



Aragaw Mulu Muhaba

Manufacturing Engineering Expert | Lecturer |
Researcher



Bahir Dar



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Highly skilled and results-driven Manufacturing Engineering professional with over 12 years of experience in academia, research, and industry. Expertise in material science, manufacturing processes, and e-learning integration in higher education. Proven track record in leading research projects, teaching undergraduate and graduate courses, and contributing to community development through technology transfer initiatives. Strong technical skills in CAD/CAM, finite element analysis, and additive manufacturing. Passionate about advancing education and research in emerging technologies to drive innovation in developing countries.



Skills

- SolidWorks
- Mastercam
- CATIA V5
- AutoCAD
- ANSYS
- ABAQUS
- DEFORM
- PROCAST
- ARENA
- Minitab
- Design Expert
- MATLAB
- Python
- 3D Printing
- Reverse Engineering



Work History

Lecturer & Researcher

Bahir Dar Institute of Technology, Bahir Dar

- Teach undergraduate and graduate courses, including:
- Manufacturing Engineering I & II
- Engineering Materials I & II

2010-09 - Current

- Maintenance of Machinery and Installation
- Manufacturing tools and die
- Engineering mechanics II (Dynamics)
- Computer-Aided Manufacturing (CAM) and Computer-Integrated Manufacturing (CIM)
- Workshop Practice, Workshop Technology, and Machine Drawing
- Supervise final-year BSc theses and internships
- Mentor students in industrial placements at leading Ethiopian companies, including Ethiopian Airlines, Hibret Manufacturing, and Bahir Dar Textile Factory

2018-11 - 2021-03

Chair Holder of Manufacturing Engineering

Bahir Dar Institute of Technology, Bahir Dar

- Lead the Manufacturing Engineering Department, overseeing curriculum development, research initiatives, and faculty coordination
- Spearhead technology transfer and community engagement projects, including the development of a manual hay and crop residue baler

2017-01 - 2018-01

Delivery Unit Expert

Bahir Dar University, Bahir Dar

- Established a Career Services Center to bridge the gap between academia and industry
- Provided career skills training, including CV writing, communication, and mock interviews, to enhance student employability
- Organized industry-university events to align curriculum with industry needs

2016-03 - 2017-11

Extension and Continual Education Coordinator

Bahir Dar Institute of Technology, Bahir Dar

- Coordinated extension programs and community engagement initiatives



Education

2013-01 - 2015-01

MSc: Manufacturing Engineering

Bahir Dar Institute of Technology - Bahir Dar University, Bahir Dar Institute Of Techn

- Thesis: "Developing Investment Casting Mould for Copper-Based Alloys Using Local Materials"
- Rank: 1/10
- GPA: 3.92/4.00

2006-01 - 2010-01

BSc: Mechanical Engineering

Bahir Dar University - Bahir Dar University, Bahir Dar Institute Of Techn

- Rank: 2/80
- GPA: 3.41/4.00

2024-01

Project Management

Florida University Southeast (FUSE) - USA

2024-01

Test Performance

2024-01

Master Class for Teaching Online

Arizona State University

2015-01 - 2016-01

Higher Diploma Program (HDP) Certificate

Bahir Dar University - Bahir Dar

2011-01

Introduction to Hydraulics Certification

Adama University



Accomplishments

- Ranked 1st in MSc program with a GPA of 3.92/4.00.
- Ranked 2nd in BSc program with a GPA of 3.41/4.00.
- Published multiple peer-reviewed articles in international journals.
- Led successful research projects funded by Bahir Dar University.



Community Service And Technology Transfer

- Developed and evaluated a manual hay and crop residue baler (2019–2020).
- Prepared specifications for standardized furniture procurement for Bahir Dar University (2018).
- Conducted soft skills training for prospective graduates, including job searching and psychology (2019).
- Evaluated technology transfer and community engagement project proposals (2024).
- Design and manufacturing of Fish oil Extraction Machine (Oct 2019 - Jun 2020).
- Tutor of Engineering Drawing for Bit pre-Engineering female students.
- One Day for my people-Weekend Tutorial Program for Ethio-Japan School students (2019).



Funded Research projects

- Principal Researcher, Design, Fabrication, and Experimental Testing of an Oil-Fired Furnace, 01/01/15 - 01/01/16,
- Characterization and Development of an Optimum Furnace Lining Refractory from Selected Ethiopian Clay, 01/01/16 - 01/01/17
- Researcher, Developing Investment Casting Mould for Copper-Based Alloys Using Local Materials, 01/01/14 - 01/01/15
- Design and manufacturing of Fish oil Extraction Machine (Oct 2019 - Jun 2020).
- Developed and evaluated a manual hay and crop residue baler (2019–2020).



Publications

- The Impact of Chinese Foreign Direct Investment on the Productivity Growth in the Ethiopian Manufacturing Sector. In: Muchie, M., Baskaran, A., Tang, M. (eds) China-Africa Science, Technology and Innovation Collaboration. Springer, Singapore (2024). https://doi.org/10.1007/978-981-97-4576-0_31.
- Effects of Shielded Metal Arc Welding Process Parameters on Mechanical Properties of S355JR Mild Steel. In: Habtu, N., Ayele, D., Fanta, S., Admasu, B., Bitew, M. (eds) Advances of Science and Technology. ICAST 2019. Lecture Notes of the Institute for Computer Sciences, Social Informatics and Telecommunications Engineering, vol 308. Springer, Cham. https://doi.org/10.1007/978-3-030-43690-2_38.
- Analysis of supply side factors influencing employability of new graduates: A tracer study of Bahir Dar University graduates. Journal of Teaching and Learning for Graduate Employability, 10(2), 67–85. <https://search.informit.org/doi/10.3316/informit.585975384944460>.
- Optimization of Process parameters of GMAW for penetration, Toughness and Tensile strength by using Taguchi Method. International Journal of Mechanics and Design. 2019; 5(1): 1–9p.
- Application of the Grey-Taguchi Method for the Optimization of Lost Wax Mold, International Journal of Mathematics and Its Applications, 7(1), 2019.
- Optimizing Blend of Wax Pattern in the Investment Casting Process Using Grey Relational Analysis, International Journal of Mathematics and Its Applications, 7(1), 2019.
- Status of Employment in Ethiopia: Bahir Dar University Graduates Tracer Study, 55(7), 2019.
- Design and Fabrication of an Oil-Fired Furnace Using Locally Sourced Material, 4th Annual National Research Conference of Mettu University, 2018
- Characterization of Selected Ethiopian Clay Deposits for Furnace Lining, 2nd National Research Conference of Samara University, 2018.
- Development of Optimum Investment Casting Mould using Local Materials, 4th ASRIC Congress, Nairobi, Kenya, 22nd to 25th of November 2021.