

Nigus Gabbiye Habtu

Instructor

Bahir Dar Institute of Technology

Faculty of Chemical and Food Engineering

EDUCATION

- B.Sc., Chemical Engineering, Bahir Dar University, Ethiopia 2001
- M.Sc , Process Engineering, Addis Ababa University, Ethiopia, 2004
- M.Sc Chemical and Process Engineering, Rovira I Virgil University, Spain, 2007
- PhD, Chemical, Environmental Process Engineering, Rovira I Virgil University, Spain, 2011

PROFESSIONAL APPOINTMENTS

- Associate Professor, Full time, Department of Chemical Engineering, 2017-Present
- Assistant Professor, Department of Chemical Engineering, 2011-2017

OTHER PROFESSIONAL ACTIVITIES

- October 2020 – to Date, Project Manager, Africa Center of Excellence for Water Management, Addis Ababa University
- PI of a research project on Feed the Future Innovation Lab for Post-harvest Loss Reduction on Solar Grain Drying Research 2014 –Present
- Co-PI for project on Development of a Microgrid Research center in Ethiopia to Support USAID's Power Africa Program, 2014 -2017.
- Project advisor for Tana Pulp and Paper Factor, Bahir Dar, Ethiopia 2011–Present

INSTITUTIONAL AND PROFESSIONAL SERVICE

- September 2016 – to Date, Head of Chemical Analysis and Material Characterization Research Lab, Department of Chemical Engineering
- June 2019v- June 2020, Director for Physical Projects and Consultancy Service Office, Bahir Dar Institute of Technology, Bahir Dar University
- Scientific Director (Vice president) for the Bahir Dar Institute of Technology, Bahir Dar University, 2013- 2018.
- Dean for research, postgraduate studies and Community Service in Bahir Dar Institute of Technology, Bahir Dar University, 2011 – 2013.

SCIENTIFIC AND PROFESSIONAL SOCIETY MEMBERSHIPS

- Ethiopian Society of Chemical Engineers

PRINCIPAL PUBLICATIONS IN LAST FIVE YEARS Journals:

- Fitfety M. Teshager, Nigus G. Habtu, Kibret Mequanint; 2022; A systematic study of cellulose-reactive anionic dye removal using a sustainable bioadsorbent; Chemosphere
- Befkadu Ayalkie Gizaw, Nigus Gabbiye Habtu; 2022; Catalytic wet air oxidation of azo dye (Reactive red 2) over copper oxide loaded activated carbon catalyst; Journal of Water Process Engineering
- Pranshu Bhatia, Shinichi Akizuki, Masatoshi Kishi, Nigus Gabbiye Habtu, Solomon Addisu Legasse ; 2022; Biomethane from microalgae", 3rd Generation Biofuels (accepted) - Disruptive Technologies to Enable Commercial Production – Book chapter (23)
- Ababay Ketema Worku, Delele Worku Ayele, Nigus Gabbiye Habtu, Bimrew Tamrat Admasu, Getu Alemayehu, Biniyam Zemene Taye, and Temesgen Atnafu Yemata; 2022; Energy Storage Technologies; Recent Advances, Challenges, and Prospectives; Book chapter in Planning of Hybrid Renewable Energy Systems, Electric Vehicles and Microgrid; Springer
- Tsegahun Mekonnen Zewdie, Nigus Gabbiye Habtu, Abhishek Dutta Bart Van der Bruggen; 2022; Flat sheet metakaolin ceramic membrane for water desalination via direct contact membrane distillation; Journal of Water Reuse and Desalination; 12(1)
- Yalew Woldeamanuel Sitotaw, Nigus G. Habtu, Tom Van Gerven; 2022; Intensification of low concentration alkaline pretreatment with planetary ball milling for efficient enzymatic saccharification of enset fiber (*Ensete ventricosum*); Biomass Conversion and Biorefinery;12(1)
- Nigus Gabbiye Habtu, Ababay Ketema Worku, Delele Worku Ayele, Minbale Admas Teshager, Zerihun Getahun Workineh; 2021; Facile Preparation and Electrochemical Investigations of Copper-Ion Doped α -MnO₂ Nanoparticles; (Book chapter) 9th EAI International Conference on Advancements of Science and Technology, August 27-29; Bair Dar, Ethiopia
- Eshetu Getahun, Nigus Gabbiye*, Mulugeta A. Delele, Solomon W. Fanta, Maarten Vanierschot; 2021; Two-Stage Solar Tunnel Chili Drying: Drying Characteristics,

Performance, Product Quality, and Carbon Footprint Analysis; Solar Energy; Volume 230; Pp-79 - 90

- Agegnehu Alemu, Nigus Gabbiye and Brook Lemm; 2021; Evaluation of Tannery Wastewater Treatment by Integrating Vesicular Basalt with Local Plant Species in a Constructed Wetland System; *Frontiers in Environmental Science*; Volume 9
- Ababay Ketema Worku, Delele Worku Ayele, Nigus Gabbiye Habtu*, Temesgen Atnafu Yemata; 2021; Engineering Co₃O₄/MnO₂ nanocomposite materials for oxygen reduction Electrocatalysis; *Heliyon*;
- Jemal Beshir Belay, Nigus Gabbiye Habtu*, Venkata Ramayya Ancha, Ali Seid Hussien; 2021; Alkaline hydrogen peroxide pretreatment of cladodes of cactus (*Opuntia ficus-indica*) for biogas production; *Heliyon*; (7): page 1 -7
- Yalew Woldeamanuel Sitotaw, Nigus G. Habtu, Abaynesh Yihdego Gebreyohannes, Suzana P. Nunes & Tom Van Gerven; 2021; Ball milling as an important pretreatment technique in lignocellulose biorefineries: a review; *Biomass Conversion and Biorefinery*;
- Dargie Halei, Nigus Gabbiye; 2021; The applications of Canadian water quality index for ground and surface water quality assessments of Chilanchil Abay watershed: The case of Bahir Dar city waste disposal site; *Water Science & Technology Water Supply*
- Ababay Ketema Worku, Delele Worku Ayele, Nigus Gabbiye Habtu*; 2021; Influence of nickel doping on MnO₂ nanoflowers as electrocatalyst for oxygen reduction reaction; *Journal of SN Applied Sciences*; V-3; 764
- Kassa Wudineh Liyew, Nigus Gabbiye Habtu, Yoann Louvet, Dawit Diriba Guta, Ulrike Jordan; 2021; Technical design, costs, and greenhouse gas emissions of solar Injera baking stoves; *Renewable and Sustainable Energy Reviews*; V-149; pp-111392
- Ababay Ketema Worku, Delele Worku Ayele , Nigus Gabbiye Habtu, Minbale Admas Teshager, and Zerihun Getahun Workineh; 2021; Enhancing oxygen reduction reaction activity of ε-MnO₂ nanoparticles via iron doping; *Journal of Physics and Chemistry of Solids*
- Dargie Halei, Nigus Gabbiye; 2021; Groundwater Quality Assessment of Chilanchil Abay Watershed: the Case of Bahir-Dar City Waste Disposal Site; *Journal of Environmental Engineering and Landscape Management*; Volume 29 Issue 2: 123–134

- Ababay Ketema Worku , Delele Worku Ayele, Nigus Gabbiye Habtu , Minbale Admas Teshager, and Zerihun Getahun Workneh ; 2021; Recent progress in MnO₂-Based Oxygen Electrocatalysts for Rechargeable Zinc-Air Batteries; Materials Today Sustainability
- Eshetu Getahun, Mulugeta A Delele, Nigus Gabbiye Habtu, Solomon Workneh Fanta, Maarten Vanierschot; 2021; Importance of integrated CFD and product quality modeling of solar dryers for fruits and vegetables: A review: Solar Energy; 220, 88 - 110
- Tsegahun Mekonnen Zewdie, Nigus Gabbiye Habtu, Abhishek Dutta and Bart Van der Bruggen; 2020; Solar-assisted membrane technology for water purification: a review; Journal of Water Reuse and Desalination.
- Ababay Ketema. Worku, Delele Worku. Ayele, Nigus Gabbiye Habtu; 2021; Recent advances and future perspectives in engineering of bifunctional electrocatalysts for rechargeable zinc-air batteries; Material Today Advance; Volume 6; pp 1-19
- Abebe Reda Woldu, Delele Worku Ayele, Nigus Gabbiye Habtu, Yeshitila Asteraye Tsigie; 2020; Anthocyanin components for dye-sensitized solar cells extracted from Teclea Shimperi fruit as light-harvesting materials; Material science for energy technology; volume 3, pp 889–895
- Eshetu Getahun, Nigus Gabbiye Habtu, Mulugeta A Delele, Solomon Workneh Fanta, Mekonnen Gebreslasie Gebrehiwot , Maarten Vanierschot; 2020; Effect of maturity on the moisture sorption isotherm of chili pepper (Mareko Fana variety); Heliyon, volume 6(8)
- Moges Admasie Mengstie and Nigus Gabbiye Habtu; 2020; Synthesis and Characterization of 5-Hydroxymethylfurfural from Corncob Using Solid Sulfonated Carbon Catalyst; International Journal of Chemical Engineering <https://doi.org/10.1155/2020/8886361>
- Aynadis M. Asemu, Nigus G. Habtu, Mulugeta A. Delele, Bhadriraju Subramanyam, Sajid Alavi; 2020; Effects of Grain Drying Methods on Post-Harvest Insect Infestation and Physicochemical Characteristics of Maize Grain; Journal of Food Process Engineering;

- Agegnehu Alemu, Nigus Gabbiye and Brook Lemma; 2020; Application of Integrated Local Plant Species and Vesicular Basalt Rock for the Treatment of Chromium in Tannery

Book Chapter

- Habtu, Nibus Gabbiiye, Worku, Ababay Ketema, Ayele, Delele. Worku . 2021; Facile preparation and electrochemical investigations of copper-ion doped α -MnO₂ nanoparticle (Oral Presentation); 9th EAI International Conference on Advancements of Science and Technology, August 27-29; Bair Dar, Ethiopia
- Gemechu Kassaye, Fikru Temesgen, Nigus Gabbiye; 2021; Correlation of UV Assisted Fenton Process and Fenton Process for Removal of Reactive Red 2(RR2) Dye Color from Wastewater; (Oral Presentation); 9th EAI International Conference on Advancements of Science and Technology, August 27-29; Bair Dar, Ethiopia
- Dargie Haile, Nigus Gabbiye; 2021; Assessment of Nutrients and Heavy Metals in the Groundwater and Surface Water in the Zeber Watershed: The Case of the Bahir - Dar City Waste Disposal Site; (Oral Presentation); 9th EAI International Conference on Advancements of Science and Technology, August 27-29; Bair Dar, Ethiopia
- Tsegahun Mekonnen Zewdie, Nigus Gabbiye Habtu, Abhishek Dutta, and Bart Van der Bruggen; Fabrication and Characterization of Metakaolin Based Flat Sheet Membrane for Membrane Distillation; Book chapter of the 7th EAI International Conference on Advances of Science and Technology, ICAST 2019; Bahir Dar, Ethiopia, August 2–4, 2019
- Mequanint Demeke and Nigus Gabbiye; Organic Biofertilizer from Brewery Wastewater Sludges via Aerobic Composting Process; Book chapter of the 7th EAI International Conference on Advances of Science and Technology, ICAST 2019; Bahir Dar, Ethiopia, August 2–4, 2019
- Chirotaw Getem and Nigus Gabbiye; Synthesis and Characterization of β -Wollastonite from Limestone and Rice Husk as Reinforcement Filler for Clay Based Ceramic Tiles Book chapter of the 7th EAI International Conference on Advances of Science and Technology, ICAST 2019; Bahir Dar, Ethiopia, August 2–4, 2019

- Eshetu Getahun, Maarten Vanierschot, Nigus Gabbiye, Mulugeta A. Delele, Solomon Workneh, and Mekonnen Gebreslasie; Computational Fluid Dynamic Modeling and Simulation of Red Chili Solar Cabinet Dryer; Book chapter of the 7th EAI International Conference on Advances of Science and Technology, ICAST 2019; Bahir Dar, Ethiopia, August 2–4, 2019
- Feleke K. Sishu, Elisabeth K. Thegaye, Petra Schmitter³, Nigus G. Habtu, Seifu A. Tilahun, and Tammo . Steenhuis; Endosulfan Pesticide Dissipation and Residue Levels in Khat and Onion in a Sub-humid Region of Ethiopia; Book chapter of the 7th EAI International Conference on Advances of Science and Technology, ICAST 2019; Bahir Dar, Ethiopia, August 2–4, 2019

Professional Development/ Training

- Scientific and Statistical Data Analysis Tools using R- Statistical software, Bahir Dar, Ethiopia
- Higher Education Leadership and Management, Osnabruck, Germany
- Food Extrusion Applications for Food Security, United States of America (USA)

HONORS AND AWARDS

- Three-month scholarship for European mentioned doctorate from Ministry of education of Spain, June- September 2010
- Third prize of the Scholastic award of the year 2000/2001 from the Ethiopian Society of Chemical Engineers.

