

## 1. PERSONAL INFORMATION

Fissaha Hiluf Tekle



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Sex M

| Date of birth 15/06/1986

| Nationality Ethiopian

## 2. RESEARCH INTEREST

✓ Material Science and Engineering

✓ Chemistry

✓ Chemical Engineering

✓ Environmental Engineering

## 3. PROFESSIONAL AND RESEARCH EXPERIENCE

(2021 - present) **Postdoctoral Researcher**

Environment Waste Recycle Institute (EWRI), Department of Energy Science and Technology (DEST), Myongji University, South Korea.

(2015 - 2016) **Instructor 2**

Biological and Chemical Engineering Department, Mekelle Institute of Technology, Mekelle University, Ethiopia.

(2010 - 2015) **Assistant Instructor as part timer**

Biological and Chemical Engineering Department, Mekelle Institute of Technology, Mekelle University, Ethiopia.

(2008 -2014) **Media Preparation Chemist**

Media Preparation Department, Mekelle Plant Tissue Culture Laboratory, Ethiopia

## 4. EDUCATIONAL QUALIFICATION AND ACHIEVEMENT

(2016 – 2021) **Ph. D degree in Energy Science and Technology, Myongji University, South Korea**

Thesis title "Synthesis and Application of Thia-crown Ether based Composite Adsorbents for Selective Recovery of Valuable Metals from Electronic Wastes"

(2011 – 2014) **M. Sc Degree in Chemical Engineering under Environmental Engineering**

Addis Ababa University, Addis Ababa, Ethiopia

Thesis "Life Cycle Assessment of Kitchen Cabinet: the case of Finfine Furniture Factory"

(2005 - 2008) **B.Sc. Degree in Applied Chemistry**

Ambo University, Ambo, Ethiopia

Thesis "Production of Ethanol from Mango Pulp and Peel"

## 5. PERSONAL SKILLS

- Communication skills**
- I have worked in various types of teams from research teams to quality control teams.
  - Good communication skills gained through my experience specially as research teamwork
- Organisational / managerial skills**
- Chaired the Resource Mobilization Team of Biological and Chemical Engineering Department, MU-Mekele Institute of Technology.
  - Chaired the Exam Evaluation Team of Biological and Chemical Engineering Department
  - Chaired the Quality Control Team of Mekelle Plant Tissue Culture Laboratory
  - Member of CBEN Curriculum Revision team of Biological and Chemical Engineering Department, MU-MIT
  - Member of Department Committee (DC) of Biological and Chemical Engineering Department, MU-MIT
- Computer skills**
- Experience with MATLAB, Design expert, Sima Pro LCA software, STATA, SPSS, R, C++, Auto cad, Origin pro and Chem cad, Casa-XPS, and Mestrenova NMR software.

## 6. ADDITIONAL INFORMATION

### 6.1. Publication

- ✚ **Hiluf T. Fissaha**, Rey Eliseo C. Torrejos, Hern Kim, Wook-Jin Chung, Grace M. Nisola, Thia-crown ether functionalized composite mesoporous silica adsorbents for selective recovery of gold ( $\text{Au}^{3+}$ ) ions from e-waste leachates, *Microporous Mesoporous Mater.* 305 (2020) 110301 – 110310.
- ✚ **Hiluf T. Fissaha**,<sup>1</sup> Grace M. Nisola,<sup>1</sup> Jin Yong Lee, Sang ho Koo, Soong-peong Lee, Kim hern, Wook-Jin Chung, Synthesis and application of novel hydroxylated thia-crown ethers as composite ionophores for selective recovery of  $\text{Ag}^+$  from aqueous sources, *J. Ind. Eng. Chem.* 81 (2020) 415–426.
- ✚ LA Limjuco, **Hiluf T. Fissaha**, H Kim, GM Nisola\*, WJ Chung\*, Sulfur co-polymerization with hydrophilic co-monomer as polysulfides in microbeads for a highly efficient  $\text{Hg}^{2+}$  removal from wastewater, *ACS Appl. Polym. Mater.* 2 (2020) 4677–4689.
- ✚ E.C. Escobar, J.E.L. Sio, A.P. Bendoy, R.E.C. Torrejos, **Hiluf T. Fissaha**, H. Kim, W.-J. Chung, G.M. Nisola, Removal of  $\text{Cs}^+$  in water by dibenzo-18-crown-6 ether tethered on mesoporous SBA-15 as a reusable and efficient adsorbent, *J. Water Process. Eng.*, 39 (2021) 101716-101728.
- ✚ Desta Berhe Sbhatu, Haftom Baraki Abraha, **Hiluf T. Fisseha**, Grey Oyster mushroom biofarm for small-scale entrepreneurship, *J. adv. agric.* 2019.
- ✚ **Hiluf T. Fissaha**,<sup>†</sup> Wook–Jin Chung,<sup>†</sup> Gebremedhn T. Gebremichael, Hern Kim, Khino J. Parohinog, Grace M. Nisola, Selective and sustainable recovery of  $\text{Au}^{3+}$  through complexation-reduction capture and mechano-assisted release by thermo-responsive poly(n-isopropylacrylamide-co-15-thiacrown-4 ether)@ $\text{SiO}_2$  nanoparticles, *Chem. Eng. J.* minor revision.

