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EDUCATION

- Ph.D.** (2012) Materials and Metallurgical Engineering, Indian Institute of Technology Kanpur, INDIA.
- M.A.Sc.** (2006) Materials Science and Engineering, McMaster University, Hamilton, CANADA.
- M.Tech.** (2003) Materials and Metallurgical Engineering, Indian Institute of Technology Kanpur, INDIA.
- B.Eng.** (1998) Metallurgical Engineering, Indian Institute of Technology Roorkee, INDIA.

PROFESSIONAL EXPERIENCE

Period	Role	Organization
05/2018-onward	Assistant Professor	National Institute of Technology Jamshedpur, Jamshedpur, INDIA
07/2016 – 05/2018	Visiting Faculty	Maulana Azad National Institute of Technology, Bhopal, INDIA.
07/2012- 03/2016	Senior Researcher and Faculty	Ritsumeikan University, JAPAN
01/2012 – 05/2012	Assistant Professor	Maulana Azad National Institute of Technology, Bhopal, INDIA
07/1998 – 01/2000	Assistant Engineer/Manager	EMC Limited, Kolkata, WB, INDIA.

RESEARCH PUBLICATIONS

International Journals and Conferences: **54**

Invited Lectures and Talks (International and India): **20**

Books/Monograph: 1

AWARDS, HONOURS AND AFFILIATIONS

1. Participated, Chaired technical sessions, and delivered invited talk at various international conferences in various countries such as Canada, Japan and France.
2. **The Best Research Paper Award of the Year**", 2014, by "The Japan Institute of Metals and Materials - JIM.
3. MHRD Fellowship for M.Tech. and PhD studies at IIT Kanpur, India (2001-2003).
4. University Fellowship for MASc studies at McMaster University, Canada (2004-2006).
5. **Reviewer of esteemed International Journals** such as "Materials Science and Engineering A", "Journal of Alloys and Compounds" (Elsevier), "Materials Characterization" (Elsevier), Powder Technology (Elsevier) "Intermetallics" (Elsevier), "Surface and Coatings Technology" (Elsevier), "Magnetism and Magnetic Materials" (Elsevier), Journal of Adhesion Science and Technology (Taylor and Francis), Particulate Science and Technology (Taylor and Francis), Journal of Materials Engineering and Performance (Springer) and Scientific Reports (Nature Group).
6. **Member**, Japan Institute of Metals (**JIM**), Japan (Since 2013-2016).
7. **Member**, The Iron and Steel Institute of Japan (**ISIJ**), Japan (2015-2016).

LIST OF PUBLICATIONS**A. Refereed International Journals:**

1. **S.K. Vajpai**, R.K. Dube, A. Tewari: *Studies on the mechanical alloying of Ni-Fe-Co powders and its explosive compaction*; **Metallurgical and Materials Transactions A**, Vol. 39A, 2008, pp. 2725-2735. (DOI: [10.1007/s11661-008-9617-z](https://doi.org/10.1007/s11661-008-9617-z))
2. **S.K. Vajpai**, B.V. Mahesh, R.K. Dube; *Studies on the bulk nanocrystalline Ni-Fe-Co alloy prepared by mechanical alloying-sintering-hot rolling route*; **Journal of Alloys and Compounds**, Vol. 476, 2009, pp. 311-317. (DOI: [10.1016/j.jallcom.2008.08.051](https://doi.org/10.1016/j.jallcom.2008.08.051))
3. **S.K. Vajpai**, R.K. Dube: *Preparation of nanocrystalline Ni-Fe strip via mechanical alloying compaction - sintering - hot rolling route*; **Journal of Materials Science**, Vol. 44, 2009, pp. 129-135. (DOI: [10.1007/s10853-008-3111-2](https://doi.org/10.1007/s10853-008-3111-2))
4. **S.K. Vajpai**, R.K. Dube, M. Sharma; *Studies on the mechanism of the structural evolution in Cu-Al-Ni elemental powder mixture during high energy ball milling*; **Journal of Materials Science**, Vol. 44, 2009, pp. 4334-4341. (DOI: [10.1007/s10853-009-3646-x](https://doi.org/10.1007/s10853-009-3646-x))
5. M. Sharma, **S.K. Vajpai**, R.K. Dube: *Processing and Characterization of Cu-Al-Ni Shape Memory Alloy Strips Prepared from Elemental Powders via a Novel Powder Metallurgy Route*; **Metallurgical and Materials Transactions A**, Vol.41A, 2010, pp. 2905-2913. (DOI: [10.1007/s11661-010-0351-y](https://doi.org/10.1007/s11661-010-0351-y))
6. M. Sharma, **S.K. Vajpai**, R.K. Dube: *Synthesis and properties of Cu-Al-Ni shape memory alloy strips prepared via hot densification rolling of powder preforms*; **Powder Metallurgy**, Vol. 54, No. 5, 2011, pp. 620-627. (DOI [10.1179/1743290110Y.0000000010](https://doi.org/10.1179/1743290110Y.0000000010))
7. **S.K. Vajpai**, R.K. Dube, S. Sangal: *Processing and Characterization of Cu-Al-Ni Shape Memory Alloy Strips Prepared from Pre-alloyed Powder by Hot Densification Rolling of Powder Preforms*; **Metallurgical and Materials Transactions A**, Vol. 42A, 2011, pp. 3178-3189. (DOI: [10.1007/s11661-011-0728-6](https://doi.org/10.1007/s11661-011-0728-6))
8. **S.K. Vajpai**, R.K. Dube, S. Sangal: *Microstructure and Properties of Cu-Al-Ni Shape Memory Alloy Strips Prepared via Hot Densification Rolling of Argon Atomized Powder Preforms*; **Materials Science and Engineering A**, Vol. 529, 2011, pp. 378-387. (DOI: [10.1016/j.msea.2011.09.046](https://doi.org/10.1016/j.msea.2011.09.046))

