science (Supervisor; Prof. Toshiyuki Matsui, Prof. Kenji Morii)

1995 Bachelor of Eng., Osaka Prefecture University, Graduate School of Engineering, Department of Material Science (Supervisor ; Prof. Toshiyuki Matsui, Prof. Yutaka Nakayama)

**Affiliation Societies**

The Ceramics Society of Japan, Applied Physics Society, Powder Engineering Society, The American Ceramics Society, The Japan Metallurgical Society, The Automobile Manufacturers Association

**Selected Awards**

2004 Powder Powder Metallurgy Association, Research Advance Award

2007 The Ceramic Society of Japan, Progress Award

2013 The finalists for the Journal of Materials Science, Robert W. Cahn Best Paper Prize

2016 Global Star Award, Engineering Ceramics Division, American Ceramics Society

2016 The Commendation for Science and Technology by the Minister of Education, Culture, Sports, Science and Technology (MEXT)

2016 Richard M. Fulrath Award, American Ceramics Society

2018 Niigata Nippo Culture Award

**Selected Recent Publications (total 236 papers)**

■Self-healing behavior and strength recovery of ytterbium disilicate ceramic reinforced with silicon carbide nanofillers, *Journal of the European Ceramic Society*, Volume 39, Issue 10, August 2019, Pages 3139-3152

■Self-crack healing ability and strength recovery in ytterbium disilicate/silicon carbide nanocomposites, *International Journal of Applied Ceramic Technology*, Volume 16, Issue 1, January/Februaryy 2019, Pages 39-49

■Pyroelectric power generation with ferroelectrics (1-x)PMN-xPT, *Ferroelectrics*, Volume 512, Issue 1, Pages 92-99 (2017).

■Relationship Between the Material Properties and Pyroelectric‐Generating Performance of PZTs, *Advanced Sustainable Systems*, Volume1, Issue3-4 1600020, April 2017.

■Strength improvement and purification of Yb2Si2O7-SiC nanocomposites by surface oxidation treatment, *Journal of the American Ceramic Society*, Volume 100, Issue 7, 1, Pages 3122-3131 (2017). ■Superconducting water derivatives of Sr2Can-1CunO2+2n-δ (n = 2-4) high-Tc superconductors, *Materials Chemistry and Physics*, Volume 177, 1, Pages 67-72 (2016).

■Low thermal conductivity Y2Ti2O7 as a candidate material for thermal/environmental barrier coatings, *Ceramics International*, Volume 42, Issue 9, Pages 11314-11323 (2016).

■Insulating polymer nanocomposites with high-thermal-conduction routes via linear densely packed boron nitride nanosheets, *Composites Science and Technology*, Volume 129, 6, Pages 205-213 (2016). ■Polymer nanocomposite films with thicknesses (≤ 30 μm) corresponding to the lateral dimension of graphite nanosheets as straightforward thermal conducting pathways, *Composites Science and Technology*, Volume 127, Pages 106-112 (2016).

■Fabrication of stacked-cup carbon nanotube/polymer nanocomposite films with linear controlled percolation routes, *Materials Chemistry and Physics*, Volume 171, Pages 39-44 (2016).

■Texture-controlled hybrid materials fabricated using nanosecond technology, *Journal of the Ceramic Society of Japan*, Volume 124, Issue 3, Pages 197-202 (2016).

■Nanotwin hardening in a cubic chromium oxide thin film, *APL Materials*, Volume 3, Issue 9, Article number 096105 (2015).

■Graphene oxide as a template for a complex functional oxide, *CrystEngComm*, Volume 17, Issue 32, Pages 6094-6097 (2015).

■Epitaxial growth of chromium nitride thin films with addition of silicon, *Physica Status Solidi (C) Current Topics in Solid State Physics*, Volume 12, Issue 6, Pages 545-548 (2015).

■Synthesis of molten-metal corrosion resistant yttria-based refractory by hot-pressing and densification, *Journal of the European Ceramic Society*, Volume 35, Issue 9, Pages 2651-2662 (2015).

■Novel Electrothermodynamic Power Generation, *Advanced Energy Materials*, Volume 5, Issue 13, (2015).

■Optimization of exchange bias in Co2FeAl0.5Si 0.5 Heusler alloy layers, *Journal of Applied Physics*, Volume 115, Issue 17, Article number 17D725 (2014).

**Personal Biography**

Tadachika Nakayama is a Professor in the Department of Science of Technology Innovation and advisor for the president at Nagaoka University of Technology (NUT), Japan. He received his Ph.D. (2000) in Applied Chemistry from Osaka University, Japan, and obtained M.S. (1997) and B.S. (1995) degrees in Material Science from Osaka Prefecture University, Japan. Tadachika joined the Institute of Scientific and Industrial Research (ISIR), Osaka University as Assistant Professor from 2000-2005. Tadachika was an Assistant Professor and then Associate Professor in the Department of Electrical, Electronics and Information Engineering and Department of Science of Technology Innovation at the NUT from 2005-2016. Tadachika was a JSPS Fellow at the Department of Physics at the University of York, UK in 2010.

He is winner of the JSPM Award for Distinguished Achievements in Development (2004), the Advancements in ceramic science and technology from Ceramics Society of Japan (2008), The finalists for the 2013 Journal of Materials Science, Robert W. Cahn Best Paper Prize (2013), the Global Star Award from ACerS Engineering Ceramic Division (2016), Richard M. Fulrath Award, American Ceramics Society(2016), and The Commendation for Science and Technology by the Minister of Education Culture, Sports, Science and Technology (2016).

Since 1996, Tadachika has published over 236 papers, 5 book chapters and 84 patents. Tadachika is the pioneer in the academic field of boundary area combining NanoSecond technology and Nanotechnology. He is the developer of new material design of ceramics/polymer hybrid nanostructured materials for thermal management, sensor and energy harvester application.