### 6.2. Projects

- ✚ Development of tailor-made hybrid smart materials for the selective separation of precious metals from the electronic wastes, Junggyoon project; from 2017. 03. 01 - 2021. 02. 28.
- ✚ Co-investigating the continuous Li mining from coal ash leachate by an electrospun nanofiber membrane adsorber with lithium-ion sieves, Doyak Project, 2018.
- ✚ Co-investigating the Vermi-composting of Organic Solid Wastes, Mekelle University, Science and Technology Ministry (MoST) Fund, 2014.

✚ Co-investigating the Mushroom Biopharm Technology, Mekelle University, Knowledge Transfer Training (KTT) fund, 2014.

### 6.3. Conferences

| Title  | Conference  | Remarks   |
|--|---|---|
| Development of thermoresponsive adsorbents for selective recovery of gold ions (Au <sup>3+</sup> ) from e- wastes leachates.<br><b>Hiluf T. Fissaha</b> , Grace M. Nisola, Wook-Jin Chung*   | KICChE 2021<br>Conference<br>(April 21-23, 2021)      | Oral<br>(Domestic)                                    |
| Development of composite nano-adsorbent for selective recovery of precious metal ions (Au <sup>3+</sup> ) from electrical and electronic wastes<br><b>Hiluf T. Fissaha</b> , Rey Eliseo C. Torrejos, Grace M. Nisola, Wook-Jin Chung   | IEEC 2019 Fall<br>Conference<br>(Dec. 10-13, 2019)    | Oral<br>(International)<br>Best<br>Presenter<br>Award |
| Development of Highly Selective Composite Adsorbent for Selective Recovery of Gold (Au <sup>3+</sup> ) Ions from mobile phone wastes.<br><b>Hiluf T. Fissaha</b> , Khino J. Parohinog, Lawrence A. Limjucu, Grace M. Nisola, Wook-Jin Chung  | AIChE, 2019<br>Nov. 10 -15, 2019.                     | Poster<br>(International)                             |
| Thia-crown Ether based Composite Adsorbents for Selective Recovery of Gold (Au <sup>3+</sup> ) and Silver (Ag <sup>+</sup> ) ions from Electronic Wastes.<br><b>Hiluf T. Fissaha</b> , Grace M. Nisola, Wook-Jin Chung   | ISEE, 2019<br>(May 19-22, 2019)                       | Oral<br>(International)                               |
| Thia-crown Ether Functionalized Mesoporous Silica Composite Adsorbent for Selective Recovery of Gold (Au <sup>3+</sup> ) Ions from Electronic Wastes.<br><b>Hiluf T. Fissaha</b> , Grace M. Nisola, John Edward L. Sio, Gebremichael Gebremedhin Tekeste, Mengesha Daniel Nigusse, Wook-Jin Chung.                     | KICChE 2019<br>Conference,<br>(April 24-26, 2019)     | (Poster)<br>(Domestic)                                |
| Thia-crown Ether Functionalized Mesoporous Silica Composite Adsorbent for Selective Recovery of Gold (Au <sup>3+</sup> ) Ions from Electronic Wastes.<br><b>Hiluf T. Fissaha</b> , Grace M. Nisola, Lawrence A. Limjucu, Erwin C. Escobar, Wook-Jin Chung  | (KOSENV), 2018<br>(Nov. 14-16, 2018)                  | (Poster)<br>(Domestic)                                |
| Monohydroxydibenzo-13-, Dihydroxy-15-, Dihydroxy-17- and Dihydroxy-19-thiacrown Ether Impregnated PPMs for Selective Recovery of Precious metals.<br>John Edward Sio, <b>Hiluf T. Fissaha</b> , Gebremichael Gebremedhin Tekeste, Mengesha Daniel Nigusse, Grace M. Nisola, Wook-Jin Chung and Rey Eliseo C. Torrejos. | KICChE 2018<br>Conference<br>(October 24-26,<br>2018) | Poster<br>(Domestic)<br>Best Poster<br>Award          |
| Development of Thia-crown Ether Functionalized Composite Mesoporous Silica Adsorbents for Selective Recovery of Silver Ions (Ag <sup>+</sup> ) from Aqueous Sources,<br><b>Hiluf T. Fissaha</b> , Grace M. Nisola, Wook-Jin Chung.   | KICChE 2018<br>Conference<br>(April 25-27, 2018)      | Poster<br>(Domestic)                                  |
| Synthesis of 17 and 19 membered thiacycrown-4 ethers for selective adsorption of gold and silver ions,<br><b>Hiluf T. Fissaha</b> , Grace M. Nisola, Jed S. Albarico, Chosel P. Lawagon, Rey Eliseo C. Torrejos, Seong-Poong Lee, Wook-Jin Chung.  | KICChE 2017<br>Conference<br>(Oct 25-27, 2017)        | Poster<br>(Domestic)                                  |
| Synthesis of 16 and 18 membered thiacycrown-4 ethers for selective adsorption of gold (Au) and silver (Ag) ions,<br><b>Hiluf T. Fissaha</b> , Grace M. Nisola, Jed S. Albarico, Chosel P. Lawagon, Rey Eliseo C. Torrejos, Seong-Poong Lee, Wook-Jin Chung.  | KICChE 2017<br>Conference,<br>(April 26-28, 2017)     | (Poster)<br>(Domestic)                                |