

Dr. ANAND N. SONNAD
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EDUCATIONAL QUALIFICATION:

- ❖ Completed **Ph.D** on the thesis entitled “**Microstructural characterization and mechanical property evaluation of graphite - metal brazed joints**” (07-12-2013 from Visvesvaraya Technological University, Belgaum) under the guidance of Dr. S. A. Kori and Dr. Ajoy Kumar Ray, Sr. Deputy Director, National Metallurgical Laboratory, Jamshedpur.
- ❖ Completed **M. Tech in Mechanical Engineering** with specialization in **Production Technology** from Basaveshwar Engineering College, Bagalkot in the year 2005 securing 78.2%.
- ❖ Obtained **B.E in Mechanical Engineering** from Basaveshwar Engineering College, Bagalkot securing 75.08%.
- ❖ Completed **P.U.C** from Basaveshwar Science College, Bagalkot securing 61.33%.
- ❖ **S.S.L.C** from St. Anne’s Convent high School, Bagalkot securing 87.52%.

WORK EXPERIENCE:

- ❖ Working as **Assistant Professor** in the **Dept. of Mech. Engg., BEC, Bagalkot** since 21st Sept. 2010 till date.
- ❖ Worked as a **Research Associate** in **CSIR** funded project “**Microstructural Characterization and Mechanical Property Evaluation of Graphite- Metal Brazed Joints**” from June 2006 till Sept 2010; joint venture project of R & D Centre, Dept. of Mech. Engg., Basaveshwar Engineering College, Bagalkot & National Metallurgical. Laboratory, Jamshedpur.

MEMBER OF PROFESSIONAL BODIES:

- ❖ Life member of **Swadeshi Vijyana Andolana- Karnataka (SVAK)**.

Details of Ph.D Guiding:

Sl. No.	Name of the student	Title of Research Work	Status
1.	Dr. Zaheer Abbas Kandgal (2BA16PMJ03)	Studies on Microstructural and Mechanical Properties of Microwave Welded AL6061 – SiC- Graphite Hybrid Composites	Completed

2.	Mahesh. S. Kori (2BA15PMJ06)	Preparation Characterization and Tribo performance of hermoplastic Hybrid Polymer Composites	Course work completed
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Subjects Handled:

- ✚ Material Science and Metallurgy
- ✚ Metrology and Instrumentation
- ✚ Advanced Metal Joining Process
- ✚ Elements of Mechanical Engineering
- ✚ Vehicular Systems and Maintenance
- ✚ Non Traditional Machining
- ✚ Metrology And Instrumentation Lab
- ✚ Materials Testing Lab
- ✚ Fluid Mechanics Lab

SHORT TERM COURSES / FACULTY DEVELOPMENT PROGRAMMES ATTENDED:

- ✚ Attended 2 days International Symposium on **“Emerging Technologies for Sustainable Development”** organized by BEC, Bagalkot on 27 and 28th February 2017.
- ✚ Has participated in Karnataka State Council of higher Education, Bangalore sponsored 3 days Induction programme on **“Empowering Teachers to Enrich Students”** organized by department of Mechanical Engineering, BEC, Bagalkot on 02 - 04 December 2016.
- ✚ Attended NRB-DNRD, DRDO, New Delhi sponsored one day workshop on **“SPD Techniques with emphasis on Repetitive Corrugation and Straightening (RCS)”** organized by department of Mechanical Engineering, BEC, Bagalkot on 03.09.2016.
- ✚ Rendered service as a **Resourceful Facilitator** in **HRD Training Programme** for 1st year BE students conducted by Training and Placement Department, in BEC, Bagalkot held on 13-14th of Oct, 2012.
- ✚ Attended one week STTP programme on **“Emerging R and D in Wind Energy and Conversion - present and Future Challenges.”** from 21st - 26th July 2014, organized by dept. of Electrical and Electronics Engineering of Basaveshwar Engineering College, Bagalkot sponsored by TEQIP - II.
- ✚ Attended two days workshop on **“Composites and their Applications”** from 14th - 15th March 2014, organized by dept. of Mechanical Engineering and dept. of Physics of Basaveshwar Engineering College, Bagalkot sponsored by TEQIP - II.
- ✚ Attended TEQIP sponsored 15 days Faculty Development Programme on **“Integrated Six Sigma - Green Belt and Design for Six Sigma (DFSS)”** from 20-30 Jan. 2014, jointly organized by Department of Mechanical Engineering and Information Science, Basaveshwar Engineering College, Bagalkot.

