Ermias Gebrekidan. Koricho (Ph.D.)

Associate Professor, Mechanical Engineering(Major), Aerospace Engineering(Adjunct Prof.)
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SUMMARY Dr. Koricho is an Associate Professor of Mechanical and Aerospace Engineering. He was also an Assistant Professor of Mechanical Engineering and supervisor of Georgia Southern University's Vehicle Design and Lightweight Structures Lab, Statesboro, GA, USA. He has a BSc and MSc in Mechanical Engineering and a PhD in Mechanics. Dr. Koricho has also research experiences in vehicle industry and world-class composite materials and structures research centers with several years of experience in teaching of various mechanical and related engineering courses, modeling, designing, manufacturing testing and optimization of lightweight materials and structures, multi-materials joining, multi-scale material modeling, vehicle and aircraft crashworthiness and stress analysis, aerodynamics, design analysis of armored vehicles, aircraft and spacecraft structures design and optimization., and personal protective; authorized OSHA General Industry Outreach trainer; certified lead safety auditor, consulted various universities to develop both mechanical and aerospace graduate and undergraduate curriculum; author of more than 100 international journals, conference and proceeding papers, and book chapters; participated and presented in several international conferences and seminars in the area of composite, plastics, experimental mechanics, structural health monitoring, machine learning, and computational methods; granted research project funds on smart multi-materials joining, advanced composites materials for personal protective devices; advised undergraduate and graduate projects and theses; supervised several and mentored Ph.D. students. He also served as a manager and lead engineer in aviation and aviation and engineering firms.

Summary of Qualification

- More than 20 years of teaching and research experience in Mechanical(mostly), Aerospace, and Automotive engineering fields.
- Consulted various universities to develop both mechanical and aerospace program graduate and undergraduate curriculums.
- Managed laboratories and workshops as per EPA and OSHA standards, and train students and research assistants as per the Occupational Safety and Health Administration standards.
- Experienced visibility and outreach committee member
- Supervised more than 50 MSc and PhD students at different universities.
- Consulted, trained, and advised FEM-related courses, capstones, and project works.
- Rich experience in both experimental mechanics and computer-aided engineering (CAD, Analysis, and FEM Simulation).
- Proven ability to work on a team, communicate effectively, and manage projects.
- Professional and Personal Development trainer
- CEO for ENTEL Engineering and Consultancy PLC
    - Mechanical and Aerospace engineering projects consultant and mentor
    - Education institute strategies consultant
    - Professional and Personal development trainer

Selective qualification

- Consulting engineering projects such as UAV and related projects
- Training / Mentoring, Leading Successful Teams, Project Management, and Complex Problem Solving.
- Vehicle and Aircraft crashworthiness and stress analyses
- Experimental: Developed and investigated the mechanical and thermo-mechanical behaviors of polymeric materials including composite, nanocomposites, smart adhesives, plastics and adhesive joints
- Optimized lightweight/composite structures.
- Developed/modeled innovative smart adhesive and hybrid joints and perform experimental tests.

- Optimized of safety systems in newly developed electric light trucks and vans by OPTIBODY consortium under European project, and assessment of vehicle homologation tests.
- Fracture mechanics: Studied of cracked beam using vibration analysis.
- Non distractive evaluation techniques (NDE) for composite materials and adhesive joints,
- Programming skill for various application
- Expert in several FEM and CAD software
- Writing skills: Publications in peer-reviewed journals and congress presentations.
- Language skill: English, Italian (basic), and Amharic.
- Managerial skill: Research and project leader, Laboratory superintendent, managing multiple projects, maintenance section head, acting head of mechanical engineering department.
- Pedagogy:
    - How to Teach Students How to Learn
    - Effective Instruction in Undergraduate Science and Engineering
    - Planning for Effective Peer Review
    - Teaching Toolbox Fostering Collaboration with Folio Tools
    - Planning, Documenting, and Demonstrating Teaching Effectiveness
    - E-learning teaching skills for engineering courses platform

Teaching Experience

- Undergraduate Courses:
    - Mechanical Engineering Case Studies in Design & Analysis, Mechanics(Statics, Dynamic), Mechanics of Materials, Machine Design, Solid Modeling, Introduction to Finite Element Method, Mechanical System Design, Capstone Design, Introduction to Theory of Composite, Engineering Experimentation, Design For Manufacturing(DFM), Production Engineering I & II, Maintenance and Installation of Machinery, Machine Element I, Machine Element II, Machine Drawing, Engineering Drawing, Mechanical measurement, Measurement and Instrumentation, Introduction to computer and programming for mechanical engineers.
- Graduate Courses:
    - Advanced Product Design, Theory of Elasticity, Facture Mechanics, Advanced Mechanical Vibration, Machine Dynamics, Theory of Composite Materials and Structures, Advanced Solid Mechanics, Research Methodology, Finite Element Method (Theory and CAE), Vehicle Dynamics, Vehicle Body Design, Aircraft Structural Mechanics and Materials, Spacecraft Structure, Damage Mechanics, Experimental Stress Analysis, and Experimental Mechanics.