Zenamarkos Bantie Sendekie

Instructor

Bahir Dar Institute of Technology

Faculty of Chemical and Food Engineering

EDUCATION

- B.Sc., Bahir Dar University, Institute of Technology, Ethiopia 2007
- M.Sc., Rheology Engineering, Katholieke University of Leuven (Belgium) and University of Minho (Portugal) Erasmus Mundus Program, 2011
- PhD, Membrane, Processes and Environmental Engineering, Erasmus Mundus Program, 2016

PROFESSIONAL APPOINTMENTS

- Assistant Professor, Full time, Department of Chemical Engineering, 2016-Present
- Lecturer, Department of Chemical Engineering, 2011-2013
- Assistant Lecturer, Department of Chemical Engineering, 2007-2009

OTHER PROFESSIONAL ACTIVITIES

- Co-PI for project on Solar Disinfection of contaminated water through Direct Exposure to Sun Light for Bahir Dar City, Bahir Dar, Ethiopia

INSTITUTIONAL AND PROFESSIONAL SERVICE

- Deputy Scientific Director for Bahir Dar Technology Institute Bahir Dar University, 2017-2021.
- Dean for Faculty of Chemical and Food Engineering Bahir Dar Institute of Technology, Bahir Dar University, 2016 – 2017.
- Process System Engineering Chair, Faculty of Chemical and Food Engineering Bahir Dar Institute of Technology, Bahir Dar University, 2011 – 2013.

SCIENTIFIC AND PROFESSIONAL SOCIETY MEMBERSHIPS

- Ethiopian Society of Chemical Engineers

PRINCIPAL PUBLICATIONS IN LAST FIVE YEARS Journals:

- Kedir D. Mekonnen and Zenamarkos B. Sendekie; NaOH-catalyzed methanolysis optimization of Biodiesel synthesis from Desert date seed kernel oil. ACS Omega 2021, 6, 24082–24091

- Admase, A.T., Sendekie, Z.B. & Alene, A.N. Biodegradable Film from Mango Seed Kernel Starch Using Pottery Clay as Filler. *J Polym Environ* (2022). <https://doi.org/10.1007/s10924-022-02449-7>
- Melkamu Birlie Genet, Zenamarkos Bantie Sendekie, Addis Lemessa Jembere, Investigation and optimization of waste LDPE plastic as a modifier of asphalt mix for highway asphalt: Case of Ethiopian roads. *Case Studies in Chemical and Environmental Engineering*, Volume 4, 2021, 100150. <https://doi.org/10.1016/j.cscee.2021.100150>.
- Colloidal Jamming Dynamics in Microchannel Bottlenecks. *Langmuir*, 32, 1478–1488 (2016).
- Bacteria Delay the Jamming of Particles at Microchannel Bottlenecks. *Scientific Reports* 6:31471.

Conferences

- Continuous Fractionation of Particles using Microfluidic Filters, *Microfluidics: from Laboratory Tools to Process Development*, 4-5 November 2015, IFPEN/Rueil-Malmaison, France
- Dynamics of Particle Deposition in Microfluidic Filters: Coupled Effects of Hydrodynamics and DLVO Barrier and Minima, 89th ACS Colloid and Surface Science Symposium, 15-17 June 2015, Pittsburgh, USA.
- Pore Clogging Dynamics during Constant Pressure and Constant Flux Filtration: Direct Observation in Microfluidic Systems, *European Conference on Fluid-Particle Separation*, 15-17 October 2014, Lyon, France.
- Colloidal Clogging Dynamics of Microchannels and the Scenarios, *International Conference on Advancement of Science and Technology*, 17-18 June, 2016, Bahir Dar,
- Separation of Particles and Bacteria in Microfluidic Systems Mimicking Membrane Filtration, The 4th EUDIME Workshop, 1-2 October 2015, Calabria, Italy.
- Separation of Particles and Bacteria in Microfluidic Systems Mimicking Membrane Filtration, The 2nd EUDIME (European Doctorate in Membrane Engineering) Workshop, 17-20 September 2013, Leuven, Belgium.
- Pore Clogging Dynamics in Microfiltration: Direct Observation in Microfluidic Systems. , *European Membrane Society (EMS) Summer School*, 22nd -26th July 2013, Essen, Germany *EMS Summer School*, September 28 – October 3 2014, Rende, Italy.

Professional Development/ Training

- NICE-WORKSHOP (Training on Cleanroom Processes) and fabricating Microand Nano-Chips MESA+ NANOLAB, Institute for Nanotechnology, University of Twente, The Netherlands, January 2014 to July 2014
- Tire Manufacturing Process, Matador Addis Tire Factory, Addis Ababa, Ethiopia (3 months)
- Scientific and Statistical Data Analysis Tools using R- Statistical software,
- Higher Education Leadership and Management, Bahir Dar, Ethiopia (3 months)
- Strengthening Engineering Research, Canada (3 months)
- Scientific Knowledge and Writing, Université Toulouse III - Paul Sabatier, France

HONORS AND AWARDS

- First Prize of the Ethiopian Society of Chemical Engineers Scholastic Award (2007).

Solomon Workneh Fanta

Instructor

Bahir Dar Institute of Technology

Faculty of Chemical and Food Engineering

EDUCATION

- B.Sc. Chemical Engineering, Bahir Dar University, Ethiopia 2004.
- M.Sc Process Engineering and Design, India institute of technology (IIT Delhi, Delhi, India, 2007.
- PhD. Bioscience engineering, Experience on postharvest technology, University of Leuven (KULeuven), Leuven, Belgium, 2013

PROFESSIONAL APPOINTMENTS

- Associate Professor, Full time, Department of Chemical Engineering, 2014-Present
- Lecturer, Department of Chemical Engineering, 2007-2008

OTHER PROFESSIONAL ACTIVITIES

- Team leader on national project entitled “A study on Agro-Food Processing Industry Development Policies and Strategies in Ethiopia (2015 – 2025)” It takes more than two year but end up with a policy book and distributed to the implementing ministries and bureaus of the country. A copy of the book is documented in the institute

INSTITUTIONAL AND PROFESSIONAL SERVICE

- PhD program Coordinator for the Bahir Dar Institute of Technology, Bahir Dar University, 2018- present
- Chair holder of postharvest technology, for the Bahir Dar Institute of Technology, Bahir Dar University, 2017- present
- Home grown postgraduate coordinator of for the Bahir Dar Institute of Technology, Bahir Dar University, 2017- present
- Director of faculty of chemical and food engineering, Bahir Dar Institute of Technology, Bahir Dar University, 2013- 2015
- Head, Chemical engineering department, Bahir Dar Institute of Technology, Bahir Dar University, 2008- 2009

SCIENTIFIC AND PROFESSIONAL SOCIETY MEMBERSHIPS

- Ethiopian Society of Chemical Engineers

PRINCIPAL PUBLICATIONS IN LAST FIVE YEARS

Journals:

- Fanta, S.W., Abera, M., Aregawi, W.A., Ho, Q.T., Verboven, P., Carmeliet, J., Nicolai, B.M.(2014). Microscale modeling of coupled water transport and mechanical deformation of fruit tissue during dehydration. *Journal of Food Engineering*, 124:86-96
- Abera, M., Fanta, S.W, Verboven, P., Ho, Q., Carmeliet, J., Nicolai, B. (2013). Virtual Fruit Tissue Generation Based on Cell Growth Modeling. *Food and Bioprocess Technology*, 6:859–869.
- Abera, M., Fanta, S.W, Verboven, P., Van Liedekerke,P., Nicolai ,B., J. Carmeliet,J.(2011). Virtual fruit tissue generation using cell growth modeling. *Acta horticulturae*, 919(919):107-114.
- Verboven, P., Nicolai, B., Verlinden, B., Abera, M., Fanta, S.W., Ho, Q.(2009). Multiscale modeling of gas exchange in fruit tissues. *Comparative Biochemistry and Physiology – Part A Molecular & Integrative Physiology* 153(2)
- Ho, Q., Verboven, P., Fanta, S.W, Abera, M., Retta, M., Herremans, E., Defraeye, T., Nicolai, B. (2013). A multiphase pore scale network model of gas exchange in apple fruit. *Food and Bioprocess Technology*, 7 (2), 482-495.
- Abera, M., Verboven, P., Herremans, E., Defraeye T., Fanta, S.W, Ho, Q., Carmeliet, J., Nicolai, B. (2013). 3D Virtual Fruit Tissue Generation Based on Cell Growth Modelling. *Food and Bioprocess Technology*, 7(2), 542-555.
- Abera, M., Verboven, P., Defraeye, T., Fanta, S.W, Hertog, M., Carmeliet, J., Nicolai, B. (2014). A plant cell division algorithm based on biomechanics and ellipse fitting. *Annals of Botany*, art.nr. DOI:10.1093/aob/mcu078.
- Aregawi, W., Abera, M., Fanta, S.W, Verboven, P., Nicolai, B. (2014). Prediction of water loss and viscoelastic deformation of apple tissue using a multiscale model. *Journal of Physics – Condensed Matter*.
- Neela Satheesh & Solomon Workneh Fanta. (2018) Review on structural, nutritional and anti-nutritional composition of Teff (*Eragrostis tef*) in comparison with Quinoa (*Chenopodium quinoa* Willd.). *Cogent Food & Agriculture*, 4(1)

Metadel Kassahun Abera

Instructor

Bahir Dar Institute of Technology

Faculty of Chemical and Food Engineering

EDUCATION

- B.Sc. Chemical Engineering, Bahir Dar University, Ethiopia 2004.
- M.Sc , Biochemical Engineering & Biotechnology, India institute of technology (IIT Delhi, Delhi, India, 2007.
- PhD. Bioscience engineering, University of Leuven (KUL), Leuven, Belgium, 2014.

