

Curriculum Vitae

Dr. Md. Zishanur Rahman

Assistant Professor and HOD,
Department of Mechanical Engineering,
Nalanda College of Engineering, Chandi
(Nalanda), Government of Bihar.
Phone: +91-7903936822
Email: rzishan10@gmail.com
ORCID: <https://orcid.org/0000-0003-0929-0879>



Educational Qualifications:

- | | | |
|--------------------|--|-------------|
| Ph.D. | Specialization in Manufacturing Process Engineering
Department of Mechanical Engineering, IIT (ISM), Dhanbad, India
<ul style="list-style-type: none">• Title of the Ph.D. thesis:
Machinability study of hard to machine materials through micro-electrochemical machining process• Supervisors:
(i) Dr. Alok Kumar das (Guide), Associate Professor, Department of Mechanical Engineering, IIT (ISM), Dhanbad, India.
(ii) Dr. Somnath Chattopadhyaya (Co-guide), Associate Professor, Department of Mechanical Engineering, IIT (ISM), Dhanbad, India. | 2021 |
| M. Tech. | Specialization in Design & Production Engineering
Department of Mechanical Engineering, NIT, Durgapur, India
<ul style="list-style-type: none">• Dissertation Title:
Effect of Emulsions on surface roughness & cutting force in micromilling of Inconel 718 steel• Supervisors:
(i) Dr. M.C. Majumder (Guide), Professor, Dept. of Mechanical Engineering, NIT Durgapur, India.
(ii) Dr. N.C. Murmu (Co-guide), Scientist EII and Head, Surface Engineering and Tribology, CSIR-CMERI, Durgapur, India. | 2012 |
| B.Sc. Engg. | Specialization in Mechanical Engineering
Department of Mechanical Engineering, MACET, Patna, India | 2008 |

Teaching and Research interests:

Teaching interests:

- Manufacturing science/technology
- Conventional and advance machining process
- Strength of materials
- Machine design and Machine drawing

Research interests:

- Micro & Nano manufacturing
- Conventional/Non-conventional machining
- Micro-machining (Mech.)
- Micro-Electrochemical machining
- Micro-Electro discharge machining
- Micro-Electrochemical discharge machining
- Optimization techniques

Work Experience:

- Assistant Professor in the Department of Mechanical Engineering at Nalanda College of Engineering, Chandi (Nalanda), Government of Bihar [17-01-2018 to till date].
- Assistant Professor in the Department of Mechanical Engineering at Maulana Azad College of Engineering & Technology, Neora, Patna [01-08-2009 to 16-01-2018].
- Design Engineer Trainee in Design Section of VANKOS & COMPANY, a hydraulic equipments manufacturer, Patna, Bihar, India [03-10-2008 to 03-04-2009].

Administrative responsibilities at NCE, Chandi (Nalanda), Government of Bihar:

- HOD of Mechanical Engineering Department [24-01-2022 to till date].
- Controller of Examinations [22-11-2018 to till date].
- Joint Controller of Examinations [07-02-2018 to 21-11-2018].
- Chief Warden (Hostels) [08-07-2021 to till date].
- Professor in-charge of workshop [05-02-2018 to till date].

Externally funded R & D projects:

- Development of cost effective micro ECM and micro ECDM setup for fabrication of micro features; *Collaborative Research Scheme (CRS) under TEQIP-III Program, AKU, Patna*; Approved amount: **Rs. 3,00000/- (Three lakhs rupees)** [Duration: 30-11-2019 to 29-11-2020].

Publications and Conferences:

International Journals:

1. SCIE (Taylor and Francis) [Impact Factor: 4.616]

Md. ZishanurRahman, Alok Kumar Das, and Somnath Chattopadhyaya; Fabrication of high aspect ratio tungsten micro tools through controlled electrochemical etching; Materials and Manufacturing Processes 36(11) (2021) pp. 1236-1247. [ISSN: 1042-6914 (Print) 1532-2475 (Online)]; DOI: [10.1080/10426914.2021.1905834](https://doi.org/10.1080/10426914.2021.1905834)

2. SCIE (Taylor and Francis) [Impact Factor: 4.616]

Md. ZishanurRahman, Alok Kumar Das, and Somnath Chattopadhyaya; Microhole drilling through electrochemical processes: A review; Materials and Manufacturing Processes 33(13) (2017) pp.1379-1405. [ISSN: 1042-6914 (Print) 1532-2475 (Online)]; DOI:<https://doi.org/10.1080/10426914.2017.1401721>