Professional Experience (Academic)

ADDIS ABABA SCIENCE AND TECHNOLOGY UNIVERSITY, ETHIOPIAN SPACE SCIENCE AND GEOPSPACIAL INSTITUTE, *•Addis Ababa, Ethiopia • January 2022 – June 2024.*

Associate Professor, Supervisor and research leader for Advanced Materials and Vehicle Lightweight Structure

- Teach graduate courses related to mechanics of materials, spacecraft structure, aircraft structures advanced vibration, experimental stress analysis and mechanics, theory of composite materials, and damage mechanics of composite materials.
- Supervised PhD and MSc students on advanced lightweight materials, computational mechanics, vehicle active and passive safeties, and vehicle dynamics.
- Lead investigator and supervisor of research work related to stealth composite materials, modular joint for aircraft wind-fuselage connection, a nature-inspired composite propeller for acoustic attenuation, vibration damping of CubeSat, design optimization of quadcopter and fixed-wind UAV, Natural fibers, and shape memory polymer for space application.

GEORGIA SOUTHERN UNIVERSITY *• Statesboro, GA • 2016 - 2022*

Assistant Professor, Supervisor and research leader of Vehicle Lightweight Structures and Joining Lab,

- Successfully established the Vehicle Lightweight Structures and Joining Lab (Computational and Experimental Mechanics approaches) with direct supervision of a talented team resulting in recruiting and training 30+ research students, with eight papers published under leadership.

- Supervised mechanical system design projects.
    - Evaluated milestone processes to develop and deliver technical expertise
    - Refined concepts, prototype and/or specifications
    - Verified consumers' voice and Quality Function Deployment process
- Developed the composite manufacturing and durability research subgroup and testing lab with high profile papers published in industry-specific journals.
- Lead investigator and supervisor of advanced composite materials and multi-materials and joining (Impact, fatigue, vibration, acoustic, and hygrothermal aging).
- Serve as Project Leader for a multiscale modeling and experimental studies of nano modified composite laminates for improving fracture toughness and strength under various environmental conditions.
- Managed FEA simulation activities (static, dynamic, CFD, blast, and stead/transient thermal analysis)
- Supervised and performed vehicle/aircraft crashworthiness research works.
- Ensured structural health monitoring testing lab as needed.
- Lead-investigator and supervisor for product design requirements, technical scope of work, and construction of personal protective devices using composite materials against blunt impact, projectiles, and blast-induced shockwaves.
- Collaborating with external companies to develop automated reversible adhesive joining methods for various applications.
- Developed and taught Fundamentals of Vehicle Body Design
- OSHA authorized trainer for general industry.
- Member of Visibility Committee for Department of Mechanical Engineering
- Represented Department's outreach events

COMPOSITE VEHICLE RESEARCH CENTER – MICHIGAN STATE UNIVERSITY • *Lansing, MI • 2013 - 2016*
Senior Research Associate

- Served as a key investigator and patent holder for an Electromagnetic-activated reversible adhesive project.
- Developed and implemented an optimum manufacturing method of plastic and composite materials including an Innovated Tailored Fiber-Placement Technique.
- Ensured proper development of computational models for Multi-Material Joining for lightweight materials and structures including novel micro/nano modified composite and adhesive materials for vehicle applications.
- Drove comprehensive research and analysis on vehicle crashworthiness, fatigue, impact, and crash behavior of novel composite materials and joining.
- Managed and prepared proposals, reports, and papers including delivery of presentations to research supports as needed.
- Effectively evaluated impact damaged composite materials utilizing Optical Transmission Scanning machines resulting in verification of new developed system for composite applications to secure a patent.

POLYTECHNIC OF TURIN AND FIAT RESEARCH CENTER • *Turin, Italy • 2012 - 2013*
Post Doc Fellow Researcher, Research Assistant,

- Successfully developed conceptual models of BIW lightweight electric vehicles under the OPTIBODY consortium for the European project.
- Evaluated Electric Vehicle safety tests and test methods; developed and evaluated performance criteria and design requirements for Electric Vehicles; participated in the development of Electric Vehicle standards and provided or evaluates technical content of proposed standards.
- Ensured proper performance of numerical simulations, crashworthiness analysis, and lightweight material characterizations.
- Effectively optimized frontal and side crash performance of FIAT cars utilizing thermoplastic and thermoset composites.
- Developed and implemented smart adhesives activated by electromagnetic fields for assembly and disassembly of composite and plastic vehicle components.

POLYTECHNIC OF TURIN • *Turin, Italy • 2009 - 2012*

Research Assistant

- Ensured comprehensive development of composite vehicle components including performing experimental tests with a wide range of instrumentations to better acquire strain, temperature, and damage initiation and propagation.
- Analyzed multiple types of pristine and nano-modified composite materials under quasi-static, high strain rate, impact, and fatigue loadings for vehicle applications.
- Drove implementation of multiple lightweight materials and adhesives in BIW vehicles and crashworthiness analysis to improve passenger passive safety.
- Collaborated with industry professionals at the FIAT research center in the area of composite, plastic, and adhesive joints for lightweight vehicle design.

ADDIS ABABA UNIVERSITY • *Addis Ababa, Ethiopia • 2007 - 2009*
Superintendent of Mechanical Workshop

- Supervised technicians, machinists, mechanics, training, installation, commissioning, research activities, and other personnel.
- Consulted customers on various mechanical systems designs and materials quality testing.
- Maintain inventory control of laboratory equipment and tools.
- Developed and maintained lab procedures, experimental protocols, and work instructions.
- Enforce university policies and safety regulations for operational efficiency.

Faculty Instructor

- Prepared mechanical design, production, and measurement courses, and lessons, gave lectures, and grades, and held office hours for students
- Prepared lab manual of Mechanics of material courses, lab session, grading, held office hours for students

BAHIR DAR UNIVERSITY BAHIR DAR, *Ethiopia • 2004 - 2006*
Faculty Instructor

- Prepared mechanical design, production, maintenance, and measurement courses, and lessons, lectures, graded, and held office hours for students
- Prepared lab manual of Mechanics of material courses, lab session, grading, hold office hours for students
- Consult regional projects related to transport systems, appropriate technologies, and research and publication committee members.

