

CURRICULUM – VITAE

Dr. Shashi Bhushan Arya

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EDUCATION:

PhD (Corrosion Science and Engineering)

Indian Institute of Technology Bombay, Powai, India (CGPA= 8.25)

Thesis: Corrosion and Wear study of high Nitrogen austenitic stainless steels

(Supervisors: Prof. V.S. Raja and A.N. Tiwari, Dept. of MEMS, IIT Bombay)

M.Tech (Non Ferrous Metallurgy)

Malviya National Institute of Technology Jaipur (Raj) with First Division

Thesis: Production of Cu-Graphite composite by powder metallurgy route and its evaluation of coefficient friction

(Supervisors: Prof. N.K. Jain and Dr. YVSS Prasad, Dept. of Metallurgical Engg, NIT, Jaipur)

B.Tech (Metallurgical Engineering)

Malviya National Institute of Technology Jaipur (Raj) with First Division

Thesis: Corrosion behavior of electro-deposited Ni-Graphite composite on mild steel

(Supervisor: Prof. R.K. Yadav, Dept. of Metallurgical Engg, MNIT, Jaipur)

Publications

- S. B. Arya**, V. S. Raja and A. N. Tiwari, “A comparative study of semiconducting behavior of passive film of high nitrogen and Ni and Mn free stainless steels in 3.5 wt. % NaCl”, Advanced Materials Research, Vol. 794, (2013), pp. 626-631
- S.B. Arya**, V.S. Raja and A.N. Tiwari, “EIS study on the influence of pH on the corrosion of high nitrogen containing stainless steels in chloride media” HNS-12, (2012), in: Kamachi Mudali et al. (Eds.) [In press: publisher -University press]

3. **S. B. Arya**, V. S. Raja and A. N. Tiwari, “Electrochemical corrosion behaviors of nickel and manganese free high nitrogen stainless steel” in: Baldev Raj et al. (Eds.), Advances in Stainless Steels, CRC press, (2010), pp. 637-646
4. Baskaran, T., **S.B.Arya** and Sreedhar, G ., “Hot corrosion behavior of SrTiO₃ perovskite in Na₂SO₄+50 wt.% V₂O₅ and Na₂SO₄+10 wt.% NaCl environments at 900 °C” (Communicated: Corrosion Science)
5. Baskaran, T., **S.B.Arya** and Sreedhar, G., “Hot corrosion stability of Gd₂Ti₂O₇ and Gd₂Sn₂O₇ pyrochlores in Na₂SO₄+50 wt.% V₂O₅ and Na₂SO₄+10 wt.% NaCl environments at 900 °C” (Communicated: Corrosion Science)

Conferences proceedings

1. Baskaran, T., **S.B.Arya** and Sreedhar, G., “Hot Corrosion Behavior of SrTiO₃ Perovskite in Na₂SO₄+50 wt.% V₂O₅ Environment at 900 °C” International Corrosion Symposium-14 at IIT Bombay, February 20 - 21, 2014
2. **S.B. Arya**, V.S. Raja and A.N. Tiwari, “Electrochemical Impedance Study of High Nitrogen, Nickel and Manganese free Austenitic Stainless Steel in Artificial Physiological Solutions” Proc. Int., CORCON -13, New Delhi, 2013, pp. 130-139
3. **S.B. Arya**, V.S. Raja and A.N. Tiwari “EIS study and Role of Surface Finish on the Electrochemical Corrosion Behavior of High Nitrogen, High Mn and Ni free Austenitic Stainless Steels in 3.5 wt. % NaCl Solution” NMD-ATM 2013, Varanasi
4. **S.B. Arya**, V.S. Raja and A.N. Tiwari, “Effect of Surface Roughness on the Passivity of Nickel and Manganese free High Nitrogen Stainless Steel” Proc. Inter, CORCON -11 (2011), Mumbai.
5. **S.B. Arya**, V.S. Raja and A.N. Tiwari, “Electrochemical impedance studies of high Nitrogen, high Mn and Ni free stainless steel in various physiological solutions” Proc. of the Conf. of Indian Inst. Metal (2010), NMD-ATM 2010, Bangalore
6. **S.B. Arya**, V.S. Raja and A.N. Tiwari, and Y. Katada, “Electrochemical Corrosion Behavior of High Nitrogen, Ni and Mn Free Stainless Steels in Ringer Physiological Solutions” Proc. of the Conf. of Indian Institute Metal (2009), Kolkata, India
7. **S.B. Arya**, V.S. Raja and A.N. Tiwari and Y. Katada “Electrochemical Corrosion Behaviors of Nickel and Manganese free High Nitrogen Stainless Steel” Proc. Int. Symp. On Advanced Stainless Steel Chennai (2007), India
8. **S.B. Arya**, V.S. Raja and A.N. Tiwari, “Corrosion Of High Nitrogen High Manganese, Molybdenum Containing Nickel Free Stainless Steel in 3.5 wt% NaCl and at Various pH of Aqueous Solution”, 209th Meeting (2006), ‘The Electrochemical Society’, Denver, USA,
9. **S.B. Arya**, V.S. Raja and A.N. Tiwari “Electrochemical Impedance study on the surface roughness effect of high nitrogen stainless steels in 3.5 wt % NaCl and with 0.5N HCl solution”, on 7th-8th February 2008, COMME, NMRL, Ambernath, India
10. **S.B. Arya**, V.S. Raja and A.N. Tiwari “To study the effect of surface roughness on

electrochemical corrosion behavior of high nitrogen stainless steels 3.5 wt % NaCl and with various pH solution” Proceedings of the Conference of Indian Institute Metal(IIM-2007), organized by IIM at Warli, Mumbai, India, November 12th-16th 2007