PROFESSIONAL APPOINTMENTS

- Associate Professor, Full time, Department of Chemical Engineering, 2019-Present
- Postdoctoral researcher, BIOSYST–MeBioS, KU Leuven 2014 – 2016
- Lecturer, Department of Chemical Engineering, 2007-2008
- Assistant Lecture, Department of Chemical Engineering, 2004-2007

OTHER PROFESSIONAL ACTIVITIES

- October 2021 to Date, PI for Formulation of Wide Spectrum Biomedicine for Treatment of COVID-19, Bahirdar Institute of Technology, Bahirdar University
- October 2020 to Date, General coordinator for project on Food, Beverage and Pharmaceutical Industry development

INSTITUTIONAL AND PROFESSIONAL SERVICE

- Dean, Faculty of chemical Food Engineering, Oct 2020 to date
- Chair holder for process engineering at chemical and food engineering faculty, Sep 2019 to Sep 2020

SCIENTIFIC AND PROFESSIONAL SOCIETY MEMBERSHIPS

- Ethiopian Society of Chemical Engineers

PRINCIPAL PUBLICATIONS IN LAST FIVE YEARS

Journals:

- Gedefaw Asmare Tafete, Metadel Kassahun Abera and Ganesh Thothtadri (2022). Review on nanocellulose-based materials for supercapacitors applications. <https://doi.org/10.1016/j.est.2021.103938>
- Retta, M., Abera, M., Berghuijs, B., Verboven, P., Struik P., Nicolai, B., (2020). In silico study of the role of cell growth factors on photosynthesis using a virtual leaf tissue

generator coupled to a microscale photosynthesis gas exchange model.
<https://doi.org/10.1093/jxb/erz451>,

- Abera, M., Aregawi, W., Ho, Q., Rogge, S., Delele, M., Ambaw, A., Verboven, P., Nicolai, B., (2015). Multiscale Modeling of Food Processes. Reference Module in Food Sciences. Elsevier, pp. 1–12. doi: <http://dx.doi.org/10.1016/B978-0-08-100596-5.03126-7>.
- Abera, M., Verboven, P., Herremans, E., Defraeye T., Fanta, S., Ho, Q., Carmeliet, J., Nicolai, B. (2014). 3D Virtual Fruit Tissue Generation Based on Cell Growth Modelling. *Food and Bioprocess Technology*, 7(2), 542-555.
- Fanta, S., Abera M., Ho Q., Verboven P., Carmeliet J., Nicolai B., (2013). Microscale modeling of water transport in fruit tissue. *Journal of Food Engineering*, 118(2), 229–237
- Abera, M., Fanta, S., Verboven, P., Ho, Q., Carmeliet, J., Nicolai, B. (2013). Virtual Fruit Tissue Generation Based on Cell Growth Modeling. *Food and Bioprocess Technology*, 6:859–869. (DOI: 10.1007/s11947-011-0775-4).
- Ho, Q., Verboven, P., Fanta, S., Abera, M., Retta, M., Herremans, E., Defraeye, T., Nicolai, B. (2013). A multiphase pore scale network model of gas exchange in apple fruit. *Food and Bioprocess Technology*, DOI 10.1007/s11947-012-1043-y.
- Verboven, P., Nemeth, A., Abera, M., Bongaers, E., Daelemans, D., Estrade, P., Herremans, E., Hertog, M., Saeys, W., Vanstreels, E., Verlinden, B., Leitner, M., Nicolai, B. (2013). Optical coherence tomography visualizes microstructure of apple peel. *Postharvest Biology and Technology*, 78, 123-132.
- Fanta, S., Vanderlinden, W., Abera, M., Verboven, P., Karki, R., Ho, Q., De Feyter, S., Carmeliet, J., Nicolai, B. (2012). Water transport properties of artificial cell walls. *Journal of Food Engineering*, 108 (3), 393-402.
- Fanta S., Abera M., Aregawi W., Ho Q., Verboven P., Carmeliet J., Nicolai B. (2013). Microscale modeling of coupled water transport and mechanical deformation of fruit tissue during dehydration. *Journal of Food Engineering*, 124, 86–96.
- Abera M., Verboven, P., Defraeye, T., Fanta, S., Hertog, M., Carmeliet, J., Nicolai, B. (2014). A plant cell division algorithm based on biomechanics and ellipse fitting. *Annals of Botany*. doi: 10.1093/aob/mcu078.
- Aregawi W*, Abera M*, Fanta S., Verboven P., Nicolai B., (2014). Prediction of water loss and viscoelastic deformation of apple tissue using a multiscale model. *Journal of Physics: Condensed Matter* 6 (46), Art.No. 464111. (* joint first authors)
- Verboven P., Herremans, E., Helfen L., Ho QT., Abera M., Baumbach T., Wevers M., Nicolai B., (2015). Synchrotron X-ray computed laminography of the 3-D anatomy of tomato leaves. *The Plant Journal*, 81 (1), 169-182.
- Herremans E., Verboven P., Verlinden B., Cantre D., Abera M., Wevers M., Nicolai B., (2015). Automatic analysis of the 3-D microstructure of fruit parenchyma tissue using X-ray micro-CT explains differences in aeration. *BMC Plant Biology*, 15 (264), Art.No. 10.1186/s12870-015-0650-y, 1-14..

Conferences

- Addis Lemessa, Melkamu Birlie, Metadel Kassahun, Yared Mengistu,” Process Revamping of H₂SO₄ Plant to Double Contact Double Absorption (DCDA) Using ASPEN HYSYS to Reduce SO₂ Emission: Case of Awash Melkassa Sulfuric Acid Factory”, ICAST,2022. DOI: 10.1007/978-3-030-93709-6_5
- Abera MK., Verboven P., Nicolai B. (2017). Determination of cell wall elastic modulus using a micro-mechanical compression model of apple tissue. In: *Acta Horticulturae*: vol. 1182 (275-280). ISBN: 9789462611788. doi: 10.17660/ActaHortic.2017.1182.33.
- Abera MK., Wang Z., Verboven P., Nicolai B. (2017). Microstructure based hygro-mechanical modelling of deformation of fruit tissue. In: Brabazon D., Naher S., Ahad IU. (Eds.), *PROCEEDINGS OF THE 20TH INTERNATIONAL ESAFORM CONFERENCE ON MATERIAL FORMING (ESAFORM 2017)* (Eds.): vol. 1896 (Paper No. UNSP 150005-1). Presented at the 20th International ESAFORM Conference on Material Forming, Dublin City Univ, Dublin, IRELAND, 26 Apr 2017-28 Apr 2017. doi: 10.1063/1.5008173.
- Abera, M., Fanta, S., Verboven, P., Van Liedekerke , P., Nicolai , B. and Carmeliet, J. (2011). Virtual fruit tissue generation using cell growth modeling. *Acta Hort. (ISHS)* 919:107-114
- Fanta, S., Abera, M., Ho, Q., Verboven, P., Nicolai, B., Carmeliet, J. (2010). Calculation of effective permeability of a fruit cortex tissue from microscopic simulations. In Cadavez, V. (Ed.), Thiel, D. (Ed.), *FOODSIM'2010. International conference on simulation and modelling in the food and bio-industry 2010. FOODSIM. Braganca,Portugal, 24-26 June 2010* (pp. 59-62). Ghent, Belgium: EUROSIS-ETI.
- Abera, M., Verboven, P., Defraeye T., Hertog M., Nicolai B. (2013). A novel plant cell division algorithm based on ellipse/ellipsoid fitting. 7th International Conference on Functional – Structural Plant Models. Saariselkä, Finland, 9-14 June 2013 (art.nr. 614).
- Abera, M., Fanta, S., Herremans E., Defraeye T., Ho Q., Verboven, P., Nicolai, B. (2013). Application of virtual fruit tissue geometries to postharvest studies. *Insidefood Symposium*, 9-12, April 2013. Leuven, Belgium.

Awards /Honors

- The first prize of the scholastic award for the year 2001/2002 from the Ethiopian society of chemical engineers (ESCHE) for an outstanding achievement as third year chemical engineering student at Bahir Dar University, Ethiopia.
- The third prize of the scholastic award for the year 2002/2003 from the Ethiopian society of chemical engineers (ESCHE) for an outstanding achievement as fourth year chemical engineering student at Bahir Dar University, Ethiopia.

Mulugeta Admasu Delele

Instructor

Bahir Dar Institute of Technology

Faculty of Chemical and Food Engineering

EDUCATION

- B.Sc., Chemical Engineering, Addis Ababa University, Ethiopia 1995
- M.Sc , Bioscience Engineering, KU LEUVEN, Leuven, Belgium, 2003
- PhD., Bioscience Engineering KU LEUVEN, Leuven, Belgium, 2009

PROFESSIONAL APPOINTMENTS

- Research associate KU LEUVEN, Department of Biosystems, Division of Mechatronics, Biostatistics and Sensors (MeBioS), Leuven, Belgium March 2015-Present:
- Research fellow of Alexander von Humboldt Foundation Leibniz-Institute of Agricultural Engineering, Potsdam, Germany November 2012 – December 2014:
- Postdoctoral Researcher Stellenbosch University, South African Research Chair in Postharvest Technology, Stellenbosch, South Africa January 2011 – October 2012
- Postdoctoral Researcher KU LEUVEN, Department of Biosystems, Division of Mechatronics, Biostatistics and Sensors (MeBioS), Leuven, Belgium January 2009 – January 2011
- Research and Teaching Assistant : KU LEUVEN, Department of Biosystems, Division of Mechatronics, Biostatistics and Sensors, Leuven, Belgium January 2009 – January 2011
- Assistant Lecturer Bahir Dar University, School of Food and Chemical Engineering, Bahir Dar, Ethiopia January 2000-September 2001

INSTITUTIONAL AND PROFESSIONAL SERVICE

- Food Products Quality : Assurance Expert Quality and Standards Authority of Ethiopia, Addis Ababa, Ethiopia June 1999-January 2000
- Shift Engineer : Zeway Caustic Soda Plant, Zeway, Ethiopia September 1995-June 1999:

SCIENTIFIC AND PROFESSIONAL SOCIETY MEMBERSHIPS

- Ethiopian Society of Chemical Engineers

PRINCIPAL PUBLICATIONS IN LAST FIVE YEARS Journals:

- W Gruyters, P Verboven, **M Delele**, SG Gwampun, A Schenk, B Nicolai. (2018). Numerical evaluation of adaptive on-off cooling strategies for energy savings during long term storage of apples. *International Journal of Refrigeration* 85, 431-440.
- A Ambaw, D Dekeyser, T Vanwalleghem, W Van Hemelrijck, D Nuyttens, **MA Delele**, H Ramon, B Nicolai, D Bylemans, UL Opara, P Verboven. (2017). Experimental and numerical analysis of the spray application on apple fruit in a bin for postharvest treatments. *Journal of Food Engineering* 202, 34-45.
- S Getahun, A Ambaw, **M Delele**, CJ Meyer, UL Opara. (2017). Analysis of airflow and heat transfer inside fruit packed refrigerated shipping container: Part I–Model development and validation. *Journal of Food Engineering* 203, 58-68.
- S Getahun, A Ambaw, **M Delele**, CJ Meyer, UL Opara. (2017). Analysis of airflow and heat transfer inside fruit packed refrigerated shipping container: Part II–Evaluation of apple packaging design and vertical flow resistance. *Journal of Food Engineering* 203, 83-94.
- **M A Delele**, D Nuyttens, A. T. Duga, A Ambaw, F Lebeau, B M Nicolai, P Verboven. (2016). Predicting the dynamic impact of spray droplets on flat plant surfaces. *Soft Matter* 12, 7195—7211. DOI:10.1039/C6SM00933F.
- **M.A. Delele**, F. Weigler, G. Franke, J. Mellmann. (2016) Studying the solids and fluid flow behavior in rotary drums based on a multiphase CFD model. *Powder Technology* 292, 260-271. Doi:10.1016/j.powtec.2016.01.026.
- Ashenafi T Duga, **Mulugeta A Delele**, Kris Ruysen, Donald Dekeyser, David Nuyttens, Dany Bylemans, Bart M Nicolai, Pieter Verboven. (2016). Development and validation of a 3D CFD model of drift and its application to air-assisted orchard sprayers. *Biosystems Engineering*. In press:

Professional Development/ Article in academic book, internationally recognized scientific publisher

- Abera M., Aregawi W., Ho Q., Rogge S., Delele M., Tsige A., Verboven P., Nicolai B. (2015). Multiscale Modeling of Food Processes. In: Smithers G. (Eds.), *Reference Module in Food Sciences*, (pp. 1-12) Elsevier.

International Conference Proceedings

- **M.A. Delele**, W. Gruyters, S. Rogge, N. Bessemans, A. Schenk, M. Hertog, S. Vanmaercke, H. Ramon, P. Verboven, B. Nicolai. (2017). Computer aided analysis of gas exchange in pear fruit packages during long distance transport. VII international Conference on Managing Quality in Chains (MQUIC), Stellenbosch, South Africa, 4-7 September 2017.
- **M.A. Delele**, D. Nuyttens, F. Lebeau, B.M. Nicolai, P. Verboven. (2016). Model based study of parameters that affect the impact behavior of droplets on leaves. CIGR-AgEng conference, Aarhus, Denmark, 26-29 June 2016.
- **M A Delele**, D Nuyttens, A Ambaw, F Lebeau, B M Nicolai, P Verboven. (2016). Studying the impact characteristics of spray droplets on plant surfaces using a multiphase CFD model. Aspects of Applied Biology 132, 291-298.
- Bessemans, N., Verboven, P., **Delele, M.**, Verlinden, B., Nicolai, B. (2016). A leakage model of postharvest storage facilities. 4th IIR Conference on Sustainability & the Cold Chain. 4th IIR Conference on Sustainability & the Cold Chain. Auckland, New-Zealand, 7-9 April 2016.
- Gruyters, W., Rogge, S., Vanmaercke, S., **Delele, M.**, Ramon, H., Verboven, P., Nicolai, B. (2016). DEM-CFD of cooling of packed fruit using 3D shape models. . CIGR AgEng conference. Aarhus, Denmark, 26-29 June 2016.