Non-Academic work experience

ETHIOPIAN AIRPORT ENTERPRISE • *Addis Ababa, Ethiopia • 2006 - 2007*
Maintenance Planning and Control Expert / Head of Electromechanical Crew

- Planned and implemented maintenance programs for the Airport.
- Supervised plant repairs including basic electrical, electromechanical, security systems, conveyors, bridges, etc.
- Ensured all maintenance actions and programs include and follow appropriate safety procedures.
- Prepared airport equipment specifications, commissioning, installation, and supervising training.
- Assisted in the operational process of various responsibilities of the airport as needed.

ENTEL ENGINEERING AND CONSULTANCY PLC • *Addis Ababa, Ethiopia • January 2022 – July 2024*
CEO and Founder

- Established and founded a privately held engineering and consulting firm focused on providing solutions in the area of aerospace and mechanical fields, occupational health and safety, higher education, and quality management systems.
- Developed core processes and policies to establish company vision and mission for performance improvement and goal achievement.
- Identified key clients and market sectors with potential for expansion of operations, networked with key partners and individuals to build awareness of the company within key business sectors.
- Led negotiations with private and public entities such as Space Science and Geospatial Institute.
- Drove new business approaches through engagement with targeted industry sectors.

- Provided professional work skills assessments and training for aerospace and automotive service sectors.
- Managed collaborative aerospace projects from design to prototyping.
- Consulted on various engineering projects including structural design, safety, materials, and aerospace and mechanical systems. Particularly, managed and supervised aerospace projects such as Fixed-Wing UAVs and Quadcopter.

Education & Professional Development

PHD | MECHANICS | POLYTECHNIC OF TURIN
MASTER'S IN APPLIED MECHANICS | ADDIS ABABA UNIVERSITY
BACHELOR'S IN MECHANICAL ENGINEERING | BAHIR DAY UNIVERSITY

AUTHORIZED OSHA TRAINER | WEST VIRGINIA UNIVERSITY
RESEARCH MANAGEMENT AND LEADERSHIP | UNIVERSITY OF COLORADO
ONLINE TEACHING TECHNIQUE AND PEDAGOGY | GEORGIA SOUTHERN UNIVERSITY
PROFESSIONAL SKILLS FOR THE WORKPLACE | UNIVERSITY OF CALIFORNIA, DAVIS
EMOTIONAL AND SOCIAL INTELLIGENCE, CRITICAL THINKING SKILLS FOR THE PROFESSIONAL, THE GROWTH MINDSET, ADAPTABILITY AND RESILIENCY

PROFESSIONAL DEVELOPMENT | COMMUNICATION, LEADERSHIP, AND HUMAN RELATIONSHIP SKILLS |FAA DER (E.G.27200096, 27200130, AND 27200056) | OSHA 501 TRAINER COURSE IN OCCUPATIONAL SAFETY AND HEALTH STANDARDS FOR GENERAL INDUSTRY | OSHA 511 OCCUPATIONAL SAFETY AND HEALTH STANDARDS FOR GENERAL INDUSTRY | OSHA 7500 INTRODUCTION TO SAFETY AND HEALTH MANAGEMENT | OSHA 7505 INTRODUCTION TO INCIDENT INVESTIGATION | OSHA 7845 RECORDKEEPING RULE SEMINAR | OGTAC 301 JOB SAFETY ANALYSIS.

PATENTS | U.S. PATENT NO. US10099458 – REVERSIBLE ADHESIVE COMPOSITIONS AND RELATED METHODS

TECHNICAL SKILLS | ABAQUS | ANSYS | ALTAIR HYPER WORK | LS-DYNA | MSC NASTRAN/PATRAN | XFLR5 | ADAMS | CATIA | AUTOCAD | SOLID WORKS | PRO-ENGINEER |CREO | COMSOL | MATLAB | LABVIEW |PYTHON |FORTRAN | C++ | MICROSOFT OFFICE APPLICATIONS |JMP |MINTAB.

Membership In Professional Societies

- ASME, American Society of Mechanical Engineers
- SEM, Society of Experimental Mechanics
- ESCM, European Society for Composite Materials
- EURASEM, European Society for Experimental mechanics
- ESME Ethiopian Society of Mechanical Engineers

******A LIST OF SELECTED JOURNAL ARTICLES, PROCEEDINGS, BOOK CHAPTERS, AND SUPERVISED STUDENTS IS BELOW ******

Publications

- Author of more than 100 international journals, conference and proceeding papers, and book chapters; participated and presented in more than 40 international conferences and seminars in the area of composite, experimental mechanics, and computational methods.