3. SCOPUS (Taylor and Francis)

Md. ZishanurRahman, Alok Kumar Das, Somnath Chattopadhyaya; A comparative study of NaOH and KOH electrolytes in micro-ECM; Advances in Materials and Processing Technologies XX (2022) pp. XX-XX. [Print ISSN: 2374-068X Online ISSN: 2374-0698]. <https://doi.org/10.1080/2374068X.2022.2039426>

4. SCOPUS (Elsevier)

Md. ZishanurRahman, Alok Kumar Das, Somnath Chattopadhyaya; Machinability study of “stainless steel” in deep micro-holes fabrication through μ ECM using balance electrode; Materials Today: Proceedings 43P2 (2021) pp. 1437-1442. [ISSN: 2214-7853]. DOI:<https://doi.org/10.1016/j.matpr.2020.09.181>

5. SCOPUS (Elsevier)

Md. ZishanurRahman, Alok Kumar Das, Somnath Chattopadhyaya; Effects of balance electrode in deep micro-holes drilling in “nickel plate” through μ ECM process using H₂SO₄ electrolyte; Materials Today: Proceedings 43P2 (2021) pp. 1431-1436. [ISSN: 2214-7853]. DOI:<https://doi.org/10.1016/j.matpr.2020.09.180>

6. SCOPUS (Elsevier)

Md. Zishanur Rahman, Alok Kumar Das, SomnathChattopadhyaya, Md. Reyaz, Md. TaslimRaza, SaimaFarzeen; Regression modeling and comparative analysis on CNC wet-turning of AISI-1055 & AISI-4340 steels; Materials Today: Proceedings 24 (2020) 841–850. [ISSN: 2214-7853]. DOI:<https://doi.org/10.1016/j.matpr.2020.04.393>

7. SCOPUS (Elsevier)

Md. ZishanurRahman, Alok Kumar Das, Somnath Chattopadhyaya; Comparative studies in electro-physical processes (ECM & EDM) for circular micro-holes drilling; Materials Today: Proceedings 5 (2018) 27690–27699. [ISSN: 2214-7853]. DOI:<https://doi.org/10.1016/j.matpr.2018.10.003>

8. SCOPUS (IOP)

Md. Zishanur Rahman, Alok Kumar Das, SomnathChattopadhyaya, Md. Reyaz, Md. Aon Ahmad, SaimaFarzeen; Performance investigations and comparisons of green machining between CNC-turning of EN24 & EN9 steels; IOP Conf. Series: Materials Science and Engineering 377 (2018) 012079. [Online ISSN: 1757-899X; Print ISSN: 1757-8981]. DOI:[10.1088/1757-899X/377/1/012079](https://doi.org/10.1088/1757-899X/377/1/012079)

9. SCOPUS (IOP)

Md. Zishanur Rahman, Alok Kumar Das, Somnath Chattopadhyaya, Md. Reyaz, Md. Aon Ahmad, Firoz Tauheed; Holes quality investigations and comparative analysis in CNC- drilling of AISI-4340 & AISI-1055 steels; IOP Conf. Series: Materials Science and Engineering 377 (2018) 012097. [Online ISSN: 1757-899X; Print ISSN: 1757-8981]. DOI: [10.1088/1757-899X/377/1/012097](https://doi.org/10.1088/1757-899X/377/1/012097)

10. SCOPUS (American Scientific Publishers)

Md. Zishanur Rahman, Alok Kumar Das, Somnath Chattopadhyaya; A Review on Electrodischarge Processes for Circular Micro-Holes Drilling; Advanced Science, Engineering and Medicine 10 (2018) pp.240-248. [ISSN: 2164-6627 (print); EISSN: 2164-6635 (online); DOI: [10.1166/ase.2018.2156](https://doi.org/10.1166/ase.2018.2156)

11. SCOPUS (American Scientific Publishers)

Md. Zishanur Rahman, Alok Kumar Das, Somnath Chattopadhyaya, Vivek Bajpai, and Vinay Sharm; Investigation and Optimization of Micro-End-Milling of C-103 Nb-Alloy via Taguchi Design Method; Advanced Science, Engineering and Medicine 10(0) (2018) pp.362-368. [ISSN: 2164-6627 (print); EISSN: 2164-6635 (online); DOI: [10.1166/ase.2018.2132](https://doi.org/10.1166/ase.2018.2132)