- ✦ Attended the **Faculty Development Programme on “Capacity Building towards Quality Teaching and Learning”** at IISc. – Bangalore for 13 days from 25th Nov – 6th Dec 2013 and from 8th -10th Jan 2014 under TEQIP, phase -II.
- ✦ Rendered service as a **Resourceful Facilitator in HRD Training Programme** for 1st year BE students conducted by Training and Placement Department, in BEC, Bagalkot held on 13-14th of Oct, 2012.
- ✦ Has successfully completed **“Mission 10X Aarambh”** a blended learning certification programme on **“Effective Teaching and Learning Methods”** under the valuable guidance of Prof. Chayalakshmi C. L., on 21st July, 2012.
- ✦ One week STTP course on **“Management Skills and Indian Constitution”** (approved by DTE, Bangalore, vide letter No. DTE/01/CCTEK/12-13/1907, dated: 27.16.12) conducted jointly by B. V. V. S. Polytechnic (Autonomous), Bagalkot and District Legal Services Authorities, Bagalkot, at B. V. V. S. Polytechnic, Bagalkot from 25th to 29th June 2012.
- ✦ Three days Faculty Development Programme on **“Effective Teaching Practices”** organized by BEC, Bagalkot, from 3rd to 5th March, 2102.

PAPERS PRESENTED:

- ❖ Presented a paper on **“Effect of brazing temperature and load on strength of Graphite-Copper brazed joints.”** in International Conference on Emerging Trends in Nano-Science and Nanotechnology (ICETINN- 2017) SMIT, Majitar, Sikkim, 16-18 March 2017.
- ❖ Research paper entitled **“Microstructural Characterization and Mechanical Property Evaluation of Graphite - Stainless Steel Brazed Joint”** by Ajoy K. Ray, S. A. Kori, Md. Murtuja Hussain, **A. N. Sonnad**, has received third prize (cash prize of Rs. 1000/-) for best paper presentation in the competition held on the occasion of Founder’s Day celebration by Indian Ceramic Society, Jamshedpur Chapter, Jamshedpur, 23rd April 2010.
- ❖ **“An innovative approach to improve the mechanical property of the graphite to 304SS braze joint by active metal brazing technique.”** by A. K. Ray, Abhijit Kar, S. A. Kori, L. C. Pathak, **A. N. Sonnad**, National Symposium on Advanced Ceramics and Composites Indian Ceramic Society, Jamshedpur Chapter, May 7-8, 2009.
- ❖ Presented a paper on **“Brazing of 304 Stainless Steel and Alumina”** in **Advances in Material Sciences-07** held in Gulbarga, on 23rd- 24th January-2007.

INTERNATIONAL PUBLICATIONS:

- ❖ Anand. S. Sonnad, Shrivankumar. B. Kerur, Mahesh A. Kori **“The Influence of Boron Nitride Reinforcement on Physical and Mechanical Properties of Polyethylene Tetrphalate (PET)”** International Virtual Conference on Research Trends in Engineering & Management Bangalore, India, 20th – 21st , August 2021, pp: 04.

- ❖ Anand. S. Sonnad, Shrivankumar. B. Kerur, Mahesh A. Kori “Effect of Aluminum Oxide (Al₂O₃) Reinforcement on Physical and Mechanical Properties of Polyethylene Tetrathalate (PET)” International Journal of Surface Engineering & Materials Technology, Vol. 11, No. 2, July-December 2021, ISSN: 2249-7250.
- ❖ Zaheerabbas B. Kandagal, V. G. Akkimardi and A. N. Sonnad, “Investigation on Microstructural and Mechanical Properties of Microwave Welded Al6061-SiC-Graphite Hybrid Metal Matrix Composites”, Metallography, Microstructure and Analysis, 05, June, 2021.DOI: 10.1007/s13632-021-00745-7.
- ❖ Zaheerabbas B. Kandagal, Akkimardi V. G. and Sonnad A. N., “Experimental investigation on characterization of microwave welded Al6061-Gr-SiC hybrid metal matrix composites”, ICFEST 2020, IOP Conf. Series: Materials Science and Engineering, 1065, 2021.DOI:10.1088/1757- 899X/1065/1/012004.
- ❖ Zaheerabbas B. Kandagal, Akkimardi V. G. and Sonnad A. N., “Investigation on Mechanical Properties of Microwave Welded Al6061-Graphite Metal Matrix Composites”, International Journal of Applied Engineering Research ISSN 0973-4562, 2020, Volume 15, Number 7, Pp. 682-689.https://www.ripublication.com/ijaer20/ijaerv15n7_09.pdf
- ❖ Zaheerabbas B. Kandagal, Akkimardi V. G. and Sonnad A. N., “A Review on Microwave Energy Processing of Materials”, International Journal of Innovations in Engineering Research and Technology, Mar 27, 2021, 1–5, <https://repo.ijert.org/index.php/ijert/article/view/1975>.
- ❖ Zaheerabbas B. Kandagal, Akkimardi V. G. and Sonnad A. N., “A Review on Green Technology Material Processing Through Microwave Energy”, International Journal of Trend in Scientific Research and Development, Vol.3, Issue 2, Jan-Feb 2019. Pp: 402-405 <https://doi.org/10.31142/ijtsrd21353>.
- ❖ Ajoy K. Ray, S. A. Kori, Pathak, A. N. Sonnad, “**Microstructural characterization and mechanical property evaluation o SiC coated graphite – 304 stainless steel brazed joints.**” International Journal of Innovative Research in Science, Engineering and Technology, vol. 6, Issue 9, September 2017.
- ❖ Ajoy K. Ray, Abhijit Kar, S. A. Kori, L.C. Pathak, A. N. Sonnad, “**Graphite to 304SS braze joining by active metal brazing technique - Improvement of mechanical properties.**” Journal of Materials Engineering and Performance, vol. 22, No.1, 2013, pp. s258-266(9), publisher: Springer Science and Media.
- ❖ Ajoy K. Ray, S. A. Kori, A. N. Sonnad, “**Microstructural Characterization and Mechanical Property Evaluation Of SiC Coated Graphite – Stainless Steel Brazed Joint.**” Journal of Materials Research (In press).