Selected Published Papers

Journal papers and book chapters

1. Dress G. A., Koricho E. G., Regassa Y., Woldemichael D. E., Woldeyohaniss A. D., Multi objective optimization methods for damage assessment of composite laminates, Composite Structures, 2024;327(1): 117655. https://doi.org/10.1016/j.compstruct.2023.117655.
2. Zena Y. G., Woldemariam M.H., Koricho E.G., Nano-additives and their effects on the microwave absorptions and mechanical properties of the composite materials, Manufacturing Rev. 2023;10(8):1-17. https://doi.org/10.1051/mfreview/2023004
3. Zelelew T. M., Ali A. N., Koricho E.G., Development of cornstarch-based shear thickening fluid and characterization of the effects of the addition of halloysite nanotubes-silica hybrid reinforcements, Journal of Polymer Research, 2023;30(11):1-18. DOI: 10.1007/s10965-023-03792-6.
4. Conner Kreide, Ermias Gebrekidan, Kamran Kardel, Energy absorption of 3D printed multi-material elastic lattice structures, Progress in Additive Manufacturing, 2023. https://doi.org/10.1007/s40964-023-00529-1.
5. Zena Y. G., Woldemariam M. H., Koricho E. G., Nano-additives and their effects on the microwave absorptions and mechanical properties of the composite materials, Manufacturing Rev., 2023;10(8): 1-17. https://doi.org/10.1051/mfreview/2023004
6. Addisu H. S., Koricho E. G., Numerical, Simulation and Optimization of a Locally Built Midibus Structure in Quasi-static and Rollover Condition, In book: Artificial Intelligence and Digitalization for Sustainable. DOI: 10.1007/978-3-031-28725-1_7
7. Bekele Z. M., Woldesenbet E., Koricho E. G., An experimental investigation on synthesizing and characterizing of modified bagasse reinforced natural rubber composite, Journal of Composite Materials. 2022;56(29):4501-4514. doi:10.1177/00219983221134152
8. Addisu H. S., Koricho E. G., Structural Weight and Stiffness Optimization of a Midibus Using the Reinforcement and Response Surface Optimization (RSO) Method in Static Condition, Modelling and Simulation in Engineering 2022(7). DOI: 10.1155/2022/6812744.
9. Zelelew T. M., Koricho E. G., Ali A. N., Modeling and Numerical Simulation of Ballistic Impact on Sandwich Composite Materials, Advances of Science and Technology pp 339–349. DOI: 10.1007/978-3-030-93712-6_23.
10. Bekele Z. M., Woldesenbet E., Koricho E. G., Effect of Acidified Base, Alkaline and Acidic Treatments on Extraction and Characterization Process of Bagasse Fiber, AMA (ISSN: 00845841), Volume 52, Issue 01, October, 2021.
11. Woldemariam M., Reda D. T., Belingardi G., Beyene T.A Effects of Cloisite®20B inclusions on interlaminar fracture toughness of S-glass fiber-reinforced polymer composite, Journal of Mechanical Engineering Science, https://doi.org/10.1177/09544062211008934, 2021.
12. Koricho E. G., Dimsdale E., Impact Injury Mitigation to Vehicle Occupants: An Investigation of Interior Padding Options Against Vehicle Crash, In Zamzuri Idris (Ed) "Advancement and New Understanding in Brain Injury", A Volume in iThenticate Publishing, 2020, London.
13. Murphy Z., Kent M., Freeman C., Landge S., Koricho E., Halloysite Nanotubes Functionalized with Epoxy and Thiol Organosilane Groups to Improve Fracture Toughness in Nanocomposites, SN Appl. Sci. 2, 2130 (2020). https://doi.org/10.1007/s42452-020-03909-2
14. Mebratu M. M., Koricho E. G., Numerical study of composite materials and hybrid (bolted-bonded) joint for vehicle and occupant blast protection, International Journal of Engineering Research & Science, 2020; DOI: 10.25125/engineering-journal (Contribution: Corresponding author, Co-writer, advisor).
15. Woldemariam M., Reda D. T., Belingardi G., Beyene T.A., Ermias Koricho. Influence of Cloisite® 20B on mechanical properties of S-glass fiber-reinforced polymer composite, Journal of Mechanical Engineering Science, 2020:234(15); 3019-3029. (Contribution: Corresponding author and PhD advisor).
16. Koricho E. G, Khomenko A., Karpenko, Haq M, Cloud G., Udpa L., Comparative Analysis of Scarf-type Adhesively Bonded and Hand Lay-up Repairs of Impacted GFRP Composites, International Journal of Automotive Composites, 2019;4 (2):114 – 136.
17. Tibebu Merde Zelelew and Ermias Gebrekidan Koricho, Design and Analysis of Bullet Resistance Jacket Projectile Penetration: Reviews, J Material Sci Eng, 2019; 8: 528. (Contribution: Corresponding author and PhD advisor).

