

PERSONAL INFORMATION



Medhen Wondwossen Abebe

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Date of birth	07/10/1994
Marital status	Single
Nationality	Ethiopian
Known Languages	English & Amharic (fluent), Korean (basic)

EDUCATION

Addis Ababa Institute of Technology (AAiT)

Bachelor's degree in Chemical engineering

CGPA 3.23/4.00

2012 (September) – 2017 (July)

Myongji University (MJU)

Ph.D in Energy Science & Technology

CGPA 4.38/4.5

2017 (September) – Present

PUBLICATIONS

Gallic acid modified alginate self-adhesive hydrogel for strain responsive transdermal delivery

Medhen W. Abebe, R. Appiah-Ntiamoah, Hern Kim, *Journal of Biological Macromolecules* 165, (2020) 147-155.

Methylcellulose/tannic acid complex particles coated on alginate hydrogel scaffold via Pickering for removal of methylene blue from aqueous and quinoline from non-aqueous media

Medhen W. Abebe, Hern Kim, *Chemosphere*, (2022) 131597.

Engineered iron-carbon-cobalt (Fe₃O₄@C-Co) core-shell composite with synergistic catalytic properties towards hydrogen generation via NaBH₄ hydrolysis

Anteneh F. Baye, Medhen W. Abebe, Richard Appiah-Ntiamoah, Hern Kim, *Journal of Colloid and Interface Science* 543, (2019) 273–284.

Ternary NiCoP urchin like 3D nanostructure supported on nickel foam as a catalyst for hydrogen generation of alkaline NaBH₄

Arni M. Pornea, Medhen W. Abebe, Hern Kim, *Chemical Physics* 516, (2019) 152-159.

Utilization of the superior properties of highly mesoporous PVP modified NiCo₂O₄ with accessible 3D nanostructure and flower-like morphology towards electrochemical methanol oxidation reaction

Gracita M. Tomboc, Medhen W. Abebe, Anteneh F. Baye, Hern Kim, *Journal of Energy Chemistry* 29, (2019)136-147.

In-situ prepared ZnO-ZnFe₂O₄ with 1-D nanofiber network structure: An effective adsorbent for toxic dye effluent treatment

Richard Appiah-Ntiamoah, Anteneh.F Baye, Bekelcha T. Gadisa, Medhen W. Abebe, Hern Kim, *Journal of Hazardous Materials* 373, (2019) 459-467.

Degradation kinetics of polyanethole: A newly synthesized green polymer

Richard Appiah-Ntiamoah, Hern Kim, Bekelcha.T. Gadisa, Anteneh F. Baye, Medhen W. Abebe, S.V. Kostjuk, *Materials Chemistry and Physics* 219, (2018) 468-477.

Alginate/chitosan bi-layer hydrogel as a novel tea bag with in-cup decaffeination

Medhen W. Abebe, R. Appiah Ntiamoah, Hern Kim *Journal of Biological Macromolecules*, (Under review).

Efficient removal of PPC from aqueous solution using coffee waste derived N-doped activated carbon

Medhen W. Abebe*, Daniel N. Mengesha*, R. Appiah Ntiamoah, Hern Kim, *Science of Total Environment*, (under revision).

Triple-network phase changing IPN-hydrogel for personal and environmental thermal energy management

Medhen W. Abebe, Hern Kim, *Energy and Buildings*, (To be submitted).

* Equal contribution

CONFERENCES

International Conference on Functional Materials (ICFM)

Oral presentation *September 2018 (Shanghai, China)*

Design of novel hydrogel tea bag

Korean Society of Industrial & Engineering Chemistry (KSIEC)

Poster presentation *November 2018 (Jeju, Korea)*

Synthesis of 1-D ZnFe₂O₄/PAN composite using simple fiber dipping method for supercapacitor application

Korean Society of Industrial & Engineering Chemistry (KSIEC)

Poster presentation *May 2019 (Busan, Korea)*

Alginate/Methylcellulose core-shell composite hydrogels for smart caffeine encapsulation

Korean Society of Industrial & Engineering Chemistry (KSIEC)

Poster presentation *November 2019 (Jeju, Korea)*

Metal organic framework decorated calcined eggshell for efficient removal of organic pollutants

Korean Society of Industrial & Engineering Chemistry (KSIEC)

Poster presentation *November 2019 (Jeju, Korea)*

Ibuprofen removal from wastewater using polystyrene microplastic adsorbent

The Korean Institute of Chemical Engineers (KICHE)

Poster presentation *October 2020 (Virtual)*

Preparation and characterization of methylcellulose/alginate semi-IPN hydrogel for wastewater treatment

The Korean Institute of Chemical Engineers (KICHE)

Poster presentation *October 2020 (Virtual)*

Mussel-inspired biocompatible alginate hydrogel for stretchable

supercapacitor electrode

Korean Society of Industrial & Engineering Chemistry (KSIEC)

Poster presentation

May 2021 (Busan, Korea)

Pickering templated micro-porous alginate/polyacrylic acid hydrogel for efficient pollutant adsorption in both aqueous and nonaqueous media

The Polymer Society of Korea (PSK)

Poster presentation

October 2021 (Gyeongju, Korea)

Form-stable polyethylene glycol/hydrated salt eutectic composite for lowered supercooling and high-density thermal energy storage