12. SCOPUS (Elsevier)

Md. Taslim Raza, **Md. Zishanur Rahman**, Md. Reyaz, Mohammad Rezaul Karim; (2018) Study of CdTe film growth by CSS on three different types of CdS coated substrates; Materials Today: Proceedings 5(14) (2018) 27833-27839. [ISSN: 2214-7853]. DOI: <https://doi.org/10.1016/j.matpr.2018.10.020>

Book chapters

1. SCOPUS (Springer)

Md. Zishanur Rahman, Alok Kumar Das, Somnath Chattopadhyaya, Machinability study of “nickel material” in deep micro-holes fabrication through μ ECM; Smart innovation and technology 213 (2021) 13-22. [Print ISBN 978-981-33-4442-6; Online ISBN 978-981-33-4443-3] DOI: https://link.springer.com/chapter/10.1007/978-981-33-4443-3_2

2. SCOPUS (Springer)

Md. Zishanur Rahman, Alok Kumar Das, Somnath Chattopadhyaya, Analysis and modeling on defects of deep micro-holes drilling in stainless steel through μ ECM; Smart innovation and technology 213 (2021) 135-145. [Print ISBN 978-981-33-4442-6; Online ISBN 978-981-33-4443-3] DOI: https://link.springer.com/chapter/10.1007/978-981-33-4443-3_14

3. SCOPUS (Springer)

Md. Zishanur Rahman, Alok Kumar Das, Somnath Chattopadhyaya, Md. Reyaz; Green-machining characteristics study and comparisons in meso-scale end-milling of AISI-1055 and AISI-4340 steels; Trends in Manufacturing Processes 0(0) (2019) pp 61-70. [ISSN 2522-5022; ISSN 2522-5030 (electronic); ISBN 978-981-32-9098-3; ISBN 978-981-32-9099-0 (eBook)] DOI: https://doi.org/10.1007/978-981-32-9099-0_7

International Conferences

1. **Md. Zishanur Rahman**, Alok Kumar Das, Somnath Chattopadhyaya, Md. Quamar Alam; Effects of reaction product layer formation in the fabrication of tungsten microtools through μ ECM process using KOH electrolyte; [Paper ID: 289]; International Conference on Futuristic Advancements in Materials, Manufacturing and Thermal Sciences (ICFAMMT - 2022) held on 20 - 22 January 2022 organized by IITRAM & ISRO Ahmedabad, India.

- 2. Md. Zishanur Rahman**, Alok Kumar Das, Somnath Chattopadhyaya; Study on effects of reaction product layer formation in the fabrication of tungsten microtools through μ ECM; [**Paper ID: 13**]; International Conference on Technological Innovations in Mechanical Engineering (**TIME - 2021**) held on 16th and 17th April **2021** at Sharda University, UP, India.
- 3. Md. Zishanur Rahman**, Alok Kumar Das, Somnath Chattopadhyaya; Comparative study between NaOH and KOH electrolytes in the fabrication of tungsten microtools through μ ECM; [**Paper ID: 12**]; International Conference on Technological Innovations in Mechanical Engineering (**TIME - 2021**) held on 16th and 17th April **2021** at Sharda University, UP, India.
- 4. Md. Zishanur Rahman**, Alok Kumar Das, Somnath Chattopadhyaya; Machinability study of “nickel material” in deep micro-holes fabrication through μ ECM; [**Paper ID: 24**]; International Conference on Intelligent Manufacturing and Energy Sustainability (**ICIMES 2020**); Aug 21-22, **2020** at Malla Reddy College of Engineering & Technology, Hyderabad, India.
- 5. Md. Zishanur Rahman**, Alok Kumar Das, Somnath Chattopadhyaya; Analysis and modeling on defects of deep micro-holes fabrication in stainless steel through μ ECM; [**Paper ID: 36**]; International Conference on Intelligent Manufacturing and Energy Sustainability (**ICIMES 2020**); Aug 21-22, **2020** at Malla Reddy College of Engineering & Technology, Hyderabad, India.
- 6. Md. Zishanur Rahman**, Alok Kumar Das, Somnath Chattopadhyaya; Effects of balance electrode in deep micro-holes drilling in “nickel plate” through μ ECM process using H_2SO_4 electrolyte; [**Paper ID: 402**]; International Conference on Advanced Materials Behaviour & Characterization (**ICAMBC_2020**); during 18 - 23 July, 2020 at Mattest Research Academy, Chennai, India.
- 7. Md. Zishanur Rahman**, Alok Kumar Das, Somnath Chattopadhyaya; Machinability study of stainless steel in deep micro-holes fabrication through μ ECM using balance electrode; [**Paper ID: 256**]; International Conference on Advanced Materials Behaviour & Characterization (**ICAMBC_2020**); during 18 - 23 July, 2020 at Mattest Research Academy, Chennai, India.
- 8. Md. Zishanur Rahman**, Alok Kumar Das, Somnath Chattopadhyaya, Md. Reyaz; Green-machining characteristics study and comparisons in meso-scale end-milling of AISI-1055 and AISI-4340 steels; [**Paper ID: ME31**]; International Conference on Futuristic Trends in Materials & Manufacturing (**ICFTMM-2018**), 26-27 October, **2018**; Delhi Technical Campus, Noida, India.
- 9. Md. Zishanur Rahman**, Alok Kumar Das, Somnath Chattopadhyaya, Md. Reyaz, Md. Taslim Raza, Saima Farzeen; (2018) Regression modeling and comparative analysis on CNC wet-turning of AISI-1055 & AISI-4340 steels; [**Paper ID: 267**]; International Conference on Advances in Materials and Manufacturing Applications (**IConAMMA-2018**), 16-18 August, **2018** Amrita School of Engineering, Bengaluru campus, Bengaluru, India.
- 10. Md. Zishanur Rahman**, Alok Kumar Das, Somnath Chattopadhyaya; Comparative studies in electro-physical processes (ECM & EDM) for circular micro-holes drilling; [**Paper ID: 267**]; International Conference on Composite Materials: Manufacturing, Experimental Techniques, Modeling and Simulation (**ICCMEMS-2018**) held during 15-17 March **2018** at Lovely Professional University, Phagwara, Punjab, India