18. Mulugeta H. Woldemariam, Giovanni Belingardi, Ermias G. Koricho, and Daniel T. Reda, Effects of nanomaterials and particles on mechanical properties and fracture toughness of composite materials: a short review, AIMS Materials Science, 2019:6(6): 1191–1212.
19. Zachary Murphy, Malachi Kent, Christian Freeman, Shainaz Landge, and Ermias Koricho, Halloysite nanotubules functionalized with epoxy and thiol organosilane groups to improve fracture toughness in nanocomposites. (Submitted to Journal of Composite Part N, Manuscript number JCOMB_2019_6180. (Co-Supervisor and corresponding author).
20. Effects of Nanomaterials and Particles on Mechanical Characteristics, Fracture Toughness and Damage of Composite Material Structures (Submitted to Composites Structures , Ref: COST_2018_3910) (2018)
21. Dib G, Karpenko O., Koricho E. G, Khomenko A.Haq M, Udpa L., Ensembles of novelty detection classifiers for structural health monitoring using guided waves, Smart Mater. Struct., 2018, Vol 27 - 015003. (DOI https://doi.org/10.1088/1361-65X/aa973f)
22. Beyene A. T, Koricho E. G., Belingardi G.,.Martorana B., Lightweight solutions for vehicle frontal bumper: Crash design and manufacturing issues, Dynamic Response and Failure of Composite Materials and Structures, 2017, Pages 365–393, Cambridge, UK, Woodhead Publishing.
23. Khomenko A., Karpenko, Koricho E. G, Haq M, Cloud G., Udpa L, Quantitative comparison of optical transmission scanning with conventional techniques for NDE of impact damage in GFRP composites, Composites Part B: Engineering, 2017;123:92-104.
24. Khomenko A., Karpenko, Koricho E. G, Haq M, Cloud G., Udpa L Theory and validation of optical transmission scanning for quantitative NDE of impact damage in GFRP composites, Composites Part B Engineering, 2016;107:182-191.
25. Koricho E. G, Anton Khomenko, Mahmoodul Haq, Lawrence T Drzal, Giovanni Belingardi, Brunetto Martorana, Effect of hybrid (micro- and nano-) fillers on impact response of GFRP composite, Composite Structure, 2015;134:789-798.
26. Koricho E. G., Khomenko A., Haq M., Innovative Tailored Fiber-Placement Technique for Enhanced Damage Resistance in Notched Composite Laminate, Composite Structures, 2015;120:378-385.
27. Koricho E.G, Belingardi1 G, An experimental and finite element study of the longitudinal bending behavior of T-joints in vehicle structures, Composites Part B: Engineering, 2015:79: 430-443.
28. Anton Khomenko, Ermias G Koricho, Mahmoodul Haq, Gary L Cloud, Bolt tension monitoring with reusable fiber Bragg-grating sensors, The Journal of Strain Analysis for Engineering Design 08/2015; DOI:10.1177/0309324715598265.
29. Ermias Gebrekidan Koricho, Giovanni Belingardi, Alem Tekalign Beyene. Bending fatigue behavior of twill fabric E-glass/epoxy composite. Composite Structures, 2014;111:169-178.
30. Alem Tekalign Beyene, Ermias Gebrekidan Koricho, Giovanni Belingardi , Design and manufacturing issues in the development of lightweight solutions for a vehicle front bumper, Composite Structures, 2015;120:483-495.
31. Beyene A. T, Koricho E. G., Belingardi G.,.Martorana B., D. Design and Manufacturing Issues in the Development of Lightweight Solution for a Vehicle Frontal Bumper, Procedia Engineering, 2014; 88:77-84.
32. Esmael Adem, Mukesh Didwania, Gurala Muralidhar Reddy, Ermias G. Koricho, Experimental Analysis of E-Glass /Epoxy & E-Glass /polyester Composites for Auto Body Panel, American International Journal of Research in Science, Technology, Engineering & Mathematics, ISSN (Print): 2328-3491, ISSN (Online): 2328-3580, ISSN (CD-ROM): 2328-3629.
33. Ermias Gebrekidan Koricho, AlemTekalign Beyene, Giovanni Belingardi, Characterization and failure modeling of notched cross-ply and angle-ply fabric GFRP composite material, Journal of Composite structure, 2013:112;237-249
34. Giovanni Belingardi, AlemTekalignBeyene, Ermas Gebrekidan Koricho, Geometrical optimization of bumper beam profile made of pultruded composite by numerical simulation, Journal of Composite Structures, 2013: 102:217-225
35. Elena Verna, Ermias Gebrekidan Koricho, Irene Cannavaro, Valentina Brunella, Giovanni Belingardi, DavideRoncato, BrunettoMartorana, Vito Lambertini, Vasilica Alina Neamtu, Romeo Ciobanu, Adhesive joining technologies activated by electro-magnetic external trims, International Journal of Adhesion and Adhesives, 2013:46;21-25.
36. Dawit Bogale, Ermias G. Kidan Koricho, Low Carbon Steel Characterization under Quasi-Static StrainRate for Bumper Beam Application, International Journal of Research in Mechanical Engineering, 2013;1: 91-99.
37. Giovanni Belingardi, Davide S. Paolino, Ermias G. Koricho, Investigation of influence of tab types on tensile strength of E-glass/epoxy fiber reinforced composite materials, Procedia Engineering, 2011: 10;3279-3284
38. G. Belingardi, Ermias G. Koricho, Brunetto Martorana, Design Optimization and Implementation of Composite and Recyclable Thermoplastic Materials for Automotive Bumper, International Journal of Automotive Composites, 2013;1(1):67-89.
39. Koricho E. G., G. Belingardi, Design of a composite engine support sub-frame to achieve lightweight vehicles, Int. J. Automotive Composites, 2014; 1(1): 90-111.

40. Alem Bazezew, Ermias G. Koricho, " Determination of Behavior of Transverse Vibration of a Timoshenko Beam with an Open Crack of Uniform Depth " , Journal of Ethiopian Engineers and Architectures, 2006: 23; 49-58.
41. Koricho E. G., Belingardi G., Beyene A. T., Martorana B., Roncato D. (2013), Crashworthiness Analysis Of A Composite And Thermoplastic Foam Structure For Automotive Bumper Subsystem. In A. Elmarakbi (Ed), Advanced Composite Materials for Automotive Applications: Structural Integrity and Crashworthiness, John Wiley &Son, Ltd, UK, 2013, ISBN: 978-1-118-42386-8.
42. Khomenko A., Koricho E. G., Cloud G. L., Haq M, Preload control and monitoring in bolted Joints using novel 'MoniTorque' technique, Journal of Strain Analysis
43. Koricho E. G., Khomenko A., Haq M., Influence of Different Nano-/Micro-fillers on Impact Response of GFRP composite, In, Yu Dong (Ed) "Fillers and Reinforcements for Advanced Nanocomposites", In, Yu Dong (Ed) "Fillers and Reinforcements for Advanced Nanocomposites", A volume in Woodhead Publishing Series in Composites Science and Engineering, 2015, pp 477–492.
44. Khomenko A, Koricho E. G., Haq M, Monitoring the curing of resins with micro-/nano-fillers and its effect on curing-induced shrinkage. In, Yu Dong (Ed) "Fillers and Reinforcements for Advanced Nanocomposites", A volume in Woodhead Publishing Series in Composites Science and Engineering, 2015, pp 461–475.
45. Khomenko A, Garibov M, Koricho E. G., Nataliia Garibov N, Killip G, Haq M, High precision pycnometer for volumetric measurement of polymerization shrinkage kinetics in light cured dental composites, Measurement 2016:91;601-605.