9. **S.K. Vajpai**, R.K. Dube, P. Chatterjee, S. Sangal: *A Novel Powder Metallurgy Processing Approach to Prepare Fine-grained Cu-Al-Ni Shape memory Alloy Strips from Elemental Powders*; **Metallurgical and Materials Transactions A**, Vol. 43A, 2012, pp. 2484-2499. (DOI: [10.1007/s11661-012-1081-0](https://doi.org/10.1007/s11661-012-1081-0))
10. **S.K. Vajpai**, R.K. Dube, A. Kanwat, S. Kumawat: *Synthesis and Characterization of Cu-W Nano-composite Strips*; **Materials Science and Technology**, vol. 29, No. 3, 2013, pp. 285-293. (DOI [10.1179/1743284712Y.0000000136](https://doi.org/10.1179/1743284712Y.0000000136))
11. **S.K. Vajpai**, R.K. Dube, S. Sangal: *Application of Rapid Solidification Powder Metallurgy Processing to Prepare Cu-Al-Ni High Temperature Shape Memory Alloy Strips with High Strength and High Ductility*; **Materials Science and Engineering A**, vol. 570, 2013, pp. 32-42. (DOI: [10.1016/j.msea.2013.01.063](https://doi.org/10.1016/j.msea.2013.01.063))
12. **S.K. Vajpai**, K. Ameyama: *A Novel Powder Metallurgy Processing Approach to Prepare Fine-grained Ti-rich TiAl-based Alloys from Pre-alloyed Powders*; **Intermetallics**, vol. 42, 2013, pp. 146-155. (DOI: [10.1016/j.intermet.2013.06.006](https://doi.org/10.1016/j.intermet.2013.06.006))
13. C. Sawangrat, O. Yamaguchi, **S.K. Vajpai**, K. Ameyama: *Application of Harmonic Structure Design to biomedical Co-Cr-Mo alloy for improved mechanical properties*; **Materials Transactions**, vol. 55, 2014, pp. 99-105. (DOI: [10.2320/matertrans.MA201303](https://doi.org/10.2320/matertrans.MA201303))
14. Yanbo Sun, **Sanjay Kumar Vajpai**, Kei Ameyama, Chaoli Ma: *Fabrication of Multilayered Ti-Al Intermetallics by Spark Plasma Sintering*; **Journal of Alloys and Compounds** vol. 585, 2014, pp. 734-740. (DOI: [10.1016/j.jallcom.2013.09.215](https://doi.org/10.1016/j.jallcom.2013.09.215))
15. Zhe Zhang, **Sanjay Kumar Vajpai**, Dmitry Orlov, Kei Ameyama: *Improvement of mechanical properties in SUS304L steel through the control of bimodal microstructure characteristics*; **Materials Science and Engineering A**, vol. 598, 2014, pp. 106-113. (DOI: [10.1016/j.msea.2014.01.023](https://doi.org/10.1016/j.msea.2014.01.023))
16. Choncharoen Sawangrat, Osamu Yamaguchi, **Sanjay Kumar Vajpai**, Kei Ameyama: *Harmonic Structure Design of Co-Cr-Mo Alloy with Outstanding Mechanical Properties*; **Advanced Materials Research**, vol. 939, 2014, pp. 60-67. (DOI: [10.4028/www.scientific.net/AMR.939.60](https://doi.org/10.4028/www.scientific.net/AMR.939.60))