11. Md. Zishanur Rahman, Alok Kumar Das, Somnath Chattopadhyaya, Md. Reyaz, Md. Aon Ahmad, Saima Farzeen; Performance investigations and comparisons of green machining between CNC-turning of EN24 & EN9 steels; [**Paper ID: ICMMRE-276**]; International Conference on Mechanical Materials and Renewable Energy-2017 (**ICMMRE-2017**); 8-10 December, **2017**; Sikkim Manipal Institute of Technology, Sikkim, INDIA.

12. Md. Zishanur Rahman, Alok Kumar Das, Somnath Chattopadhyaya, Md. Reyaz, Md. Aon Ahmad, Firozt Tauheed; Holes quality investigations and comparative analysis in CNC- drilling of AISI-4340 & AISI-1055 steels; [**Paper ID: ICMMRE-327**]; International Conference on Mechanical Materials and Renewable Energy-2017 (**ICMMRE-2017**); 8-10 December, **2017**; Sikkim Manipal Institute of Technology, Sikkim, INDIA.

13. Md. Taslim Raza, Md. Zishanur Rahman, Md. Reyaz, Mohammad Rezaul Karim; Study of CdTe film growth by CSS on three different types of CdS coated substrates; [**Paper ID: 42**]; International Conference on Composite Materials: Manufacturing, Experimental Techniques, Modeling and Simulation (**ICCMEMS-2018**) held during 15-17 March **2018** at Lovely Professional University, Phagwara, Punjab, India.

14. Md. Quamar Alam, Amit Kumar, Md. Zishanur Rahman; Design of a new curved shape fin and natural convection analysis using CFD; [**Paper ID: 168**]; International Conference on Energy Conversion and Thermo-fluid Systems (**i-CONNECTS 2021**) held during November 19 - 20, **2021** at Malaviya National Institute of Technology, Jaipur, Rajasthan, India.

Project/ Thesis Supervision:

M. Tech.

- ❖ **2014-2016: Saima Farzeen**; An investigation and comparison of machining characteristics in CNC turning of EN30B and EN39B steel.

Workshop/Webinar organized:

1. As a coordinator, organized five-days workshop on “Current Trends in Mechanical Engineering” at Department of Mechanical Engineering, NCE, Chandi (Nalanda), Government of Bihar [23-27 September, 2019].
2. As a coordinator, organized two-days online webinar on “Job Prospects for Engineering Students” at Department of Mechanical Engineering, NCE, Chandi (Nalanda), Government of Bihar [29-30 June, 2020].