Selected Conference/ Proceeding papers

1. Gudeta O. K., Tolcha M. A. Badasa T. D., and Koricho E. G., Fracture toughness analysis of a woven sisal-glass fiber hybrid composite, IOP Conference Series Materials Science and Engineering 2023;1294(1):012053. DOI: 10.1088/1757-899X/1294/1/012053.
2. Grantham A., Mockler, Landge Koricho E. K. Effect of Moisture Absorption on the Fracture Toughness and Morphology of Halloysite Nanoclay-Epoxy Nanocomposites Proceeding of American Society for Composites 35th Technical Conference (online Proceeding, September 2020), 978-1-60595-665-7
3. Kent, M.; Murphy, Z.; Grantham, A.; Koricho, E.; Landge, S. M. "Functionalization of Halloysite Nanotubes for Enhanced Mechanical Properties", 2020, 16thAnnual COUR David A. Koricho E.G., Effect of Shear thickening Fluids on the Mechanical and Impact Response Behavior of GFRP Composite for Protective Applications, Proceeding of American Society for Composites 34th Technical Conference, 2019, Atlanta, Georgia.
4. Koricho E.G., King O., David A., Khomenko A., Nondestructive evaluation of randomly distributed fiber reinforced composite using optical transmission scanning (OTS) technique", Proceedings of the American Society for Composites, Proceeding of American Society for Composites 34th Technical Conference, 2019, Atlanta Georgia.
5. Koricho E.G, Emami S., David A., Effect of hygrothermal aging on the mechanical and optical behaviors of hybrid randomly distributed fibers/woven glass composites, Proceeding of American Society for Composites 34th Technical Conference, 2019, Atlanta, Georgia.
6. Koricho E.G, Zewdu Y., Habtemariam M., Numerical Modeling of Impact Behavior of Nano-modified Glass Fiber Reinforced Plastic (GFRP)-Woven Composites #6693, Reno, Nevada.,
7. Nunez Oviedo J. A., Koricho E.G, Characterization of Soft Organic Tissue Using Direct Imaging Correlation (DIC) and Numerical Prediction #6942, Reno, Nevada.
8. Koricho E. G., Belingardi G., Martorana B. Crashworthiness analysis of short fiber reinforced composite beam using multiscale modeling and FE Simulation, Proceeding of American Society for Composites 33rd Technical Conference, September 24-26, 2018, Seattle, Washington. DOI10.12783/asc33/26138.
9. Boursier C., Koricho E. G., Belingardi G., Improvements in the structural analysis of a composite material T-joint structure, Proceeding of American Society for Composites 33rd Technical Conference, September 24-26, 2018, Seattle, Washington. DOI 10.12783/asc33/26137
10. Koricho E. G., Stubblefield E, Oviedo J. A., Oliver King, Performance of nano-micro modified composites for head injury protective helmet in vehicle passive safety, proceeding of CAMX 2018, DALLAS, TX.
11. Koricho E.G., Khomenko A., Haq M., The effect of nano fillers on the polymerization shrinkage kinetics and mechanical behavior of composites, Proceedings Volume 10165, Behavior and Mechanics of Multifunctional Materials and Composites 2017;101650R (2017); doi: 10.1117/12.2263639.
12. Koricho E. G., Mahmoodul Haq, Belingardi G., Evaluation of progressive damage of micro-glass bubble modified composite laminates under repeated impacts, ICILSM 2016 1st International Conference on Impact Loading of Structures and Materials, Torino, Italy.
13. Koricho E.G., Haq M., Cloud G.L. (2017) Numerical and Experimental Characterization of Hybrid Fastening System in Composite Joints. In: Cloud G., Patterson E., Backman D. (eds) Joining Technologies for Composites and Dissimilar Materials, Volume 10. Conference Proceedings of the Society for Experimental Mechanics Series. Springer, Cham.