HONORS AND AWARDS+

- First prize for poster (Postharvest Innovation Programme Symposium, November 19, 2013, Stellenbosch South Africa).

PATENT

- **Mulugeta Admasu Delele**; Bart Nicolai; Pieter Verboven; Bert Verlinden. Storage of respiratory produce. US Patent 20,130,013,099, 2013; EP2547213 B1; EP Patent 2,547,213, 2013; WO Patent 2,011,113,915, 2011.

Elias Wagari

Instructor

Bahir Dar Institute of Technology

Faculty of Chemical and Food Engineering

EDUCATION

- B.Sc. Chemical Engineering, Bahir Dar University, Ethiopia 2010.
- M.Sc , Sustainable Energy Engineering, Bahir Dar University, Ethiopia ,2016.
- PhD. Environmental Technology, King Mongkut's University of Technology Thonburi Thailand, 2019.

PROFESSIONAL APPOINTMENTS

- Assistant Professor, Full time, Department of Chemical Engineering, 2019-Present
- Assistant Lecture, Department of Chemical Engineering, 2013-2014

INSTITUTIONAL AND PROFESSIONAL SERVICE

- Director, Research and publication Bahir Dar Institute of Technology, March 2021 to date
- Chair holder fo Energy and Environment chair at chemical and food engineering faculty, 2019 – 2021 (March)
- Chemical Engineering II and Quality circle team leader l Hommicho Ammunition and chemical Engineering Industry, December 2011 –January 2012
- Chemical Engineer l Fincha Sugar Factory l Fincha Shift supervisor of sugar production February 2012 –March 2013

SCIENTIFIC AND PROFESSIONAL SOCIETY MEMBERSHIPS

- Ethiopian Society of Chemical Engineers

PRINCIPAL PUBLICATIONS IN LAST FIVE YEARS

Journals:

- Gabisa EW, Gheewala SH. Can substitution of imported gasoline by locally produced molasses ethanol in Ethiopia be sustainable? An eco-efficiency assessment, *Renewable and Sustainable Energy Review*. 2020
- Gabisa EW, Gheewala SH. Biomass and Bioenergy Potential, environmental, and socio-economic assessment of biogas production in Ethiopia: The case of Amhara regional state. *Biomass and Bioenergy*. 122: 446–456. 2019.
- Gabisa EW, Bessou C, Gheewala SH. Life cycle environmental performance and energy balance of sugarcane molasses based ethanol production in Ethiopia. *Journal of cleaner production*. 234:43-53 2019.
- Gabisa EW, Gheewala SH. Potential of bio-energy production in Ethiopia based on available biomass residues. *Biomass and Bioenergy*. 111: 77–87 2018.
- Gabisa EW and Aman A., Characterization and Experimental Investigation of NaNO_3 : KNO_3 as Solar Thermal Energy Storage for Potential Cooking Application. Hindawi Publishing Corporation *Journal of Solar Energy*. 20162016

Temesgen Atnafu Yemata
Instructor
Bahir Dar Institute of Technology
Faculty of Chemical and Food Engineering

EDUCATION

- B.Sc. Chemical Engineering, Bahir Dar University, Ethiopia (July 2008).
- M.Sc , Chemical Engineering Addis Ababa institute of Technology Ethiopia (July 2012)
- PhD. Materials Science, National University of Singapore, Singapore (August 2019)

PROFESSIONAL APPOINTMENTS

- Assistant Professor, Full time, Department of Chemical Engineering, 2019-Present
- Lecturer, Department of Chemical Engineering Bahir Dar University, Ethiopia Feb. 2014-July 2015
- Lecturer, Faculty of Engineering, Wollo University, Kombolcha, Ethiopia Sept. 2013-Feb.2014
- Lecturer, Faculty of Engineering, Arbaminch University, Arbaminch, Ethiopia July 2010 – Sep. 2013

SCIENTIFIC AND PROFESSIONAL SOCIETY MEMBERSHIPS

- Materials Research Society (MRS)
- Singapore Materials Society (SMRS)

PRINCIPAL PUBLICATIONS IN LAST FIVE YEARS

Journals:

- 1) **Temesgen A. Yemata**, Qun Ye, Hui Zhou, Aung K.K. Kyaw, Wee S. Chin, and Jianwei Xu. Conducting polymer-based thermoelectric composites: principles, processing, and applications. In Hybrid Polymer Composite Materials, Elsevier, Volume 4, 2017, pp. 169-195.
- 2) Aung Ko Ko Kyaw*, **Temesgen A. Yemata***, Xizu Wang, Siew Lay Lim, Wee Shong Chin, Kedar Hippalgaonkar, and Jianwei Xu. Enhanced Thermoelectric Performance of PEDOT:PSS

Films by Sequential Post-Treatment with Formamide. *Macromol. Mater. Eng.*, 2018, 303, 1700429. * denotes authors of equal contributions.

3) Aung Ko Ko Kyaw, Grayson Dao Hwee Wonga, **Temesgen A. Yemata**, Jianwei Xu. Effective ionic Seebeck component suppression in mixed ion-electron conductor via chemical treatment. *Org. Electron.*, 2019, 69, 7-12.

4) **Temesgen Atnafu Yemata**, Yun Zheng, Aung Ko Ko Kyaw, Xizu Wang, Jing Song, Wee Shong Chin, and Jianwei Xu. Sodium Formaldehyde Sulfoxylate, an Ionic-type, Water-soluble Reducing Reagent to Effectively Improve Seebeck Coefficient of PEDOT:PSS Film. *Org. Electron.*, Accepted (January 18, 2020).

5) **Temesgen Atnafu Yemata**, Yun Zheng, Aung Ko Ko Kyaw, Xizu Wang, Jing Song, Wee Shong Chin and Jianwei Xu. Improved Thermoelectric Properties and Environmental Stability of Conducting PEDOT:PSS Films Post-treated With Imidazolium Ionic Liquids. *Front. Chem.*, 2020, 7, 870.

6) **Temesgen Atnafu Yemata**, Aung Ko Ko Kyaw, Yun Zheng, Xizu Wang, Qiang Zhu, Wee Shong Chin and Jianwei Xu. Enhanced thermoelectric performance of poly(3,4-ethylenedioxythiophene):poly(4-styrenesulfonate) (PEDOT:PSS) with long-term humidity stability via sequential treatment with trifluoroacetic acid. *Polym. Int.*, 2020, 69, 84-92.

7) **Temesgen Atnafu Yemata**, Yun Zheng, Aung Ko Ko Kyaw, Xizu Wang, Jing Song, Wee Shong Chin and Jianwei Xu. Modulation of the doping level of PEDOT:PSS film by treatment with hydrazine to improve the Seebeck coefficient. *RSC Adv.*, 2020, 10, 1786. Conference Proceedings

1) **Temesgen Yemata**, Aung Kyaw Ko Ko, Wee Shong Chin, Jianwei Xu. Enhanced Thermoelectric Performance of PEDOT:PSS via Simple Chemical Treatment. The 2016 MRS Fall Meeting, November 27- December 2, 2016, Hynes Convention Center, Sheraton Boston Hotel, in Boston, Massachusetts, USA.

2) **Temesgen A. Yemata**, Aung Ko Ko Kyaw, Wee Shong Chin, and Jian Wei Xu. Enhanced Thermoelectric Performance of PEDOT:PSS via Simple Chemical Treatment. The 9th International Conference on Materials for Advanced Technologies (ICMAT 2017), June 18- June 23, 2017, Suntec Singapore, Singapore.

3) **T.A. Yemata**, Y. Zheng, X. Wang, W. S. Chin, J. W. Xu: Significant Improvement in the Thermoelectric Properties of PEDOT:PSS Films by a Sequential Treatment with Formic Acid

and Hydrazine. The 10th Singapore International Chemistry Conference, 16 to 19 December 2018, Singapore.

Belay Teffera

Instructor

Bahir Dar Institute of Technology

Faculty of Chemical and Food Engineering

EDUCATION

- B.Sc., Applied Chemistry, Addis Ababa University 1992
- M.Sc., Environmental Engineering, Addis Ababa University ,2007
- PhD, Environmental Engineering, Addis Ababa University 2020

PROFESSIONAL APPOINTMENTS

- Assistant Professor, Bahir Dar University, Faculty Chemical and Food Engineering, Bahir Dar, Ethiopia 2021-up dated
- Lecturer Bahir Dar University, School of Food and Chemical Engineering, Bahir Dar, Ethiopia January 2008-September 2014

INSTITUTIONAL AND PROFESSIONAL SERVICE

- Head, Research and Technology Transfer Office Bahir Dar University, June 22/2010 – September 11/ 2011
- Senior Expert on Cleaner Production and environmental Management systems, National Cleaner Production Center (NCPC), under Science and Technology Agency of Ethiopia from May 2006 – May 2008.
- Senior Technical Expert Ethiopian Leather Industries Association from May 2005 – October 2006,
- Chemist and Production Supervisor, Ethio-Leather Industry Company from October 1994 – October 2005,:

SCIENTIFIC AND PROFESSIONAL SOCIETY MEMBERSHIPS

- Ethiopian Society of Chemical Engineers

PRINCIPAL PUBLICATIONS IN LAST FIVE YEARS Journals:

- Teffera, B., Assefa, B., Björklund, A., & Assefa, G. Life cycle assessment of wind farms in Ethiopia. *The International Journal of Life Cycle Assessment*. DOI: 10.1007/s11367-020-01834-5. **Impact factor 4.842** (2020)
- Teffera, B., Assefa, B., & Assefa, G. Assessing the life cycle environmental impacts of hydroelectric generation in Ethiopia. *Sustainable Energy Technologies and Assessments*. <https://doi.org/10.1016/j.seta.2020.100795>. **Impact factor 3.427** (2020).

Professional Development

- Holds Environmental consultancy professional competence certificate that enables me to consult and prepare necessary environmental documents starting from May 12/2014.
- Certificate on participating on training ‘Improving to Teach’ Engineering Capacity Building Program(ecbp), February 2011.
- Certificate for delivering ‘Training on Water and Wastewater Analysis’ by Bahir Dar University and BoEPLAU, 23 August – 01 September 2010.
- Certificate for delivering ‘Training on Quality Laboratory Management’ by Collage of Science, Bahir Dar University, 23 August – 01 September 2010.
- Certificate for participating in training on ‘Auditor/Lead Auditor Quality Manager for Quality Management Systems ISO9001-2000’ by Engineering Capacity Building Program (ecbp) and Handerkskamen Rhein-Main, January 01/2008 – March 30/2008
- Certificate for participating in training on ‘Food Safety Management System based on HACCP’by by Quality and Standards Authority of Ethiopia; 07-11 May 2007
- Certificate for participating in training on ‘QMS development and Implementation Based on ISO 9001-2000’ by Quality and Standards Authority of Ethiopia; 18-22 December 2006.
- Certificate for participating in training on ‘Environmental Management System Auditor’ by UNIDO, 28-29 November 2006.
- Certificate for participating in training on ‘ISO 14001:2004 Based Environmental Management System (EMS) Implementation’ by Ethiopian Cleaner Production Center (ECPC);16-21August 2006

- Certificate for participating in training on ‘Standard writing and Management of technical Committee and an Introduction to ISO 9000 Quality Management System’ by British Standards Institute (BSI), 13-15 Jan. 2004
- Higher certificate for participating in training on ‘Leather Manufacturing Technology’ by Ethiopian Management Institute (Productivity Improvement center, PIC), January 27-July 02/1997.