17. Mie Ota, Keisuke Shimojo, Shun Okada, **Sanjay Kumar Vajpai**, Kei Ameyama: *Harmonic Structure Design and Mechanical Properties of Pure Ni Compact*; **Journal of Powder Metallurgy and Mining**, vol 3, 2014, pp. 1-5. (DOI: [10.4172/2168-9806.1000122](https://doi.org/10.4172/2168-9806.1000122))
18. Nurul Nadiyah Mahmud, **Sanjay Kumar Vajpai**, Kei Ameyama: *Fabrication of Ytria Stabilized Zirconia-Silicon Carbide Composites with High Strength and High Toughness by Spark Plasma Sintering of Mechanically Milled Powders*; **Materials Transactions**, vol. 55, 2014, pp. 1827-1833. (DOI: [10.2320/matertrans.Y-M2014835](https://doi.org/10.2320/matertrans.Y-M2014835))
19. Zhe Zhang, Dmitry Orlov, **Sanjay Kumar Vajpai**, Bo Tong, Kei Ameyama: *Importance of Bimodal Structure Topology in the Control of Mechanical Properties of a Stainless Steel*; **Advanced Engineering Materials**, vol. 17, 2015, pp. 791-795. (DOI: [10.1002/adem.201400358](https://doi.org/10.1002/adem.201400358))
20. **Sanjay Kumar Vajpai**, Mie Ota, Tomoyuki Watanabe, Ryo Maeda, Tatsuya Sekiguchi, Takayuki Kusaka, Kei Ameyama: *The Development of High Performance Ti-6Al-4V Alloy via a Unique Microstructural Design with Bimodal Grain Size Distribution*; **Metallurgical and Materials Transactions A**, vol. 46A, 2015, pp. 903-914. (DOI: [10.1007/s11661-014-2649-7](https://doi.org/10.1007/s11661-014-2649-7))
21. Mie Ota, **Sanjay Kumar Vajpai**, Ryota Imao, Kazuaki Kurokawa, Kei Ameyama: *Application of High Pressure Gas Jet Mill Process to Fabricate High Performance Harmonic Structure Designed Pure Titanium*; **Materials Transactions**, vol. 56, 2015, pp. 154-159. (DOI: [10.2320/matertrans.M2014280](https://doi.org/10.2320/matertrans.M2014280))
22. **Sanjay Kumar Vajpai**, Choncharoen Sawangrat, Osamu Yamaguchi, Octav P Ciuca, Kei Ameyama: *Effect of Bimodal Harmonic Structure Design on the Deformation Behavior and Mechanical Properties of Co-Cr-Mo Alloy*; **Materials Science and Engineering C**, vol. 58, 2016, pp. 1008-1015. (DOI: [10.1016/j.msec.2015.09.055](https://doi.org/10.1016/j.msec.2015.09.055))
23. Nur Zalikha Khalil, **Sanjay Kumar Vajpai**, Kei Ameyama: *Effect of Particle Size Distribution on SiC Ceramic Sinterability*; **Materials Transactions**, vol. 56, 2015, pp. 1827-1833. (DOI: [10.2320/matertrans.Y-M2015823](https://doi.org/10.2320/matertrans.Y-M2015823))
24. **Sanjay Kumar Vajpai**, Choncharoen Sawangrat, Osamu Yamaguchi, Kei Ameyama: *Deformation Mechanism of Harmonic Structure Designed Co-Cr-Mo Alloy*; **Advances in Materials and Processing Technologies**, vol. 1, Issue 3-4, 2015, pp. 610-618. (DOI: [10.1080/2374068X.2016.1147758](https://doi.org/10.1080/2374068X.2016.1147758))