14. Koricho E. G, Oleksii Karpenko, Anton Khomenko, Mahmoodul Haq, Udpa L., Cloud G. L., Evaluation of progressive damage of nano-modified composite laminates under repeated impacts, SPIE Smart Structures/NDE 2016, at Las Vegas, NV, USA, Volume: Proc. SPIE 9800: Behavior and Mechanics of Multifunctional Materials and Composites 2016
15. Anton Khomenko, Oleksii Karpenko, Koricho E. G, Mahmoodul Haq, Udpa L., Cloud G. L., Optical transmission scanning for damage quantification in impacted GFRP composites, SPIE Smart Structures/NDE 2016, At Las Vegas, NV, USA, Volume: Proc. SPIE 9804: Nondestructive Characterization and Monitoring of Advanced Materials, Aerospace, and Civil Infrastructure 2016.
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40. G. Belingardi, Ermias G. Koricho, Implementation Of Hybrid Solution In Car Body Structural Joints, AIAS 2010,XXXIX ConvegnoNazionale –Maratea, Settembre 2010, ID- 082.
41. G. Belingardi, Ermias G. Koricho, Implementation of Composite material car body structural joint and investigation of its characteristics with geometry modifications, 14th European Conference On Composite Materials 7-10 June 2010, Budapest, Hungary , 896 - 1-896 - 11
42. Ermias G. Koricho, Proceeding of the National Workshop on Technology & Sustainable Development, Effects of crack and mass on Euler-Bernoulli beam using vibration analysis ,Proceeding of the National Workshop on Technology & Sustainable Development, 2006 Bahir Dar, Ethiopia.
43. Koricho E. G, Anton Khomenko, Mahmoodul Haq, Evaluation of Adhesively Bonded Repair and Scarf-type Infused Repair of Impact Damaged Fiber Reinforced Composites, ASC2015, September 28-30, 2015, Michigan State University, East Lansing, Michigan.
44. Koricho E. G, Anton Khomenko, Mahmoodul Haq, Michael Day, Development of Reversible Bonded Joints using Nano-ferromagnetic particles, ASC2015, September 28-30, 2015, Michigan State University, East Lansing, Michigan. (Accepted)
45. Mahmoodul Haq, Koricho E. G, Anton Khomenko, Tailorable Adhesives for Multi-material Joining, Facile Repair and Re-assembly, Richard Gerth, Lawrence T Drzal, ASC2015, September 28-30, 2015, Michigan State University, East Lansing, Michigan.
46. Ivan Pelivanov, Anton Khomenko, Koricho E. G, Mahmoodul Haq, Gary L. Cloud, Novel Laser-Ultrasound Technique for NDE of Impacted GFRP Composites, ASC2015, September 28-30, 2015, Michigan State University, East Lansing, Michigan.

Conference, Seminar, Workshop, and Training Attendance

September 24-26, 2018	• Proceeding of American Society for Composites 33rd Technical Conference, September, Seattle, Washington.
October 15-18, 2018	• The Composites and Advanced Materials Expo, CAMX 2018, , DALLAS, TX.
May 22-26, 2016	• ICILSM 2016, International Conference on Impact Loading of Structures and Materials, Torino, Italy
June 8-11, 2015	• SEM 2015 Annual Conference & Exposition on Experimental and Applied Mechanics Costa Mesa, CA, USA
October 26-29, 2014	• The Composites and Advanced Materials Expo, CAMX 2014, Orlando, Fl, USA
Sept 07-11, 2014	• American Society for Composites 29th Technical Conference, (ASC2015), San Diego, CA, USA.
June 08-12, 2014	• 1st Int. Conference on Mechanics of Composites (MECHCOMP2014), Long Island, NY State, USA 8-12 June 2014.
June 01-06, 2014	• SEM 2014 Annual Conference & Exposition on Experimental and Applied Mechanics, Greenville, SC USA June 2-5, 2014.
July 28-August 02, 2013	• The 19th International Conference on composite materials, Montreal, Canada, July 28-August 02
June 13-17, 2013	• ICCS17, 17thInternational Conference on composite structures, Porto, Portugal

April 8-1, 2013.	• Designing Against Deformation &Fracture of Composite Materials: Engineering For Integrity Large Composite Structures (DFC-12/SI-6), Cambridge, UK.
July 22-27, 2012	• 15th International Conference on Experimental Mechanics, Porto, Portugal.
June 24-28, 2012	• 15th European Conference On Composite Materials 24, Venice, Italy.
June 18-20, 2012	• The International Conference on Mechanics of Nano, Micro and Macro Composite Structures, Torino, Italy.
Nov. 14-17, 2011	• Fifth International Conference on Advanced Computational Methods in Engineering (ACOMEN 2011), Liège, Belgium.
June 28-30, 2011	• ICCS16, 16th International Conference on composite structures, Porto, Portugal
June 5-9, 2011	• 11th International Conference on the Mechanical Behavior of Materials, Como, Italy
May 10-12, 2011	• Training on Analysis Of Composite Materials With ABAQUS by Dassault Systèmes UK Ltd, Lytham House, Sevenoaks, UK
May 03-05, 2011	• HBM Advanced Measurement Technology training based on theory and Experiment method, Venezia, Italy
Nov. 17, 2010	• HBM measurement technology days (Seminar on utilization of strain gage and DAC in experimental work), Milano, Italy
Oct. 28-29 2010	• CFD Modeling with ABAQUS, (SIMULIA Italia Regional Users' Meeting – RUM2010), Torino, Italy
Oct. 27 2010	• SIMULIA Italia Regional Users' Meeting – RUM2010, Torino, Italy
Sept. 7-10 2010	• AIAS – Associazione Italiana per l'Analisi delle Sollecitazioni XXXIX Convegno Nazionale, 7-10 settembre 2010, Maratea, Italy
June 7-10 2010	• 14th European Conference On Composite Materials7-10 June 2010, Budapest, Hungary
March 23, 2010	• CAE simulation of plastic components: optimization andreliability concept design with Altair, at RivaltaScrivia, Tortona(al), Italy
Nov. 17-19 2009	• 20th Italian Abaqus Regional Users' Meeting, Seminar And Course, at Politecnico Di Milano, Italy . (Modeling of rubber and Viscoelasticity with Abaqus), Milano, Italy
Sept. 30-Oct 02, 2009	• Ninth International Seminar on Experimental Techniques And Design In Composite materials, Vicenza – ITALY September 30-October 2 2009
Sep. 9-12 2010	• AIAS – Associazione Italiana Per L'analisi Delle Sollecitazioni XXXVIII Convegno Nazionale, 9-12 Settembre 2010, Torino
March-June 2009	• Composite Design Tutorial Four, a course which was delivered by Stanford University.

