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ACADEMIC DETAILS

Malaviya National Institute of Technology, Jaipur

B.Tech, Metallurgical and Materials Engineering CGPA: 9.23/10 2006–2010

Indian Institute of Science, Bangalore

ME, Materials Engineering 1st class with Distinction: CGPA: 7.1/8 2010–2012

PhD, Materials Engineering 2012–2017

Research Associate, Materials Engineering July' 2017 – April' 2018

Indian Institute of Technology, Kharagpur

DST Inspire Faculty, Metallurgical and Materials Engineering May' 2018 – Dec' 2019

HONORS & AWARDS

- 1) **Inspire Faculty Award** DST, India 2018–2023
- 2) **James Clerk Maxwell Prize** Philosophical Magazine 2017
- 3) **Best Presentation Award** Talk in Conference, London, UK 2017
- 4) **IISc Fellowship** Research grant 2017–2018
- 5) **MHRD Scholarship, India** ME, IISc Bangalore, India 2010–2012
- 6) **AIR – 10, GATE Score: 636** GATE: Metallurgical Engineering 2010

PROJECTS Under Implementation

1. Interdiffusion Studies in the Ni/Zn System, 22.66 Lakh, 2 yr (2019–21), Tata Steel Ltd., Jamshedpur.
2. Investigation of the effect of direct electric current on the growth of phases in the metal–Sn system related to flip–chip bonding, 35 Lakh, 5 yr (2018–23), DST Inspire, India.
3. FIG scheme, 20 Lakh, 2 yr (2021–2023), IIT Roorkee, India

PUBLICATIONS

1. A. Amudha, R. Ravi, V. A. Baheti, Interdiffusion studies in the Co–Sb system, *Diffusion Foundations*, 27 (2020) 35–39. [doi](#)
2. V.A. Baheti, Phase evolutions and growth kinetics in the Co–Sn system, *SN Applied Sciences: A Springer Nature journal* 1(2) (2019) 185. [doi](#)
3. V. A. Baheti, R. Ravi, Interdiffusion study of the topologically closed packed μ phase and the phase boundary compositions in the Fe–Mo system, *Intermetallics* 113 (2019) 106586. [doi](#) IF 3.758 (2021)
4. V.A. Baheti and A. Paul, Development of different methods and their efficiencies for the estimation of diffusion coefficients following the diffusion couple technique, *Acta Materialia* 156 (2018) 420–431. *An article settling the discussion of last 6 decades* [doi](#) IF 8.203 (2021)
5. V.A. Baheti, S. Kashyap, P. Kumar, K. Chattopadhyay and A. Paul, Solid–state diffusion–controlled growth of the phases in the Au–Sn system, *Philosophical Magazine* 98(1) (2018) 20–36. [doi](#) IF 1.864
6. V.A. Baheti, S. Kashyap, P. Kumar, K. Chattopadhyay and A. Paul, Bifurcation of the Kirkendall marker plane and the role of Ni and other impurities on the growth of Kirkendall voids in the Cu–Sn system, *Acta Materialia* 131 (2017) 260–270. [doi](#) IF 8.203 (2021)
7. V.A. Baheti, S. Kashyap, P. Kumar, K. Chattopadhyay and A. Paul, Effect of Ni on growth kinetics, microstructural evolution and crystal structure in the Cu(Ni)–Sn system, *Philosophical Magazine* 97(21) (2017) 1782–1802. *One of the James Clerk Maxwell Prize winning articles, 2017* [doi](#) IF 1.864
8. V.A. Baheti, S. Kashyap, P. Kumar, K. Chattopadhyay and A. Paul, Solid–state diffusion–controlled growth of the intermediate phases from room temperature to an elevated temperature in the Cu–Sn and the Ni–Sn systems, *Journal of Alloys and Compounds* 727 (2017) 832–840. [doi](#) IF 5.316 (2021)
9. V.A. Baheti, P. Kumar and A. Paul, Effect of Au, Pd and Pt addition in Cu on the growth of intermetallic compounds and the Kirkendall voids in the Cu–Sn system, *Journal of Materials Science: Materials in Electronics* 28(22) (2017) 17014–17019. [doi](#) IF 2.478 (2020)