25. Tomoyoki Watanabe, Ryo Maeda, Kazuaki Kurokawa, Mie Ota, **Sanjay Kumar Vajpai**, Kei Ameyama: *Harmonic Structure Design of Ti-6Al-4V Alloy by High Pressure Gas Milling Process*; **Advances in Materials and Processing Technologies (Taylor and Francis, UK)**, vol. 2, 2016, pp. 192-201. (DOI: [10.1080/2374068X.2015.1127506](https://doi.org/10.1080/2374068X.2015.1127506))
26. Kazuaki Kurokawa, Hikaru Kawabata, Tomoyoki Watanabe, Mie Ota, **Sanjay Kumar Vajpai**, Kei Ameyama: *Application of High Pressure Gas Milling Process to Pure-Titanium for Harmonic Structure Design*; **Advances in Materials and Processing Technologies (Taylor and Francis, UK)**, vol. 2, 2016, pp. 202-208. (DOI: [10.1080/2374068X.20151127536](https://doi.org/10.1080/2374068X.20151127536))
27. Bhupendra Sharma, **Sanjay Kumar Vajpai**, Kei Ameyama: *Microstructure and Properties of Beta Ti-Nb Alloy Prepared by Powder Metallurgy Route using Titanium Hydride Powder*; **Journal of Alloys and Compounds**, vol. 656, 2016, pp. 978-986. (DOI: [10.1016/j.jallcom.2015.10.053](https://doi.org/10.1016/j.jallcom.2015.10.053))
28. T. Sadat, G. Dirras, D. Tingaud, M. Ota, T. Chauveau, D. Faurie, **S. Vajpai**, K. Ameyama: *Bulk Ni-W alloys with a composite-like microstructure processed by spark plasma sintering: Microstructure and mechanical Properties*; **Materials and Design**, vol. 89, 2016, pp. 1181-1190. (DOI: [10.1016/j.matdes.2015.10.083](https://doi.org/10.1016/j.matdes.2015.10.083))
29. **S.K. Vajpai**, H. Yu, M. Ota, G. Dirras, K. Ameyama: *Three-Dimensionally Gradient and Periodic Harmonic Structure for High Performance Advanced Structural Materials*; **Materials Transactions**, vol. 57, 2016, pp. 1424-1432. (DOI: [10.2320/matertrans.MH201509](https://doi.org/10.2320/matertrans.MH201509))
30. Bhupendra Sharma, **Sanjay Kumar Vajpai**, K. Ameyama: *Synthesis of Ternary Ti-25Nb-11Sn Alloy by Powder Metallurgy Route using Titanium Hydride Powder*; **Materials Transactions**, vol. 57, 2016, pp. 1440-1446. (DOI: [10.2320/matertrans.MH201510](https://doi.org/10.2320/matertrans.MH201510))
31. Bhupendra Sharma, **Sanjay Kumar Vajpai**, K. Ameyama: *Preparation of Strong and Ductile Pure Titanium via Two-Step Rapid Sintering of TiH₂ Powder*; **Journal of Alloys and Compounds**, vol. 683, 2016, pp. 51-55. (DOI: [10.1016/j.jallcom.2016.05.020](https://doi.org/10.1016/j.jallcom.2016.05.020))
32. **Sanjay Kumar Vajpai**, Mie Ota, Han Yu, Kei Ameyama: *A Novel Microstructure Design for High Performance Structural Materials with High Strength and High Ductility*; **Advances in Materials and Processing Technologies (Taylor and Francis, UK)**, vol. 2, no. 4, pp. 548-556, 2016. (DOI: [10.1080/2374068X.2016.1247239](https://doi.org/10.1080/2374068X.2016.1247239)).