Kassa Wudineh

Instructor

Bahir Dar Institute of Technology

Faculty of Chemical and Food Engineering

EDUCATION

- B.Sc., Chemical Engineering, Bahir Dar University (Ethiopia) , 2006
- M.Sc , Sustainable Energy Engineering, KTH Royal Institute of Technology ,Sweden 2011
- PhD Student 2018 –updated

PROFESSIONAL APPOINTMENTS

- Lecturer Chemical Engineering, Bahir Dar University (Ethiopia) 2012-2018
- Lecturer Mechanical Engineering Assosa University (Ethiopia), 2011-2012

INSTITUTIONAL AND PROFESSIONAL SERVICE

- Director Bahir Dar Energy Center, Bahir Dar University (Ethiopia) Nov.2012— Dec. 2017
- R & D Engineer (Master thesis employee), CSEM-UAE Innovation Center LLC (Ras Al Khaimah, United Arab Emirates) May 2010 – Sep. 2010
- Energy Expert, ANRS Rural Energy and Mineral Resources Development Promotion Agency (Bahir Dar, Ethiopia, Feb. 2007 – Aug. 2008
- Occupational Safety and Health (OSH) Expert, West Gojjam Administration Zone Labour and Social Affairs Branch Office (Bahir Dar, Ethiopia) Oct. 2006 – Mar. 2007

SCIENTIFIC AND PROFESSIONAL SOCIETY MEMBERSHIPS

- Ethiopian Society of Chemical Engineers

PRINCIPAL PUBLICATIONS IN LAST FIVE YEARS Journals:

- Mekonnen, B. A., **Liyew, K. W.**, & Tigabu, M. T. Solar Cooking in Ethiopia: Experimental Testing and Performance Evaluation of SK14 Solar Cooker. Case Studies in Thermal Engineering, 100766. <https://doi.org/10.1016/j.csite.2020.100766>. (2020).
- **Liyew, K. W.**, Habtu, N. G., & Louvet, Y., Guta, D.D., Jordan, U. Technical design, costs, and greenhouse gas emissions of solar Injera baking stoves. Renewable and Sustainable Energy Reviews, (in press) (2021).
- Oct. 2018 – Mar 2021 FDRE Ministry of Education, EECB Home Grown PhD Scholarship
- May 2010 – Oct. 2010 Swiss Centre for Electronics and Micro-Technology Innovation at United Arab Emirates (CSEM-UAE)

Kefyalew Dagnew Addisu,

Instructor

Bahir Dar Institute of Technology

Faculty of Chemical and Food Engineering

EDUCATION

- B.Sc., Applied Biology, Hawassa University, , Ethiopia 2006
- M.Sc , Biotechnology, Addis Ababa University, Ethiopia 2013
- PhD: Biomedical Engineering and Nanotechnology, National Taiwan University of Science and Technology (NTUST), Taiwan ,2019

PROFESSIONAL APPOINTMENTS

- Assistances Professor, Bahir Dar institute of Technology, Ethiopia 2019 –present
- Lecturer full time, Department of Biotechnology), Aksum University, Ethiopia 2011 – 2016

SCIENTIFIC AND PROFESSIONAL SOCIETY MEMBERSHIPS

- Biological Society of Ethiopia /BSE/, Ethiopia
- Materials Research Society (MRS), Panselivania, USA

PRINCIPAL PUBLICATIONS IN LAST FIVE YEARS Journals:

- **Kefyalew Dagnew Addisu**, Balkew Zewge Hailemeskel, Shewaye Lakew Mekuria, Abegaz Tizazu Andrgie, Yu-Chun Lin, and Hsieh-Chih Tsai “Bioinspired, Manganese-Chelated Alginate–Polydopamine Nanomaterials for Efficient in Vivo T 1-Weighted

Magnetic Resonance Imaging.” ACS applied materials & interfaces 10(6): 5147-5160. (2018). SCI (Materials Science, Multidisciplinary)

- Shewaye Lakew Mekuriaa., **Kefyalew Dagne Addisu**, Hsiao-Ying Choua, Balkew Zewge Hailemeskela, Hsieh-Chih Tsaia, (2018). “Potential fluorescence and magnetic resonance imaging modality using mixed lanthanide oxide nanoparticles.” Colloids and Surfaces B: Bio interfaces. 167: 54-62. (2018). SCI (Biophysics, Chemistry, Physical, Materials Science, Biomaterials)
- Balkew Zewge Hailemeskel, **Kefyalew Dagne Addisu**, Adhimoorthy Prasannan, Shewaye Lakew Mekuria, Chen-Yu Kao, Hsieh-Chih Tsai Synthesis and characterization of diselenide linked poly (ethylene glycol) nanogel as multiresponsive drug carrier. *Applied Surface Science* 449 (2018): 15-22. (2017, Dec). SCI. (Chemistry, Physical Materials Science, Coatings & Films Physics, Applied Physics, Condensed Matter).
- **Kefyalew Dagne Addisu***, Teklehaimanot Haileselassie, and Tileye Feyissa. “Genetic diversity study of common bean (*Phaseolus vulgaris* L.) Germplasm from Ethiopia using inter simple sequence repeat (ISSR) markers.” *African Journal of Biotechnology* 13.36 (2014). SCI (Biotechnology & Applied Microbiology).
- Andrgie, Abegaz Tizazu, Shewaye Lakew Mekuria, **Kefyalew Dagne Addisu**, Balkew Zewge Hailemeskel, Wei-Hsin Hsu, Hsieh-Chih Tsai, and Juin-Yih Lai. “Non-Anticoagulant Heparin Prodrug Loaded Biodegradable and Injectable Thermoresponsive Hydrogels for Enhanced Anti-Metastasis Therapy.” *Macromolecular bioscience* (2019): 1800409.

Honors and awards

- Outstanding Performance Scholarship Award for Excellence in Research for International Graduate Students, CTCI Foundation Science and Technology Scholarship. 2018, Taiwan
- Enterprise visit for international graduate students, CTCI foundation, 2017, Taiwan

Conference /Seminar /workshop presentation

- Manganese Loaded pH Stimuli-Responsive Polymer-Metal Complex Nanomaterials with High Magnetic Resonance Imaging for Tumor Imaging. Oral Presentation. MRS Fall Meeting, November 25 – 30, 2018 Hynes Convention Center, Boston, Massachusetts. USA.

- Bioinspired, manganese-chelated alginate-poly (dopamine) nanomaterials for efficient in vivo T1weighted magnetic resonance imaging (MRI). 2017 TwIChE Annual Meeting. Oral presentation. Taipei Tech, Taipei, Taiwan.

Eshetu Getahun Mulat

Instructor

Bahir Dar Institute of Technology

Faculty of Chemical and Food Engineering

EDUCATION

- PhD Degree in Sustainable Energy Engineering, Bahir Dar University (Ethiopia) in collaboration with KU Leuven, Belgium 2021
- M.Sc. Degree in Sustainable Energy Engineering, Bahir Dar University, Ethiopia 2012
- B.Sc. Degree in Chemical Engineering, Bahir Dar University, Ethiopia 2007

PROFESSIONAL APPOINTMENTS

- Assistant Professor, Full time, Department of Chemical Engineering, 2022-Present
- Lecturere, Department of Chemical Engineering, 2012-2022

OTHER PROFESSIONAL ACTIVITIES

- Research Team Member for Eco-Engineering for Agricultural Revitalization towards Improvement of Human Nutrition: Development of Nutrient and Energy Recovery Techniques from Water Hyacinth
- PI of a research project on Design and development of gasifier stove 2014 –2016
- Advisory committee member and secretariat of strategic plan of Bahir Dar Institute of Technology, Bahir Dar University, from Jun. 2021 until Now
- Organizing committee member of International Conference on Science and Technology towards the Development of East Africa (ICAST-2022)

- Organizing committee member of International Conference on Science and Technology towards the Development of East Africa (ICAST-2015)
- Organizing committee member of International Conference the advancement of green energy technology, Bahir Dar University, Ethiopia (IC-GET-2016)
- Worked as a committee member of procurement approval of Bahir Dar institute of technology

INSTITUTIONAL AND PROFESSIONAL SERVICE

- Nov. 2012 — to date, Lecturer and researcher in Chemical Engineering Department and Bahir Dar Energy Center, Bahir Dar Institute of Technology, Bahir Dar University (Ethiopia)
- Feb. 2015 — Sep. 2017, Chair of Bioenergy Research Stream and researcher in Bahir Dar Energy Center Bahir Dar Institute of technology, Bahir Dar University.
- Oct. 2014 — Mar. 2015, Coordinator of University- Industry Linkage in Bahir Dar Institute of Technology, Bahir Dar University.
- Aug. 2013 — Nov. 2014, Chair of Energy and Environmental Engineering in chemical engineering department, Bahir Dar Institute of technology, Bahir Dar University
- Sep. 2009 — Sep. 2010: Researcher as Chief Engineer at Homicho Chemical Engineering Complex industry West show zone, Ambo Ethiopia
- Sep. 2007—Aug. 2009, Manager of Water Resource and Development Office at Beyeda Woreda, North Gondar, Ethiopia

SCIENTIFIC AND PROFESSIONAL SOCIETY MEMBERSHIPS

- Ethiopian Society of Chemical Engineers

PRINCIPAL PUBLICATIONS IN LAST FIVE YEARS Journals:

- Getahun, E., Delele, M. A., Gabbiye, N., Fanta, S. W., Demissie, P., & Vanierschot, M. (2021). Importance of integrated CFD and product quality modeling of solar dryers for fruits and vegetables: A review. *Solar Energy*, 220, 88-110. <https://doi.org/10.1016/j.solener.2021.03.049>
- Getahun, E., Gabbiye, N., Delele, M. A., Fanta, S. W., Gebrehiwot, M. G., & Vanierschot, M. (2020). Effect of maturity on the moisture sorption isotherm of chili pepper(MarekoFanavariety). *Heliyon*. <https://doi.org/10.1016/j.heliyon.2020.e04608>

- Getahun, E., Delele, M. A., Gabbiye, N., Fanta, S. W., & Vanierschot, M. (2021). Studying the drying characteristics and quality attributes of chili pepper at different maturity stages: experimental and mechanistic model. *Case Studies in Thermal Engineering*, 101052. <https://doi.org/10.1016/j.csite.2021.101052>
- Getahun, E., Gabbiye, N., Delele, M. A., Fanta, S. W., & Vanierschot, M.: Two-Stage Solar Tunnel Chili Drying: Drying Characteristics, performance, Product Quality, and Carbon Footprint Analysis. *Solar Energy*, Vol. 230, December 2021, Pages 73-90. <https://doi.org/10.1016/j.solener.2021.10.016>
- Eshetu Getahun, Nigus Gabiyye. Experimental Investigation and Characterization of Biodiesel Production from Leather Industry Fleshing Wastes. *International Journal of Renewable and Sustainable Energy*. Vol. 2, No. 3, 2013, pp. 120-129. doi: 10.11648/j.ijrse.20130203.17.
- Eshetu G. Kefale W. A Comparative Study on the Cleaner Production Options for Fishery Wastes around Lake Tana. *International Letters of Natural Sciences*. Vol. 56, pp 14-24, doi:10.18052/www.scipress.com/ILNS.56.14

Conferences

- Getahun, E., Vanierschot, M., Gabbiye, N., Delele, M. A., Workneh, S., & Gebreslasie, M. (2019, August). Computational Fluid Dynamic Modeling and Simulation of Red Chili Solar Cabinet Dryer. In *International Conference on Advances of Science and Technology* (pp. 597-609). Springer, Cham. https://doi.org/10.1007/978-3-030-43690-2_45
- Getahun E., Tessema D., Gabbiye N. (2019) Design and Development of Household Gasifier Cooking Stoves: Natural Versus Forced Draft. In: Zimale F., Enku Nigussie T., Fanta S. (eds) *Advances of Science and Technology. ICAST 2018. Lecture Notes of the Institute for Computer Sciences, Social Informatics and Telecommunications Engineering*, vol 274. Springer, Cham.
- Eshetu Getahun, Nigus Gabiyye. Experimental Investigation and Characterization of Biodiesel Production from Leather Industry Fleshing Wastes: Proceeding of International Conference on Science and Technology towards the Development of East Africa (ICAST, 2013)

- Eshetu Getahun, Nigus Gabiyye. Modelling and Simulation of Biodiesel Production from Oil and Leather Industrial Wastes Using Aspen Plus 2006: Proceeding of National Conference on Science, Technology and Innovation for Prosperity of Ethiopia (NSCTI – 2012).