11. **S.B. Arya** “Corrosion behaviors of high nitrogen high manganese nickel free stainless steel in 3.5 wt% NaCl solution” Proceedings of the 3rd In House Symposium on Materials Research (MR 06) on 4th March 2006 at IIT-Bombay, India
12. **S.B. Arya, V.S.Raja**, “Corrosion of high nitrogen high manganese, molybdenum containing stainless steel in 3.5%NaCl and HCl solution”, MICMEP (2006) Baroda, India.
S.B. Arya, P. Sarvanan, V.S. Raja and A.N. Tiwari, “Corrosion of high nitrogen high
13. manganese, molybdenum containing stainless steel in 3.5 wt% NaCl solution”, Proceedings of the Conference of Indian Institute Metal(IIM-2005), organized by IIM at IIT Chennai, November 12th-16th 2005

Workshop attended

1. Two Days Workshop on “Mastering the Art and Science of Teaching Engineering and Research(MASTER)”, Organized by NITK, Surathkal and Hewlett-Packard(HP) University Relations, March 2007
2. Three days Workshop on “Electron Microscopy” Dept. of Met-Mat Engg., NITK Surathkal, 2008
3. One week course on Advanced processing in materials conducted by Dept of Metallurgical Engg., IIT Kanpur, 2009
4. Two days workshop on Environmental assisted Cracking (EAC), conducted by NACE and IIT Bombay, 2010

ACADEMIC ACHIEVEMENTS:

1. **Direct-Senior Research Fellowship** (SRF) from Council of Scientific & Industrial Research (CSIR) New Delhi, 2003-2008
2. **Best poster Award** from International Symposium on ‘Advanced Stainless Steels’ 2007, Chennai
3. **Traveling grant (500 \$) award** from The Electrochemical Society, New Jersey USA
4. **Best poster Award** from NMD-ATM 2009, Indian Institute Metal (IIM) Kolkata
5. **Best poster Award** from CORCON 2013, New Delhi
6. **Best oral presentation Award** from NMD-ATM 2013, Varanasi
7. **CEED grant** (Rs 500000) from NITK Surathkal

TECHNICAL EXPERINCES:

1. Worked as a Senior Research fellow (SRF) on “Corrosion Behavior of 6061 Aluminum Alloy-SiC (p) composite” (Sponsored by DRDO) at NIT Surathkal, Mangalore, India (2003)
2. **Worked as a Metallurgist** (trainee apprentice) in Hindustan Aeronautics Ltd (HAL) Lucknow, India (2001-2002)

3. Assisted and worked on industrial sponsored project on Stress Corrosion Cracking, Hydrogen Embrittlement and Pipe line corrosion at IIT Bombay (2006)
4. Assisted and worked on Corrosion problems of razor blades of SuperMax, Vidut Metal, Thane at IIT Bombay (2007)
5. Assisted and worked on Failure analysis (corrosion fatigue problems) of Mangalore Chemical & Fertilizer Ltd (MCF), Mangalore (2008-2009)
6. **Guided 20 M.Tech students for their major research projects**
7. **Guided more than 15 B.Tech students (major research projects)**

Courses taught:

Theory courses for B.Tech students: (i) Heat treatment of metals and alloys (ii) powder metallurgy, (iii) Joining of metals, (iv) Principles of extractive metallurgy, (v) process plant Materials (open elective for Chemical and Mechanical Engg.), (vi) Corrosion Engineering, (vii) non destructive testing, (viii) mechanical testing and (ix) Non ferrous extractive metallurgy

Theory courses for M.Tech students: (i) Heat treatment of steel (ii) Corrosion Engineering

Laboratory for B.Tech students: (i) Physical metallurgy (ii) Metallography (iii) Heat treatment (iv) Metal finishing (v) Extractive metallurgy and (vi) Metal processing

Organization experiences:

1. Worked as **Teaching Assistant (TA)** and conducted Lab, tutorials for M.Tech students of Corrosion Science & Engg, IIT Bombay
3. Assisted in organization of “**Boiler Corrosion**” & “**Cathodic Protection**” at IIT Bombay
4. **Library Secretary** of Hostel One, IIT Bombay,
5. **PhD placement nominee**, IIT Bombay
6. Treasurer of Metallurgical Engineering Association (MEA), NIT K Surathkal, Mangalore
7. Secretary and Treasurer of IIM Surathkal Chapter
8. Faculty advisor for B.Tech students, Dept. of MME, NITK Surathkal,
9. Faculty advisor for Institute photography club, NITK Surathkal
10. **Conducted (as a co-convenor) three days workshop on “Selected Topics in Metallurgical and Materials Engineering” 22th -24th January 2014 at NITK Surathkal**

COMPUTER SKILLS:

Languages: BASIC, FORTRAN, C, familiar with object-oriented concepts.

Operating Environments: Corrosion and EIS related software.

Membership of professional Societies:

1. Indian Institute of Metal, Kolkata, India.
2. Electrochemical Society (ECS), NJ, USA.
3. National Association for Corrosion Engineers (NACE), Houston, USA
4. Tribological Society of India, Faridabad, India
5. Society for Biomaterials and Artificial Organs (India)