33. Nur Zalikha Khalil, **Sanjay Kumar Vajpai**, Kei Ameyama: *Application of Al-Si Semi-Solid Reaction for Fabricating Harmonic Structured Al-Based Alloy*; **Materials Transactions**, vol. 57, 2016, pp. 1433-1439. (DOI: [10.2320/mettrans.MH201516](https://doi.org/10.2320/mettrans.MH201516)).
34. **Sanjay Kumar Vajpai**, Mie Ota, Zhe Zhang, Kei Ameyama: *Three-dimensionally Gradient Harmonic Structure Design: An Integrated Approach for High Performance Structural Materials*; **Materials Research Letters**, vol. 4, 2016, pp. 191-197 (DOI: [10.1080/21663831.2016.1218965](https://doi.org/10.1080/21663831.2016.1218965)).
35. K. Mondal, Prabhat Rai, Shashank Shekhar, M. Nakatani, **Sanjay Kumar Vajpai**, Kei Ameyama, Mie Ota: *Effect of Harmonic Microstructure on the Corrosion Behavior of SUS304L Austenitic Steel*; **Metallurgical and Materials Transactions A**, vol. 47, pp. 6259-6269, 2016. (DOI: [10.1007/s11661-016-3758-2](https://doi.org/10.1007/s11661-016-3758-2)).
36. Kei Ameyama, **Sanjay Kumar Vajpai**, Mie Ota: *Microstructure Evolution and Deformation Mechanisms of Harmonic Structure Designed Materials*; **Materials Science Forum**, vol. 879, 2016, pp. 145-150. (DOI: [10.4028/www.scientific.net/MSF.879.145](https://doi.org/10.4028/www.scientific.net/MSF.879.145)).
37. Masashi Nakatani, Yuya Fujiki, Mie Ota, **Sanjay Kumar Vajpai**, Kei Ameyama: *High Temperature Mechanical Properties of Harmonic Structure Designed SUS304L Austenitic Stainless Steel*; **Materials Science Forum**, vol. 879, 2016, pp. 2507-2511. (DOI: [10.4028/www.scientific.net/MSF.879.2507](https://doi.org/10.4028/www.scientific.net/MSF.879.2507)).
38. Mie Ota, Daiki Nanya, **Sanjay Kumar Vajpai**, Kei Ameyama, Kaveh Edalati, Zenji Horita: *Microstructure Formation of High Pressure Torsion Processed ($\alpha + \gamma$) Two Phase Stainless Steel*; **Materials Science Forum**, vol. 879, 2016, pp. 1365-1368. (DOI: [10.4028/www.scientific.net/MSF.879.1365](https://doi.org/10.4028/www.scientific.net/MSF.879.1365)).
39. Yogesh Srivastava, **Sanjay Kumar Vajpai**, Sanjay Srivastava: *Structure and Magnetic Properties of $Co_2(Cr_{1-x}Fe_x)Al$, ($0 \leq x \leq 1$) Heusler Alloys Prepared by Mechanical Alloying*; **Journal of Magnetism and Magnetic Materials**, vol. 433, 2017, pp. 141-147. (DOI: [10.1016/j.jmmm.2017.02.060](https://doi.org/10.1016/j.jmmm.2017.02.060)).
40. P. Rai, S. Shekhar, M. Nakatani, M. Ota, **S.K. Vajpai**, K. Ameyama, K. Mondal: *Wear behavior of harmonic structured 304L stainless steel*; **Journal of Materials Engineering and Performance**, vol. 26, 2017, pp. 2608-2618.

41. [In Japanese] Nur Zalikha Binti Khalil, **Sanjay Kumar Vajpai**, Mie Ota, Kei Ameyama: SiC の焼結性に及ぼす粒度分布の影響 (*Influence of Particle Size Distribution on Sinterability of SiC*); 粉体および粉末冶金 (Journal of the Japan Society of Powder and Powder Metallurgy), vol. 64, pp. 281-287. (DOI: [10.2497/jjspm.64.281](https://doi.org/10.2497/jjspm.64.281)).
42. Y. Srivastava, S. Rathod, P.K. Singh, S.K. Vajpai, S. Srivastava: Study of magneto-structural phase transitions and magnetocaloric effects in Co-based Heusler alloys synthesized via mechanical milling, Journal of Magnetism and Magnetic Materials, vol. 433, 2018, pp. 141-147.
43. Bhupendra Sharma, Sanjay Kumar Vajpai, Kei Ameyama: An Efficient Powder Metallurgy Processing Route to Prepare High Performance β -TiNb Alloys using Pure Titanium and Titanium Hydride Powders, *Metals*, vol. 8, 2018, pp. 516-1-16.

