COST ACTION GREENERING – DATA COLLECTION

First name, Family Name: Ersin Y., Yazici
Type (Academic or Industrial): Academic
Country: Turkey (TR)
Leadership position in the COST: MC Member on CA18224
Working Group in which you are involved: WG1
E-mail: eyazici@ktu.edu.tr and yaziciey@gmail.com

Laboratory/Company: Hydromet B&PM Research Group, Division of Mineral&Coal Processing, Department of Mining Eng., Karadeniz Technical University (KTU)

Laboratory/Company info:
Hydromet B&PM Research Group focuses essentially on the research and development of new technologies/processes for bio/hydrometallurgical recovery of base/precious/critical metals from primary and secondary resources (e.g., e-waste, mine tailings, metallurgical waste). The Group is involved in many R&D projects in the fields of hydrometallurgy, mineral processing, recycling/recovery of metals from scrap materials and treatment of effluents.

Link to the home page of the Laboratory/Company: www.hydrometbpm.com/en

Fields of expertise:
- Hydrometallurgy of base/precious/critical metals (e.g., Cu, Co, Cu, Au, REE)
- Extraction of metals from primary and secondary resources
- Extraction of gold/silver from ores in cyanide, thiosulphate, thiourea solutions
- Recycling/recovery of metals from industrial, mining and metallurgical wastes
- Recovery of metals from e-waste (WEEE) by physical and hydrometallurgical processes
- Treatment of cyanide effluents; adsorption, chemical oxidation, precipitation

5 Main publications or patents:
- Erust, C., Akcil, A., Tuncuk, A., Deveci, H., Yazici, E.Y., **2020**. A Multi-stage Process for Recovery of Neodymium (Nd) and Dysprosium (Dy) from Spent Hard Disc Drives (HDDs), *Mineral Processing and Extractive Metallurgy Review*, DOI:10.1080/08827508.2019.1692010
- Yazici, E. Y., Yilmaz, E., Ahlatci, F., Celep, O., Deveci, H., **2020**. Recovery of Zinc from Cyanide Leach Solutions by Precipitation using Trimercapto-s-triazine (TMT), *Hydrometallurgy*, https://doi.org/10.1016/j.hydromet.2019.105206
- Celep, O., Altinkaya, Yazici, E. Y., Deveci, H., **2018**. Thiosulphate leaching of silver from an arsenical refractory ore, Minerals Engineering, 122, 285-295.
- Yazici, E.Y., Deveci, H., **2015**. Cupric Chloride Leaching (HCl-$CuCl_2$-NaCl) of Metals from Waste Printed Circuit Boards (WPCBs), *Int. J. of Mineral Processing,*

134, 10, 89-96.

- Yazıcı, E.Y., Deveci, H., Alp, I., Uslu, T. **2007**. Generation of Hydrogen Peroxide and Removal of Cyanide from Solutions Using Ultrasonic Waves. *Desalination*, 216(1-3), 209-221.

Collaborations:

- Hamburg University of Technology (TUHH) (Germany), Mineral-Metal Recovery and Recycling Research Group (Suleyman Demirel University (SDU), Turkey), Boğaziçi University (BOUN) (Turkey)

Facilities:

- Analytical (Auto-sample divider, XRD analyser, Laser-diffraction particle size analyser, Phase-contrast microscope, Microwave digestion system, UV-vis spectrometer, Atomic Absorption Spectrometer (AAS), Scanning Electron Microscope (SEM) with Energy Dispersive Spectrometer (EDX) unit, Fourier Transform Infrared Spectrometer (FT-IR) and others)
- Size reduction (Conventional (Jaw crusher, Ball mill, Rod mill); Cross beater mill and Cutting mill (particularly for size reduction of waste materials like e-waste))
- Mineral processing (Gravity separators (Knelson, Jig, Shaking table), Electrostatic separator, Dry/wet magnetic separators, Flotation machines, Air classifier)
- Bio/hydrometallurgy (Orbital shakers, Mechanical overhead stirrers, Bench scale temperature-controlled tank reactors, Large scale (10L) jacketed tank reactor, Autoclave (1L, titanium) for pressure oxidation/leaching and precipitation tests)
- Softwares for chemical speciation and thermodynamic calculations (HSC Chemistry and Medusa)