List of Supervised Graduate Students

Ph.D. Student (Selected)

1. Mulugeta H. Woldemariam, "Fracture Characterization of Fiber Reinforced Plastic Composite Materials using Experimental Method" Addis Ababa University, 2020. (Graduated)
2. Zenebe Mengiste Bekele, "Development of Nonwoven bio composite structure from bagasse fibre reinforced biopolymers", Graduated.
3. Michael Ayele, "Natural- Fiber Based Composite Material for Low Observable Aerospace Vehicle", Addis Ababa Science and Technology University.
4. Genetu Amare, "Predicting of damages in quasi-isotropic pseudo ductile carbon/glass hybrid composites using a novel NDET, DETs and AI assisted MOOTs", Addis Ababa Science and Technology University.
5. Genetu Amare, "Predicting failure or damage level of quasi isotropic pseudo ductile carbon/glass hybrid
6. Mulatu Achenef, "Dynamic Analysis of Shape Memory Polymer Composite For Deployable Structure", Addis Ababa Science and Technology University. (Current student)
7. Tibebu Merde Zelelew, Study of The Effect of Halloysite Nanotube and Shear Thickening Fluid on The Bulletproof Performance of a Synthetic/Natural Composite Vest", Bahir Dar University. (Current student)
8. Israel Indale, "Development of an Optimized Small-scale Finger Millet Thresher and Pearler", Bahir Dar University. (Current student)
9. Destayehu Addisu, Assessment of Residual Elastic Properties in Damaged Composite Materials Using Vibration Analysis", Bahir Dar University.
10.

MSc. Students (Selected)

1. Micah Kimutai, "Interlaminar Fracture Toughness of Hybrid Nanomodified GFRP Composite Materials," Georgia Southern University, USA, 2021.

2. Hailemariam Solomon: Thesis title, “Structural Optimization and Crashworthiness Analysis of Midi-Bus Structure during Rollover Condition”, Addis Ababa Institute of Technology, 2021.
3. Bekalu Nebiy, “Experimental Evaluation of Mode I and Mode II Fracture Behavior of Glass,” Addis Ababa Institute of Technology.
4. Fiber Reinforced Polymer Composite”
5. Oda Kerre Gudeta: Tittle, “Investigation of Moisture absorption and Fracture toughness of sisal and E-glass reinforced composite”, Addis Ababa Institute of Technology, 2021
6. Dawit Molla Gedefaw, “Numerical investigation of sandwich panel with functionally graded core for blast protection of vehicle structure”, Bahir Dar University, 2021
7. Isreal Endale, “Investigating the effect of localized heat treatment and bioinspired structure on the crashworthiness of bumper subsystem”, Bahir Dar University.
8. Taye Meheretu Yirdaw, Influence of natural fibers on the acoustic capability of agrostone”, Bahir Dar University, 2021.
9. Solomon Alemneh Admasu, Thesis title “Study of Damping and Vibration Behavior of Bamboo Glass Fiber Reinforced Epoxy Hybrid Composite Plate for Structural Application,” Addis Ababa Institute of Technology,2020.
10. Abebayehu Teklye: Thesis title “Efficiency analysis and Response optimization of adopted continuous variable transmission (CVT) of four-wheeler Bajaj qute using MATLAB/SIMULINK simulation”.
11. Mukerem Getahun Tesemega: Thesis Tittle “Suspension parameter optimization and investigating its effect on rollover behavior,” 2019.
12. Mulatu Achenef: Thesis title “Free Vibration Analysis of Open Edge Cracked Glass Fiber Reinforced Polymer Laminate,” Addis Ababa Institute of Technology, 2019.
13. Seyfu Tiruneh: Thesis title “Numerical analysis of Aluminum foam for Energy absorption purpose,” Addis Ababa Institute of Technology, 2019.
14. Abebayehu Teklye: Thesis title “Efficiency analysis and Response optimization of adopted continuous variable transmission (CVT) of four-wheeler Bajaj qute using MATLAB/SIMULINK simulation,” Addis Ababa University.
15. Mukerem Getahun Tesemega, Thesis Tittle “Suspension parameter optimization and investigating its effect on rollover behavior.
16. Mulatu Achenef: Thesis title “Free Vibration Analysis of Open Edge Cracked Glass Fiber Reinforced Polymer Laminate,” Addis Ababa University.
17. Seyfu Tiruneh: Thesis title “Numerical analysis of Aluminum foam for Energy absorption purpose,” Addis Ababa University.
18. Nikodmose Moges Gebre, “Structural Design and Simulation of Light Weight Formula SAE Racing Car,” Addis Ababa University.
19. Sura Keneni, Numerical and Analytical Analysis of Adhesive Joint Using Multi-material for vehicle application,” Addis Ababa University.
20. Abiy Debebe, “Structural Analysis of lightweight Four Wheeled Bajaj Auto,” Addis Ababa Institute of Technology,
21. Mekete Mulualem, “Analysis of hybrid/bolted joint subjected to blast loading,” Bahir Dar University, 2018.
22. Mingzhe Mao, “Design and shape optimization composite bumper beam under low velocity impact,” Politechnico Di Torino, Italy, 2015.

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