B. Conference Proceedings:

1. **S.K. Vajpai** and R.K. Dube; *Preparation and Properties of Nanocrystalline Nickel based Soft Magnetic Material Strip via a Novel Powder Metallurgy Route*; The Eighteenth Annual International Conference on COMPOSITES/NANO ENGINEERING (ICCE - 18), ICCE-18 Anchorage, Alaska, USA, July 4-10, 2010. (Proceeding in **World Journal of Engineering**, Vol. 7, Supplement 2, p 425, 2010.)
2. R.K. Dube, **S.K. Vajpai** and A. Meena; *Synthesis and Characterization of Cu-W Nano-Composite by a Powder Metallurgy Route*, 2011 International Conference on Tungsten, Refractory and Hard Materials VIII, collocated with PowderMet2011, May 19-21, 2011, San Fransisco, CA, USA.
3. T. Sekiguchi, O.P. Ciuca, **S.K. Vajpai**, and K. Ameyama; *Unique Microstructure Design for High Performance Titanium PM Materials*; Powder Metallurgy World Congress and Exhibition (PM2012), October 14-18, 2012, Yokohama, Japan.
4. Mie Ota, Mitsuhiro Kawakubo, **Sanjay Kumar Vajpai** and Kei Ameyama; *Harmonic Microstructure Formation in a Two-Phase Steel*, 16th International Conference on Advances in Materials and Processing Technologies (AMPT 2013), 22-26 Sept. 2013, Taipei, Taiwan.
5. Mie Ota, Kiichi Sawai, Mitsuhiro Kawakubo, **Sanjay Kumar Vajpai** and Kei Ameyama; *Harmonic Structure Formation and Deformation Behavior in a ($\alpha+\gamma$) Two-Phase Steel*, The 6th International Conference on Nanomaterials by Severe Plastic Deformation (NanoSPD6), June 30

– July 4, 2014, Metz, France. IOP Conference Series: Materials Science and Engineering, vol. 63, 2014, pages 012027.

6. Sanjay Kumar Vajpai, Mie Ota, Tomoyuki Watanabe, Ryo Maeda, Tatsuya Sekiguchi, Guy Dirras, D. Tingaud and Kei Ameyama; *High Performance Ti-6Al-4V alloy by Creation of Harmonic Structure Design*, The 6th International Conference on Nanomaterials by Severe Plastic Deformation (NanoSPD6), June 30 – July 4, 2014, Metz, France. IOP Conference Series: Materials Science and Engineering, vol. 63, 2014, pages 012030.

7. M. Ota, S.K. Vajpai, K. Kurokawa, T. Watanabe, K. Ameyama and G. Dirras; *Creation of High Performance Ti and Ti-6Al-4V via Harmonic Structure Design Approach*, 35th Riso International Symposium on Materials Science, 1-5 September, 2014, Roskilde, Denmark.

8. Tomoyuki Watanabe, Ryo Maeda, Kazuaki Kurokawa, Mie Ota, **Sanjay Kumar Vajpai** and Kei Ameyama; *Harmonic Structure Design of Ti-6Al-4V Alloy by High Pressure Gas Milling Process*, 17th International Conference on Advances in Materials and Processing Technologies (AMPT 2014), 17-20 November 2014, Dubai, UAE.

9. K. Kurokawa, H. Kawabata, T. Watanabe, M. Ota, **S. K. Vajpai** and K. Ameyama; *Structure and Mechanical Properties of pure-Ti with Harmonic Structure by High Pressure Gas Milling Process*, 17th International Conference on Advances in Materials and Processing Technologies (AMPT 2014), 17-20 November 2014, Dubai, UAE.

10. Osamu Yamaguchi, **Sanjay Kumar Vajpai** and Kei Ameyama; *Deformation Mechanism of Harmonic Structure Designed Co-Cr-Mo Alloy*, 17th International Conference on Advances in Materials and Processing Technologies (AMPT 2014), 17-20 November 2014, Dubai, UAE.

11. Mie Ota, **Sanjay Kumar Vajpai**, Hikaru Kawabata, Hidenori Maezawa and Kei Ameyama; *Innovative Materials Design for High Performance Pure Titanium*, Proceedings of the 13th World Conference on Titanium (Ti2015, 16-20 August 2015, San Diego, California, USA), Edited by: Vasisht Venkatesh et al, TMS, 2016, pp. 1153-1157.

12. Rajamallu K., Manish K. Niranjana, Bhupendra Sharma, **Sanjay Kumar Vajpai**, Kei Ameyama, Suhash R. Dey; *Fabrication of biocompatible Ti-Nb-Sn through Powder Metallurgy route for orthopedic implants*, Proceedings of the 13th World Conference on Titanium (Ti2015, 16-20 August 2015, San Diego, California, USA), Edited by: Vasisht Venkatesh et al, TMS, 2016, pp. 1691-1693.