Professional Development/ Training

- Scientific and Statistical Data Analysis Tools using R- Statistical software, Bahir Dar, Ethiopia
- 18 Jun Energy and Flexibility Modelling Online Course by Climate Compatible Growth, Italy
- 14 June - 30 June 2021, Joint Summer School on Modelling Tools (OSeMOSYS) for Sustainable Development in Energy Modelling and Power System Flexibility from International Centre for Theoretical Physics (ICTP), Italy.
- 24 May-29 May 2021, Energy Conservation and Electric Power System Problems from Addis Ababa Institute of Technology, Addis Ababa
- Solar energy technologies installation and maintenance certificate by Focera and Bahir Dar energy center, March 6-7, 2014
- Troubelshooting and maintenance of Pico-solar systems and solar home systems, March 9-11, 2015

HONORS AND AWARDS

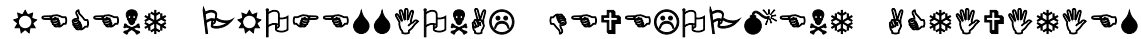
- Scientific research certificate award from hommicho chemical engineering industry,2010
- Academic best teacher certificate award from Bahir Dar Institute of Technology,2013
- Scientific research presentation certificate award from national and international Conference, by Bahir Dar Institute of technology, 2012, 2013, 2016, 2018, 2019

- Ethiopian Society of Chemical Engineers

AWARDS

- Certificate from capacity building organization in BPR (business process reengineering)

- Certificate from HERQA (Higher education relevancy and quality assurance)



- Community service on Design of Biogas stove for injera baking application

Adane Adugna Ayalew

Instructor

Bahir Dar Institute of Technology

Faculty of Chemical and Food Engineering

EDUCATION

- *B.Sc., Chemical engineering, Adama Science and Technology University, Ethiopia 2013*

- *M.Sc , Process engineering, Bahir dar Institut of technology, Ethiopia 2016*

PROFESSIONAL APPOINTMENTS

- *Lecturer full time, Chemical engineering, Bahir dar Institute of technology, Ethiopia 2015 – present*

- *Assistant lecturer: Chemical engineering, Bahir dar Institute of technology, Ethiopia 2012 – 2013*

SCIENTIFIC AND PROFESSIONAL SOCIETY MEMBERSHIPS

- *Ethiopian Society of Chemical Engineers*

- *Society for Ecotourism and Biodiversity Conservation (SECTBDC*

PUBLICATIONS IN LAST FIVE YEARS Journals:

- Aragaw, T.A. and A.A. Ayalew, 2018. Removal of water hardness using zeolite synthesized from Ethiopian kaolin by hydrothermal method. *Water Pract. Technol.*, 14: 145-159. <https://doi.org/10.2166/wpt.2018.116>
- Ayalew, A.A. and T. Takele, 2019. Data set on performance evaluation of discharged wastewater quality from Guna water treatment plant for potable water purpose. *Data Brief*, <https://doi.org/10.1016/j.dib.2019.104926>
- Ayalew, A.A., 2020. Insecticidal activity of *Lantana camara* extracts oil on controlling maize grain weevils. *Toxicol. Res. Appl.* <https://doi.org/10.1177/2397847320906491>
- Ayalew, A.A. and Aragaw, T.A., 2020. Utilization of treated coffee husk as low-cost bio-sorbent for adsorption of methylene blue. *Adsorb. Scien. Technol.* 38 (5-6):205-222. <https://doi.org/10.1177/0263617420920516>.
- . Kebede, H.M. and Ayalew, A.A. 2020. Development of Kaolin Clay as Cost- Effective adsorbent for De-Fluoridation of Ground Water. *International journal of chemical engineering.* 2020:1-10.
- Ayalew, A.A. 2020. Chromatographic and Spectroscopic Assessment of *Lantana Camara* Leaf Oil. *Journal of International Medical Research.* 48:1-12 <https://doi.org/10.1177/0300060520962344>
- Ayalew, A.A. and T. Takele, 2020. Recycling of discharged wastewater for drinking purpose: a case study in Guna water treatment plant, Ethiopia. *Desalination and Water Treatment.* <https://doi.org/10.5004/dwt.2020.26281>
- Ayalew, A.A. (2022). Application of Polymer/Carbon Nanocomposite for Organic Wastewater Treatment. In: Khadir, A., Muthu, S.S. (eds) *Polymer Technology in Dye-containing Wastewater. Sustainable Textiles: Production, Processing, Manufacturing & Chemistry.* Springer, Singapore. https://doi.org/10.1007/978-981-19-1516-1_8
- Ayalew. A.A. (2022). A critical review on clay-based nanocomposite particles for application of wastewater treatment. *Water science and technology.* <https://doi.org/10.2166/wst.2022.150>
- 4th International conference on Advance of Science and Technology (ICAST-2016), June 17th-18th, Bhair Dar, Ethiopia.

Conference Proceedings

- Adane Adugna Ayalew, Alemayheu Kiflue; Utilization of Ethiopian natural kaolin for zeolite syntheses for application of water hardness removal; Book chapter of the 4th International conference on Advance of Science and Technology (ICAST-2016), June 17th-18th, Bhair Dar, Ethiopia.

Recent professional development activities/ Training

- *Ansys and comsol CFD modeling softwares,*
- *HDP (higher diploma Teaching methodology training).*
- Externship program in Dashen Brewery Factory
- Externship program Gondar Malt Factory
- Leadership in project Cycle Management from November 29 December 2016 Bahir Dar University, Bahir Dar, Ethiopia.
- Scientific and Statistical Data Analysis Tools use R-Statistical software at Bahir Dar Institute of Technology, Bahir Dar University, Bahir Dar, Ethiopia from May 24-28, 2018.
- Scientific and Statistical Data Analysis Tools using SPSS 20 software at Bahir Dar Institute of Technology, Bahir Dar University, Bahir Dar, Ethiopia from January 13 -20, 2019.
- Computational Fluid Dynamics (CFD) in chemical engineering at Bahir Dar Institute of Technology, Bahir Dar University, Bahir Dar, Ethiopia from 12/11/2017 – 16/11/2017

Awards and Honors

- Excellent PG Seminar presentation of the year 2016, at Bahir Dar University
- Best performer in standardize the research laboratories, Bahir Dar University
- Free servicing in Society for Ecotourism and Biodiversity Conservation (SECTBDC)

Melkamu Birlie Genet
Instructor
Bahir Dar Institute of Technology
Faculty of Chemical and Food Engineering

EDUCATION

- B.Sc., Chemical Engineering, Adama Science and Technology University (ASTU), Ethiopia 2013
- M.Sc., Process Engineering, Bahir Dar Institute of Technology (BiT), Bahir Dar University, Ethiopia, 2017

PROFESSIONAL APPOINTMENTS

- Lecturer, Department of Chemical Engineering, 2017 to Present
- Assistant Lecture, Department of Chemical Engineering, 2013-2016

OTHER PROFESSIONAL ACTIVITIES

- Serve as a supervisor for chemical and food engineering graduate interns for the STEP-GIZ funded pilot graduate internship and staff externship project, June 2019 to January 2020.

INSTITUTIONAL AND PROFESSIONAL SERVICE

- Facility Manager at Faculty of Chemical and Food Engineering, Bahir Dar Institute of Technology, Bahir Dar University, September 2020-Present.
- Course chair for Process Control and Material Engineering, Department of Chemical Engineering, Bahir Dar Institute of Technology, Bahir Dar University, December 2019 to March 2020.

SCIENTIFIC AND PROFESSIONAL SOCIETY MEMBERSHIPS

- Ethiopian Society of Chemical Engineers

PRINCIPAL PUBLICATIONS IN LAST FIVE YEARS Journals:

- Jembere, A. L., & Genet, M. B. (2021). Comparative adsorptive performance of adsorbents developed from sugar industrial wastes for the removal of melanoidin pigment from molasses distillery spent wash. *Water Resources and Industry*, 26, 100165.
- Genet, M. B., Sendekie, Z. B., & Jembere, A. L. (2021). Investigation and optimization of waste LDPE plastic as a modifier of asphalt mix for highway asphalt: Case of Ethiopian roads. *Case Studies in Chemical and Environmental Engineering*, 4, 100150.
- Angerasa, F. T., Kalifa, M. A., Jembere, A. L., & Genet, M. B. (2021). Spent kaolin filter cake as an effective adsorbent for the removal of Hexavalent Chromium [Cr (VI)] from aqueous solution: Comparative study of wastewater treatment methods. *South African Journal of Chemical Engineering*, 38, 90-103.
- Lemessa, A., Birlie, M., Kassahun, M., & Mengistu, Y. (2021, August). Process Revamping of H₂SO₄ Plant to Double Contact Double Absorption (DCDA) Using ASPEN HYSYS to Reduce SO₂ Emissions: Case of Awash Melkassa Sulfuric Acid Factory. In *International Conference on Advances of Science and Technology* (pp. 59-72). Springer, Cham.
- Genet, M. B., Admas, A. M., Abeje, A. G., & Melese, F. E. (2020, October). Extraction of Natural Dye from the Root of *Rumex Abyssinicus* for Textile Dying Application. In *International Conference on Advances of Science and Technology* (pp. 83-96). Springer, Cham.

Professional Development/ Training

- Higher Diploma Program (HDP) training, Bahir Dar, Ethiopia

HONORS AND AWARDS

- Best paper award of International Conference on Advances of Science and Technology (ICAST) 2021 held in Bahir Dar Institute of Technology, Bahir Dar University, Ethiopia.

Melaku Esubalew

Instructor

Bahir Dar Institute of Technology

Faculty of Chemical and Food Engineering

EDUCATION

- B.Sc., Chemical engineering, Bahir Dar Institute of technology, Ethiopia 2009
- Msc. Industrial Science, Chemical Engineering, GroepT KU Leuven, Leuven, Belgium 2014

PROFESSIONAL APPOINTMENTS

- Lecturer full time, Chemical engineering, Bahir University, Ethiopia July 2020– present
- Lecturer full time, Chemical engineering, Dire Dawa University, Ethiopia 2014 to July 2020
- Assistant lecturer: Chemical engineering, Dire Dawa University, 2010 to September,2014
- Graduate Assistant II ; Chemical engineering, Dire Dawa University, 2009 to September,2010

OTHER PROFESSIONAL ACTIVITIES

- Dean, School of Chemical and Bio Engineering Dire Dawa University, Ethiopia , April ,2018 to Oct. 2019,
- Department Head, Department of Chemical Engineering, Dire Dawa University, Ethiopia, May,2010 to September,2012

RECENT PROFESSIONAL DEVELOPMENT ACTIVITIES

- Enterprising Engineering Education (In recognition for my attendance of a training in Enterprising Engineering Education at *GROUPT –Leuven Engineering College, Leuven, Belgium*, from February 20,2012 until March 16,2012)
- Leadership and Management skill (In successful completion of the Leadership and Management course organized by Dire Dawa University, Dire Dawa Ethiopia)
- Computer Training Certificates

Gemechu Kassaye Abera
 Instructor
 Bahir Dar Institute of Technology
 Faculty of Chemical and Food Engineering

EDUCATION

- B.Sc., Chemical Engineering, Bahir Dar University, Ethiopia 2012
- MSc: Chemical Engineering (specialized in Environmental Engineering), Bahir Dar Institute of Technology, 2015

PROFESSIONAL APPOINTMENTS

- Lecturer, Full time, Department of Chemical Engineering, 2015-Present
- Assistant Lecturer, Department of Chemical Engineering, 2012-2015