NATIONAL PUBLICATIONS:

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- ❖ A.K. Ray, S. A. Kori, A. N. Sonnad, “**Microstructural Characterization of Graphite - Stainless Steel Brazed Joint**” Indian Institute of Ceramics, Vol.20, No(1-2),Jan-June 2010, P-11-16.

PROJECTS UNDERTAKEN:

- 1) **Title:** “*Static and vibration analysis of compressor disc.*” (PG project)
Software used: ANSYS.
Description: in this project work, stress and vibration characteristics of a fan disc (Aero engine part) considering the mechanical loads is studied. The mechanical loads consist of centrifugal force due to rotor speed and blade centrifugal forces.

- 2) **Title:** “*Modeling and analysis of thermally insulated (ceramic coated) piston of TVS moped using FEM.*” (UG 8th Sem project)
Software used: ANSYS.
Description: This work involves the generation of finite elemental model showing the results of temperature gradients, thermal flux inside the cylinder of the engine.

- 3) **Title:** “*Calculation and simulation of lathe operations.*” (UG 6th Sem project)
Software used: C-Graphics.
Description: The various calculations such as calculation of machine time, tool-life has been provided as database so as to decrease the time loss in the process and the operations are simulated.

PROJECTS GUIDED:

1. B.E 8th sem “**Performance evaluation of water cooled chillers and cooling towers.**” by Mr. Vinod Naik, Mr. Basavakiran Patil, Mr. Mahantesh Gaded, Mr. Ramesh Chabbi, 2013-14.
2. B.E 8th sem “**Fabrication of pedal operated wet grinder with power generation.**” by Mr. Allisa, Mr. Ayubhussen Mulla, Mr. Praveen N, Mr. Saiyadavasem M, 2015-16.
3. B.E 6th sem “**Thermoelectric refridgerator.**” by Mr. Manjunatha T, Mr. Vinayak, Mr. Nazeer Ahmed, Mr. Sitaram Irasur, 2016-17.
4. B.E 6th sem “**Open drainage cleaning system using bucket conveyer.**” by Mr. Praveen Mallipatil, Mr. Ravi Walikar, Mr. Shankar Yaligar, Mr. Shivakumar C. H, 2016-17.
5. B.E 6th sem “**Automatic bumper actuation system.**” by Mr. Abhishek Yalnaik, Mr. Ravi, Mr. Sunil Algundi, Mr. Veerbhadragouda, 2016-17.

Has experience in handling:

- ❖ Graphite Resistance Furnace (ASTRO, Thermal tech. Inc., USA),
- ❖ High Vacuum Hot press of 5 Ton capacity (Vacuum Techniques, Bangalore),
- ❖ X-Ray Diffractometer (PW1710, Philips, Holland),

- ❖ Precession controlled Computerized Universal Testing Machine (H10K-S, Hounsfield, 10KN capacity), Shear test measurement of joined samples.
- ❖ Automatic Micro Hardness Tester (Metatech, Pune),
- ❖ Image analyzer
- ❖ Micro hardness tester (Leitz, RZD-DO, Germany),
- ❖ XRD analysis software like PCPDFWIN.
- ❖ Have basic knowledge of Electron Probe Micro Analyzer machine (Elemental line profile, Dot mapping etc.)
- ❖ Sputter carbon coating machine.
- ❖ Specimen preparation for microstructural characterization.
- ❖ Operating and maintenance Liquid Nitrogen plant (Steerling, USA).

PERSONAL INFORMATION:

Permanent Address: ANAND N.SONNAD
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Date of birth: 25th May 1979

Language Proficiency: English, Kannada, and Hindi.

REFERENCES:

Dr. S. A. Kori
Professor,
Dept. of Mechanical Engg.
Basaveshwar Engg. College,
Bagalkot, Karnataka

Dr. Ajoy Kumar Ray
Professor & Head,
Centre for Materials Science and Nano Technology
(CMSNT)
Sikkim Manipal Institute of Technology
Majitar, East Sikkim, Sikkim, India

Dr. K. Venkateswarlu
Scientist,
Materials Science Division,
NAL, Council of Scientific and Industrial Research,
P. Box. No. 1779, HAL Airport Road
Bangalore, Karnataka.

DECLARATION:

I solemnly declare that the above-mentioned information is true as per my knowledge and faith.

Place: Bagalkot
Date: 10.11.2022

(Anand N. Sonnad)