13. **Sanjay Kumar Vajpai**, Mie Ota, Kei Ameyama, Tomoyuki Watanabe, Ryo Maeda, David Tingaud, Guy Dirras; *Harmonic Structure: An Effective Tailored Heterogeneous Microstructural Design to Strengthen Ti-6Al-4V Alloy*, Proceedings of the 13th World Conference on Titanium (Ti2015, 16-20 August 2015, San Diego, California, USA), Edited by: Vasisht Venkatesh et al, TMS, 2016, pp. 631-635.

C. **Conference Presentations and Abstracts in Proceedings:**

Oral Presentations

1. **S.K. Vajpai** and Dmitri V. Malakhov; *An investigation of recrystallization in Al alloys by measuring their in-situ electrical resistivity*; 18th Canadian Materials Science Conference, McGill University, Montreal, Canada, 2006.
2. **S.K. Vajpai**, O.P. Ciuca, D. Shan and K. Ameyama; *Strengthening of the Harmonic SUS329J1 Stainless Steel by Mechanical Milling and SPS Processing*, Powder Metallurgy World Congress and Exhibition (PM2012), October 14-18, 2012, Yokohama, Japan.
3. **S.K. Vajpai**, T. Sekiguchi, and K. Ameyama; *Preparation of Fine-grained Ti-Al with Controlled Microstructure from High Purity Pre-alloyed Coarse Powders*; 6th International Symposium on Nanostructures, 3-5 March, 2013, Kusatsu, Shiga, Japan.
4. **S.K. Vajpai** and Kei Ameyama; *Preparation of Fine-grained Ti-Al by Mechanical Milling and Spark Plasma Sintering of PREP Pre-alloyed Powders*; JIM Autumn Meeting and 166th ISIJ Meeting, 17-19 September, 2013, Kanazawa, Japan.
5. **Sanjay Kumar Vajpai**, Kei Ameyama, Mie Ota, Tomoyuki Watanabe, Ryo Maeda, Tatsuya Sekiguchi, Guy Dirras, D. Tingaud and; *High Performance Ti-6Al-4V alloy by Creation of Harmonic Structure Design*, The 6th International Conference on Nanomaterials by Severe Plastic Deformation (NanoSPD6), June 30 – July 4, 2014, Metz, France.
6. **Sanjay Kumar Vajpai**, Kei Ameyama; *Synthesis and Evaluation of Structural Biomaterials with Unique Bimodal Harmonic Structure Design*; 3rd International Symposium on Functionalization and Applications of Soft/Hard Materials (Soft/Hard 2014), November 7-8, 2014, Ritsumeikan University, Kusatsu, Japan (**Invited Lecture**).

7. **Sanjay Kumar Vajpai**, Kei Ameyama; *Development of High Performance Structural and Functional Materials through Innovative Microstructural Designing and Processing Strategies*; 8th German-Japanese / 8th International Symposium on Nanostructures (OZ-15) and 4th International Symposium on Functionalization and Applications of Soft/Hard Materials, March 1-4, 2015, Ritsumeikan University, Kyoto, Japan (**Invited Lecture**).
8. **Sanjay Kumar Vajpai**, Choncharoen Sawangrat, Kei Ameyama; *Effect of Bimodal Harmonic Structure Design on the Deformation Behavior and Mechanical Properties of Co-Cr-Mo Alloys*; 170th ISIJ Meeting, September 16-18, 2015, Kyushu University, Fukuoka, Japan.
9. **Sanjay Kumar Vajpai**, Mie Ota, Kei Ameyama; *Innovative Microstructural Designing and Powder Metallurgy Processing Strategies to Develop High Performance Structural and Functional Materials*; 3rd International Conference on Powder Metallurgy in Asia, November 8-10, 2015, Kyoto University, Kyoto, Japan.
10. **Sanjay Kumar Vajpai**, Kei Ameyama; *High Performance Advanced Structural Materials Through An Innovative Gradient Microstructure Harmonic Structure Design*; 5th International Symposium on Functionalization and Applications of Soft/Hard Materials (Soft/Hard 2016), January 22-23, 2016, Ritsumeikan University, Kusatsu, Japan (**Invited Lecture**).
11. **Sanjay Kumar Vajpai**, Kei Ameyama; *High Performance Structural and Multifunctional Materials via Innovative Microstructural Designing and Processing Strategies*; 6th International Symposium on Functionalization and Applications of Soft/Hard Materials (Soft/Hard 2017), January 20-22, 2017, Ritsumeikan University, Kusatsu, Japan (**Invited Lecture**).

D. Books/Monographs:

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