Awards and Honors:

1. Awarded “Certificate of Appreciation” by E & ICT Academy - IIT, Kanpur for my sincere contribution, effort in organizing and handling the Season 1 of the Summer Training Program from June 2020 till September 2020 organized by Nalanda college of engineering, chandi (Nalanda), Government of Bihar and delivered by EICT Academy - IIT, Kanpur.

Achievements:

1. Qualified Bihar Public Service Commission (BPSC) for the post of Assistant Professor (Mechanical Engineering) in 2017.
2. One of our research articles titled “Fabrication of high aspect-ratio tungsten microtools through controlled electrochemical etching” of Materials and Manufacturing Processes Journal was one of the most download article from Taylor & Francis in the year 2021. Link:<https://www.tandfonline.com/doi/full/10.1080/10426914.2021.1905834?src=recsys>

Professional courses/trainings completed:

1. Successfully completed the all eight modules of NITTT, AICTE, Government of India [September-2021].
2. Successfully completed the Induction training-Phase-I organized by NITTTR, Kolkata [13-01-2020 to 24-01-2020; Two weeks].
3. Successfully completed the Induction training-Phase-II organized by NITTTR, Bhopal [29-06-2020 to 10-07-2020; Two weeks].

FDP/Faculty Internship/Short term training program attended:

1. MHRD-TEQIP-III KITE activity “Faculty Internship Program” at IIT, Bombay. [13-06-2019 to 12-07-2019; Four weeks]
2. Management Development Programme on “Professional development training” at IIM, Kozhikode. [26-02-2018 to 02-03-2018, One week]
3. Summer Training Program on “Active Learning Workshop” at IIT, Bombay. [04-06-2019 to 08-06-2019; One week]
4. Faculty Development Program on “AutoCAD ” organized by EICT Academy, IIT, Kanpur. [08-06-2020 to 19-06-2020; Two weeks]
5. Faculty Development Program on “Statistical Analysis for Engineers and Researchers” at IIT, Kanpur. [16-05-2016 to 20-05-2016; One week]
6. Faculty Development Program on “Micro-manufacturing” at IIT, Guwahati. [22-12-2014 to 26-12-2014; One week].
7. Faculty Development Program on “Entrepreneurship Awareness & Development” at ISM, Dhanbad [04-03-2013 to 8-03-2013; One week].
8. Faculty Development Program on “Application of laser in Manufacturing” at IIT, Guwahati. [24-06-2013 to 28-06-2013; One week]
9. Faculty Development Program on “Six Sigma Tools & Application” at BIT, Mesra, Ranchi. [25-08-2014 to 30-08-2014; One week]
10. Faculty Development on “Role of Numerical Analysis in Scientific Computing” at IIT, Guwahati. [20-05-2013 to 24-05-2013; One week]
11. Faculty Development on “Effective Teaching & Research” at BIT, Patna campus. [24-12-2012 to 29-12-2012; One week].

12. Short Term Training Program on “Exposure on MATLAB” at NITTTR, Kolkata.
[23-12-2013 to 03-01-2014; Two weeks].

Referees:

1. **Dr. Alok Kumar Das**, Associate Professor, Department of Mechanical Engineering, IIT (ISM) Dhanbad, Jharkhand India; Ph: +91-9471191234/03262235748
Email: alokmech@iitism.ac.in/ eralok@yahoo.co.in
2. **Dr. Somnath Chattopadhyaya**, Associate Professor, Department of Mechanical Engineering, IIT (ISM) Dhanbad, Jharkhand India; Ph: +91- 0943195482
Email: somnathchattopadhyaya@iitism.ac.in

Google Scholar link:

<https://scholar.google.com/citations?user=FDNyxpwAAAAJ&hl=en>

Memberships & Society:

1. The Indian Society for Technical Education (ISTE): Life Member (LM 100342)

Personal details:

Date of birth	:	20.01.1983
Father's name	:	Md. Mojibur Rahman
Sex	:	Male
Language	:	English, Hindi, Urdu
Marital status	:	Married
Nationality	:	Indian
Passport number	:	IND- G0115887
Permanent address	:	Raushan Colony, Chhoti Bazar, Moghalpura, Patna City, Patna-800008, BIHAR, INDIA.

Declaration:

I hereby declare that the above information mentioned is correct to the best of my knowledge and belief.

Place: Patna, India
Date: 10/04/2022

MD ZISHANUR RAHMAN