INSTITUTIONAL AND PROFESSIONAL SERVICE

- Academic program manager in Bahir Dar Institute of Technology-Bahir Dar University, (2015-2017)
- Environmental and energy chair holder in Bahir Dar Institute of Technology-Bahir Dar University, (2016-2018)

SCIENTIFIC AND PROFESSIONAL SOCIETY MEMBERSHIPS

- Ethiopian Society of Chemical Engineers

PRINCIPAL PUBLICATIONS IN LAST FIVE YEARS Journals:

- Kassaye G., Alemu A., Gabbiye N. (2020) ‘Pilot-Scale Horizontal Subsurface Flow Constructed Wetland for Removal of Chromium from Tannery Waste Water with Suitable Local Substrate Material’. 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_21
- Gemechu Kassaye, Nigus Gabbiye, Agegnehu Alemu ‘Phytoremediation of chromium from tannery wastewater using local plant species’ Water Practice and Technology Dec 2017, 12 (4) 894-901; <https://DOI: 10.2166/wpt.2017.094>

Conferences

- Proceeding on the 9th EAI International Conference on the Advancement of Science and Technology, August 2021 (Comparison of UV Assisted Fenton Process and Fenton Process for Removal of Reactive Red 2 (RR2) dye from textile wastewater)
- Proceeding on the 7th EAI International Conference on the Advancement of Science and Technology, August 2019 (Pilot-scale horizontal subsurface flow constructed wetland for Removal of Chromium from Tannery Waste Water with Suitable Local Substrate material)
- Proceeding on 3rd international conference on the advancement of science and technology, May 2015

Professional Development/ Training

- Certificate of Excellence Awarded for short training on ‘short Training on Food Waste Treatment in Agro-Industrial Parks’ organized by Bahir Dar Institute of Technology- Bahir Dar University (BiT) and Food, Beverage and Pharmaceutical Development Institute (FBPIDI) from 27th to 31st January, 2020.
- Certificate of webinar participation Awarded on “Strategies for writing your literature review: screening papers and synthesizing results” organized by Researcher Academy- Elsevier on 15th of July, 2019
- Higher education diploma (HDP) since 2(2015/16)

Bantelay Sintayehu
Instructor
Bahir Dar Institute of Technology
Faculty of Chemical and Food Engineering

EDUCATION

- B.Sc., Chemical engineering, Bahir dar Institut of Technology, Ethiopia ,2007
- Mtech. In Chemical Engineering, Addis Ababa University, Ethiopia 2012

PROFESSIONAL APPOINTMENTS

➤ Lecturer full time, Chemical engineering, Bahir Dar Institute of Technology, Ethiopia
2018–
present

➤ Lecturer full time, Chemical engineering, Bahir Dar Institute of Technology, Ethiopia
2012–
2018

OTHER PROFESSIONAL ACTIVITIES

- Director, University Industry Linkage and Community Service Bahir dar Institute of technology, Ethiopia 2020– present

- Coordinator, University Industry Linkage Coordinator Bahir dar Institute of technology, Ethiopia 2018–2020
- Dean, Faculty of Technology Debre Tabor University, Ethiopia 2018–present

INSTITUTIONAL AND PROFESSIONAL SERVICE

- Production Head, Ambasel Sesame Processing Plant, Gondar Ethiopia ,2008-2010

SCIENTIFIC AND PROFESSIONAL SOCIETY MEMBERSHIPS

- Ethiopian Society of Chemical Engineers

RECENT PROFESSIONAL DEVELOPMENT ACTIVITIES

- Higher Education Leadership and Management, Osnabruck, Germany
- HDP (higher diploma Teaching methodology training).
- Certificate of Training on Project cycle management
- Certificate in Food Safety Management System
- *Recent Developments in the Design Methodology of cross flow turbines aimed at increasing the efficiency, By professor of David Wood, Schulich professor of Renewable Energy University of Calgary*

HONORS AND AWARDS

- Second Prize of the Ethiopian Society of Chemical Engineers Scholastic Award (2007).
- Gold award by being best Dean of the year 2015 and 2016, Debre Tabor University

Mulugeta Adugna

Instructor

Bahir Dar Institute of Technology

Faculty of Chemical and Food Engineering

EDUCATION

➤ *B.Sc., Chemical Engineering, Bahir Dar University, Ethiopia 2010*

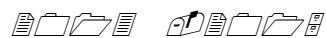
➤ *MSc , Process Engineering , Bahir Dar Institute of Technology, Ethiopia.  Ethiopia*



PROFESSIONAL APPOINTMENTS

➤ *Lecturer, Chemical engineering, Bahir Dar Institute of Technology, Ethiopia 2015– present*

➤ *Assistant Lecturer, Chemical Engineering, Bahir Dar Institute of Technology, Ethiopia,*



OTHER PROFESSIONAL ACTIVITIES

➤ *Quality Assurance and Enhancement coordinator, Chemical Engineering, Bahir Dar Institute of Technology, Ethiopia, 2017-present*

➤ *Course Chair, Chemical Engineering, Bahir Dar Institute of Technology, Ethiopia, 2016-2017*

INSTITUTIONAL AND PROFESSIONAL SERVICE

➤ *Chemical Engineer II in Homicho Ammunition & Chemical Engineering Industry ,2010- 2011*

➤ *Production and Technical Shift Leader in Burayu Spring Water P.L.C and it is Sister Company Asku P.L.C ,2011 -2012*

➤ *Kaizen Consultant in Ethiopian kaizen institute 2012 – 2013*

SCIENTIFIC AND PROFESSIONAL SOCIETY MEMBERSHIPS

➤ *Ethiopian Society of Chemical Engineers*

SEMINARS

➤ *Computational Modelling of the Transport phenomenon during postharvest handling of fruits.”Dr. Alemayehu Ambaw, Stellenbosch University, South Africa, January 2019.*

➤ *Recent Developments in the Design Methodology of cross flow turbines aimed at increasing the efficiency ,By professor of David Wood,Schulich professor of Renewable Energy University of Calgary*

Adugna Nigatu Alene

Instructor

Bahir Dar Institute of Technology

Faculty of Chemical and Food Engineering

Department of Chemical Engineering

EDUCATION

➤ B.Sc., Chemistry, Ambo University, Ethiopia 2013

➤ M.Sc. , Chemistry (Organic), Bahir Dar University, Ethiopia, 2018

PROFESSIONAL APPOINTMENTS

➤ Lecturer, Full time, Department of Chemical Engineering, Bahir Dar University Institute of Technology, Bahir Dar, 2020-Present

OTHER PROFESSIONAL ACTIVITIES

- Lecturer, Full time, Department of Chemistry, Woldia University, Woldia, 2018-2020
- Senior/ Chief technical assistant, Full time, Department of Chemical Engineering, Bahir Dar University Institute of Technology, 2015-2018
- High school Chemistry teacher, Gaint, S/Gondar, Ethiopia, 2013-2015

INSTITUTIONAL AND PROFESSIONAL SERVICE

- Course chair under Biochemical chair, department of chemical engineering, Bahir Dar University Institute of Technology, Oct. 2021-present
- Head of chemistry laboratories, Woldia University, 2019 & 2020

PRINCIPAL PUBLICATIONS IN LAST FIVE YEARS Journals:

- Admase AT, Sendekie ZB, Alene AN (2022) Biodegradable Film from Mango Seed Kernel Starch Using Pottery Clay as Filler. *J Polym Environ.* <https://doi.org/10.1007/s10924-022-02449-7>
- Aragaw TA, Alene AN (2022) A comparative study of acidic, basic, and reactive dyes adsorption from aqueous solution onto kaolin adsorbent: Effect of operating parameters, isotherms, kinetics, and thermodynamics. *Emerg Contam* 8:59–74 . <https://doi.org/10.1016/j.emcon.2022.01.002>
- Alene AN, Abate GY, Habte AT, Getahun DM (2021) Utilization of a Novel Low-Cost Gibto (*Lupinus Albus*) Seed Peel Waste for the Removal of Malachite Green Dye: Equilibrium, Kinetic, and Thermodynamic Studies. *J Chem* 2021:1–16 . <https://doi.org/10.1155/2021/6618510>
- Abate GY, Alene AN, Habte AT, Addis YA (2021) Adsorptive Removal of Basic Green Dye from Aqueous Solution Using Humic Acid Modified Magnetite Nanoparticles: Kinetics, Equilibrium and Thermodynamic Studies. *J Polym Environ* 29:967–984 . <https://doi.org/10.1007/s10924-020-01932-3>
- Abate GY, Alene AN, Habte AT, Getahun DM (2020) Adsorptive removal of malachite green dye from aqueous solution onto activated carbon of *Catha edulis* stem as a low cost bio-adsorbent. *Environ Syst Res* 9: . <https://doi.org/10.1186/s40068-020-00191-4>
- Habte AT, Mekonnen SD, Alene AN, Abate GY (2020) FAAS, FT-IR and XRD Identification of Natural and Heat Treated Opals Located in Wadla Woreda, North

Wello, Ethiopia. Asian J Appl Chem Res 1–8. <https://doi.org/10.9734/ajacr/2020/v7i130171>

- Alene AN, Abate GY, Habte AT (2020) Bioadsorption of Basic Blue Dye from Aqueous Solution onto Raw and Modified Waste Ash as Economical Alternative Bioadsorbent. J Chem 2020: . <https://doi.org/10.1155/2020/8746035>
- Adugna Nigatu, Solomon Libsu (2019) Studies on the Effects of Extracts of Fresh Khat/Catha edulis Leaves on the Oxidation of Niger Seed Oil. J Pharm Pharmacol 7:421–428 . <https://doi.org/10.17265/2328-2150/2019.07.007>

PROFESSIONAL DEVELOPMENT/TRAINING

- Scientific and Statistical Data Analysis Tools using SPSS, Bahir Dar, Ethiopia
- Total quality management, Bahir Dar, Ethiopia
- Post graduate diploma on teaching, PGDT, Bahir Dar, Ethiopia

Gedefaw Asmare Tafete

Instructor

Bahir Dar Institute of Technology

Faculty of Chemical and Food Engineering

EDUCATION

- B.Sc., Chemical Engineering, Bahir Dar University, Ethiopia 2012
- M.Sc. , Process Engineering, Addis Ababa University, Ethiopia, 2015

PROFESSIONAL APPOINTMENTS

- Lecturer, Full time, Department of Chemical Engineering, Bahir Dar University, from March, 2019-Present

- Lecturer, full time, Department of chemical engineering, Debre Berhan University from July 2015- February,2019
- Assistant lecturer, full time, Department of chemical engineering, Debre Berhan University from August 2012- October,2013

INSTITUTIONAL AND PROFESSIONAL SERVICE

- October 2012 – October 2013, Head of Department Chemical Engineering
- May 2017- October,2017, Research and Community service coordinator for College of engineering

SCIENTIFIC AND PROFESSIONAL SOCIETY MEMBERSHIPS

- Ethiopian Society of Chemical Engineers

PRINCIPAL PUBLICATIONS IN LAST FIVE YEARS Journals:

- Gedefaw Asmare Tafete, Metadel Kassahun Abera, Ganesh Thothadri ;2022; Review on nanocellulose-based materials for supercapacitors applications, Journal of Energy Storage, Volume 48, pages 103938
- Gedefaw Asmare Tafete, Metadel Kassahun Abera, Ganesh Thothadri; A review on carbon nanotube-based composites for electrocatalyst applications, Fullerenes, Nanotubes and Carbon Nanostructures, pages 1-9
- GEDEFW ASMARE, Pulp production and optimization from cotton stalks, Berhan International Research Journal of Science and Humanities, Volume1,pages 18-27
- Gedefaw Asmare, Birhan Getachew, Wendifraw Abate, Tsegazeab kassa; Tannery Wastewater Treatment by Coagulation-Flocculation Technique Using Combination of Calcium Polysulfide and Ferrous Sulphate, voule 9, pages 79-83