10. **V.A. Baheti**, P. Kumar and A. Paul, Growth of phases in the solid–state from room temperature to an elevated temperature in the Pd–Sn and the Pt–Sn systems, *Journal of Materials Science: Materials in Electronics* 28(24) (2017) 18379–18386. [doi](#) IF 2.478 (2020)
11. **V.A. Baheti**, S. Islam, P. Kumar, R. Ravi, R. Narayanan, H. Dong, V. Vuorinen, T. Laurila and A. Paul, Effect of Ni content on the diffusion–controlled growth of the product phases in the Cu(Ni)–Sn system, *Philosophical Magazine* 96(1) (2016) 15–30. [doi](#) IF 1.864 (2020)
12. **V.A. Baheti**, S. Santra, S. Roy, K. Perumalsamy, S. Prasad, R. Ravi and A. Paul, Phase evolutions, growth kinetics and diffusion parameters in the Co–Ni–Ta system, *Journal of Alloys and Compounds* 622 (2015) 1033–1040. [doi](#) IF 5.316 (2021)
13. **V.A. Baheti**, R. Ravi and A. Paul, Interdiffusion study in the Pd–Pt system, *Journal of Materials Science: Materials in Electronics* 24(8) (2013) 2833–2838. [doi](#) IF 2.478 (2020)
14. **V.A. Baheti**, S. Roy, R. Ravi and A. Paul, Interdiffusion and the phase boundary compositions in the Co–Ta system, *Intermetallics* 33 (2013) 87–91. [doi](#) IF 3.758 (2021)

Under preparations

15. A. Amudha, R. Ravi, **V. A. Baheti**, Diffusion Parameters and Growth Mechanism of Mg₂Ni phase (2021).

RESEARCH EXPERIENCE

Indian Institute of Science Bangalore, India

PhD Dissertation: 2012–2017 (Supervised by Prof. Alope Paul and Prof. Praveen Kumar)

Diffusion–controlled growth of phases in metal–tin systems related to microelectronics packaging

ME Dissertation: 2011–2012 (Supervised by Dr. Raju Ravi and Prof. Alope Paul)

Interdiffusion studies in binary Co–Ta and ternary Co(Ni)–Ta, Co(Ni)–Nb and Fe(Ni)–Nb systems

Malaviya National Institute of Technology, Jaipur

B.Tech Dissertation: 2009–2010 (Guided by Dr. Rajendra K Duchaniya and Prof. Ashok Sharma)

Synthesis and Characterization of Electroless Ni–P Coating on Aluminium Substrate and codeposition of Silicon Carbide (SiC) particles

TEACHING & ADVISING

1. *Teaching*, IIT Kharagpur, [Diffusion in metallurgical processes](#) (MT61129) Autumn 2018–2020
2. *Project Supervisor*, IIT Kharagpur, [One Dual Degree 5th Year Student](#) 2018–2019
3. Teaching Assistant, IISc Bangalore, Oxidation behaviour of Nickel 2014–2016
4. Teaching Assistant, IISc Bangalore, Mechanical Behaviour 2014

CONFERENCES

1. Investigation of the Growth Kinetics of Phases in Ni–Sn System, **V.A. Baheti**, S. Kashyap, P. Kumar, K. Chattopadhyay and A. Paul, *19th International Conference on Electronic Packaging, Systems, and Technology, London, United Kingdom, 2017 (Talk) Best Presentation Award*
2. Bifurcation of the Kirkendall marker plane and the role of impurities on the growth of Kirkendall voids in the Cu–Sn system, **V.A. Baheti**, S. Kashyap, P. Kumar, K. Chattopadhyay and A. Paul, *30th Annual Students' symposium, Dept. of Materials Engg., IISc, 2017 (Talk)*
3. Effect of Ni content on the diffusion–controlled growth of the product phases in the Cu(Ni)–Sn system, **V.A. Baheti**, P. Kumar and A. Paul, *NMD–ATM Conference, IIT Kanpur, 2016 (Talk)*
4. Effect of Ni content on the diffusion–controlled growth of the product phases in the Cu(Ni)–Sn system, **V.A. Baheti**, S. Islam, P. Kumar, R. Ravi, R. Narayanan, H. Dong, V. Vuorinen, T. Laurila and A. Paul, *29th Annual Students' symposium, Dept. of Materials Engg., IISc, 2016 (Talk)*
5. Growth kinetics of phases in Cu–Sn and Ni–Sn systems, **V.A. Baheti**, P. Kumar and A. Paul, *28th Annual Students' symposium, Dept. of Materials Engg., IISc, 2015 (Talk)*

SKILL

Technical: EPMA, SEM, Ovens, Furnaces, Vacuum Equipments, Optical Microscope, XRD, FIB, TEM analysis

Software: Digital Micrograph, JEMS, Origin, ImageJ, MIPAR image analysis

REFERENCES

Dept. of Materials Engineering, Indian Institute of Science Bangalore, India

1. **Prof. Alope Paul**, aloke@iisc.ac.in
2. **Prof. Kamanio Chattopadhyay**, kamanio@iisc.ac.in
3. **Prof. Praveen Kumar**, praveenk@iisc.ac.in