Professional Development/ Training

- Higher Diploma Program in Teaching, Bahir Dar University, Ethiopia
- 2021 BASF Sponsored Virtual CCPS process safety Faculty workshop, USA
- International summer school Sustainable entrepreneurship, Technical University of Munich, Germany
- Operations and maintenance of Cross-country pipelines, Indian oil Corporation, India

Bassazin Ayalew Mekonnen

Instructor

Bahir Dar Institute of Technology

Faculty of Chemical and Food Engineering

EDUCATION

- B.Sc., Chemical Engineering, Bahir Dar University, Ethiopia, 2013
- M.Sc , Sustainable Energy Engineering, Bahir Dar University, Ethiopia, 2017

PROFESSIONAL APPOINTMENTS

- Lecturer, Full time, Department of Chemical Engineering, 2017-Present
- Assistant Lecturer, Department of Chemical Engineering, 2013-2017

OTHER PROFESSIONAL ACTIVITIES

- Project Coordinator, Sustainable Energies and Entrepreneurship in the global south at Bahir Dar Institute of Technology, Bahir Dar University (BiT-BDU SEED Center) November 2020 – to present

INSTITUTIONAL AND PROFESSIONAL SERVICE

- Postgraduate Programme coordinator, Bahir Dar Energy Centre, Bahir Dar Institute of Technology January 2017 – February, 2020,
- Course chair of Energy and Environmental chair, Faculty of Chemical and Food engineering, Jan. 01,2016 – Jan. 01, 2017,

PRINCIPAL PUBLICATIONS IN LAST FIVE YEARS Journals:

- Bassazin Ayalew Mekonnen (2022). Thermal Efficiency Improvement and Emission Reduction Potential by Adopting Improved Biomass Cookstoves for Sauce-Cooking Process in Rural Ethiopia. *Case Studies in Thermal Engineering*,
- Bassazin Ayalew Mekonnen and Tadele Assefa Aragaw (2021). Environmental Sustainability and COVID-19 Pandemics: An Overview Review on New Opportunities and Challenges, In book: Muthu S.S. (eds) *Environmental Footprints and Eco-design of Products and Processes*, https://doi.org/10.1007/978-981-16-3860-2_5
- Tegen Dagne Tessema and Bassazin Ayalew Mekonnen (2021). Assessment of Improved Biomass Cook Stoves in Ethiopia: Utilization Practices and Adoption Factors; the Case of Merawi, Kolela District. *Academy of Entrepreneurship Journal* 27(2):1 – 19
- Tadele Assefa Aragaw and Bassazin Ayalew Mekonnen (2021). Distribution and Impact of Microplastics in the Aquatic Systems: A Review of Ecotoxicological Effects on Biota. In book: Muthu S.S. (eds) *Microplastic Pollution. Sustainable Textiles: Production, Processing, Manufacturing & Chemistry*, https://doi.org/10.1007/978-981-16-0297-9_3
- Tadele Assefa Aragaw and Bassazin Ayalew Mekonnen (2021). Current plastics pollution threats due to COVID-19 and its possible mitigation techniques: A waste – to – energy conversion via Pyrolysis. *Environmental Systems Research* , <http://doi.org/10.1186/s40068-020-00217-x>
- Bassazin Ayalew Mekonnen, Kassa Wudineh Liyew , Temesgen Tigabu Muluken (2020). Solar Cooking in Ethiopia: Experimental Testing and Performance Evaluation of SK14 Solar Cooker. *Case Studies in Thermal Engineering*, <http://doi.org/10.1016/J.csite.2020.100766>

Conferences

- Bassazin Ayalew Mekonnen and Nigus Gabbiye Habtu (2017); Conference proceeding in 5th International conference on the advancement of Science and Technology, pp84 – 92 (ICAST-2017) which was held at Bahir Dar university, Bahir Dar, Ethiopia.
<https://bit.bdu.edu.et/srgs/sites/bit.bdu.edu.et.srgs/files/Chemical%20and%20Food%20Engineering.pdf>

Professional Development/ Training

- Joint summer school on modeling and tools for Sustainable development in energy modeling and power system flexibility, Abdusalam International Center for Theoretical physics(ICTP), Trieste-Italy
- International summer school Sustainable Entrepreneurship, Technical University of Munich, TUM School of Management, Munich- Germany
- Higher Diploma Program In Teaching (HDP), Bahir Dar university, Ethiopia

Tegen Dagnev Tessema
Instructor
Bahir Dar Institute of Technology
Faculty of Chemical and Food Engineering

EDUCATION

- B.Sc., Chemical Engineering, Bahir Dar University, Ethiopia 2013
- M.Sc , Sustainable Engineering, Bahir Dar University, Ethiopia, 2017

PROFESSIONAL APPOINTMENTS

- Lecturer, Full time, Department of Chemical Engineering, 2017-Present
- Assistant Lecturer , Department of Chemical Engineering, 2013-2017

OTHER PROFESSIONAL ACTIVITIES

- 1 .** Review Editor, Journal of Critical Reviews in Biotechnology, Impact factor of 7.178,Taylor and Francis.
- 2 .** Review Editor, International Journal of Energy Research, Online ISSN:1099-114X, Impact factor of 5.164, Publisher: Wiley.
- 3 .** Capacity building and technology transfer project -Efficient biomass stove model dissemination and proper utilization practices training and adoption for communities live remote areas, Nov-Jun 2019.
- 4 .** Community service -Quality monitoring (Onsite Sample collection, experimental analysis of physico-chemical properties of discharged waste water from the treatment plant) for Dashen Brewery, Nov- Feb,2018
- 5 .** Capacity building- Laboratory demonstration and experimental on electro-mechanical components for waste water management for Amhara design and supervision works enterprise electro-mechanical technicians organized by BiT Trading.,4th -8th November.
- 6 .** Technology Transfer project -gravity assisted UV ,and membrane drinking water filter system for rural communities in Andasa Keble,Bahir Dar Zuria Woreda,Ethiopia.,October 2020-Agust2021

INSTITUTIONAL AND PROFESSIONAL SERVICE

- Energy and Environmental Engineering chair council secretary and course chair for Energy Engineering, Faculty of Chemical and Food Engineering, Bahir Dar Institute of Technology, Bahir Bar University, Ethiopia , Sep 2021-up to date,
- Chairholder (Department Head) of Environmental and Energy Engineering, Faculty of Chemical and Food Engineering, Bahir Dar Institute of Technology, Bahir Bar University, Ethiopia. July 2018-September-2019:
- Course chair for fluid mechanics and machines for chemical Engineers, Faculty of chemical and Food Engineering, Bahir Dar Institute of Technology, Bahir Bar University, Ethiopia. January -2017 – June -2018
- Lecturer, Faculty of Chemical and Food Engineering, Bahir Dar Institute of Technology, Bahir Dar University Ethiopia. March 2017-up to date,
- Assistant Lecturer, Faculty of Chemical and Food Engineering, Bahir Dar Institute of Technology, Bahir Dar University Ethiopia. August 2013-March/2017

SCIENTIFIC AND PROFESSIONAL SOCIETY MEMBERSHIPS

- Ethiopian Society of Chemical Engineers

PRINCIPAL PUBLICATIONS IN LAST FIVE YEARS Journals:

- Full length article: Comparative effect of electron acceptors [KMnO₄ and K₃[Fe (CN)₆] in power generation and COD reduction from brewery wastewater via microbial fuel cell,(accepted for publication)-April 2022, Tegen Dagnew Tessema, Temesgen Atanfu Yemata International Journal of Energy Research,Wiley
- Antidandruff efficacy of plant extracts prepared from ethanol leaf extract of local herbs (aloe vera(olive)(eret), ocimum sanctum (damkese), and withania somnifera (gizewa): perspective as herbal medicine, March 2022 (Inpress), Tegen Dagnew,Yohanis Wondante , Ethiopian Journal of Science and Technology
- Experimental dataset on the effect of electron acceptors in energy generation from brewery wastewater via microbial fuel cell, Tegen Dagnew Tessema, Temesgen Atanfu Yemata <https://doi.org/10.1016/j.dib.2021.107272>, 8, August 2021, Journal of data in brief, Elsevier.

- Assessment of improved biomass cook stoves in Ethiopia: Utilization practices and adoption factors; The case of Merawi, Kolela District, Tegen Dagnew Tessema, and Bassazin Ayalew Mekonnen, 27/03/2021, Academy of Entrepreneurship Journal, Scopus preview: <https://www.scopus.com/authid/detail.uri?authorId=57223098830>

CONFERENCES

- **Virtual** : First international conference on Environmental Science & Green Energy October 24-26, 2021, Paris, France

PROFESSIONAL DEVELOPMENT/ TRAINING

- November, 22 - 10/ December 2021-Energy Modelling Platform for Africa (EMP-A) 2021 training programme from, with specialization in the tracks on OSeMOSYS and FlexTool, Southborough University. Imperial Collage London.
- June/225-28/2021, R-software training, Bahir Dar Institute of Technology, Bahir Dar University, Ethiopia
- October 25 /2019-November 01/2019, Latex training on scientific paper writing, Bahir Dar University, Ethiopia
- February 25 to March 01, 2019, Elemental analysis technique (Inductively Coupled Plasma/ ICP-OES-Theoretical to practical analysis (Sample Preparation to result interpretation), Bahir Dar Institute of Technology, Bahir Dar University, Ethiopia, 2019.
- October 2015-June/2016, Higher diploma program (HDP) as certified professional teacher educator at College of Education and Behavioral science, Bahir Dar University, Ethiopia, 2016.
- October /2011- January /2012, Four-month Internship experience at Dahren Brewery, Gondar, Ethiopia.

Senait Aklog Tesfaw

Instructor

Bahir Dar Institute of Technology
Faculty of Chemical and Food Engineering

EDUCATION

- B.Sc., Applied Chemistry , University of Gondar Ethiopia 2013
- M.Sc. , Analytical Chemistry, Bahir Dar University, Ethiopia, 2016

PROFESSIONAL APPOINTMENTS

- lecturer and researcher at Bahir Dar University, Institute of Technology. Bahir Dar, Ethiopia, October 2017 – present (2022)
- , Senior Technical Assistant at Bahir Dar University, Department of Chemistry. February 2016 – October 2016
- Radiation safety office at, Ethiopian Radiation Protection Authority at Addis Ababa, Ethiopia November 2013 – September 2014,
- Chemistry teacher at Sokoruu High School, Jimma, Ethiopia. July 2013- November 2013

OTHER PROFESSIONAL ACTIVITIES

- Trainer and Organizer for attaining on Elemental Analysis Techniques (Inductively coupled plasma –optical emission spectroscopy/ICP-OES from December 13,2018 to march 12, 2019

INSTITUTIONAL AND PROFESSIONAL SERVICE

- October 2019- December 2020, Course Chair of Bio Chemical Engineering at Bahir Dar University Institute of Technology

SCIENTIFIC AND PROFESSIONAL SOCIETY MEMBERSHIPS

- Ethiopian Society of Chemical Engineers
- Royal Society of Chemistry

PRINCIPAL PUBLICATIONS IN LAST FIVE YEARS Journals:

- Electrochemical Determination of Caffeine Content in Ethiopian Coffee Samples Using Lignin Modified Glassy Carbon Electrode.
- Determination of Trace metals on fruits of Mango, Avocado and papaya from Gondar City, Gebeya Market.

Professional Development/ Training

- Certificate of Trainer and Organizer for attaining on Elemental Analysis Techniques (Inductively coupled plasma –optical emission spectroscopy/ICP-OES from December 13, 2018 to march12, 2019
- Academic Writing & Publication for female Bahir dar university institute of technology staff instructors hosted by BiT, held from December 9th – 10, 2021
- Quality laboratories management with electro analytical techniques a hand on approach from sample analysis to data interpretation, Hosted by Bahir Dar university held from 5th - 9 the March 2018.
- Scientific and Statistical Data Analysis Tools using R- Statistical software, Hosted by Bahir Dar university institute of technology November 2019, Ethiopia.

➤ GC-MS Training: Hands on approach organized by federation of African society of chemistry and the pan African network (PACN) held on 20-24 June 2022, at Addis Ababa University, Chemistry department.