

Thami ZEGHLOUL

Date de naissance: 25/12/1962 | **Lieu de naissance:** Ca[redacted]

Nationalité: Française | **Sexe:** Masculin | **Numéro de téléphone:** [redacted] (Tél. mobile) | **Adresse électronique:** thami.zeghloul@univ-poitiers.fr |

Adresse: [redacted], France (Domicile) |

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JE ME PRÉSENTE

Academic qualifications
-BS in Mechanical Engineering, University of Poitiers, June 1985
-MS in Mechanical Engineering (with honors), University of Poitiers, Oct. 1987
-PhD in Mechanical Engineering (with first class honors), University of Poitiers, Nov.1992
-Habil. Sc. in Electrical Engineering, University of Poitiers, Feb. 2022

Functions
Holder of the Doctoral Supervision and Research bonus since 2018.
Full Professor, Mechanical and Electrical Engineering, University of Poitiers
Research: PPRIME Institute, UPR 3346, CNRS-Université de Poitiers-ISAE/ENSMA
Teaching: University Institute of Technology, Angoulême.

Teaching activities
Mechanical Engineering, Mathematics and Computer Programming

Administrative responsibilities
Elective responsibilities:
- Director of the University Institute of Technology, Angoulême, elected in 2007 and re-elected in 2012 (two consecutive 5-year terms).
- Head of the Quality, Industrial Logistics and Organization Department of the University Institute of Technology, Angoulême, from 2002 to 2007 (two consecutive 3-year terms)

Research topics
The first, more fundamental scientific area, “triboelectricity”, feeds the reflections and developments of the second, more application-oriented one, “electrostatic separation”:
Area 1. Coupled effects between triboelectric, hydrodynamic and thermoelastic phenomena at interfaces.
Area 2. Modeling triboelectric charging of mixtures of granular and fibrous materials: application to electrostatic separation.

Patent filing
A patent was filed in March 2018, with an international extension in March 2019, with the support of ALIENOR Technology Transfer Agency of the University of Poitiers. The patented electrostatic and triboelectrostatic separator is designed to process powdered materials. It has applications in the recycling of used electric batteries, rare earths from hard disks and cell phones, and in the mining and agri-food industries. We are 3 inventors, and my share of invention is 33% in this patent.
The work initiated with the financial support of Michelin Company in the treatment of waste containing both fibrous and non-fibrous materials has been the subject of 3 patents filed in 2021 and 2022. We are 5 inventors, and my invention shares are 30% in each of these 3 patents.
The industrial partnership with GRANUPLAST led to the filing of a patent for a ‘Method for electrostatic separation of particles and associated installation’ which exploits the particle transport phase to tribo-charge them for very effective electrostatic separation. We are 3 inventors, and my share of invention is 60% in this patent.

Publications and communications

Summary of publications (since 2015):
92 papers in international journals: IEEE Transactions on Industry Applications, Journal of Electrostatics, Waste Management, Tribology International, ...

One book chapter:
L. Dascalescu, T. Zeghloul, and A. Iuga, "Electrostatic Separation of Metals and Plastics From Waste Electrical and Electronic Equipment," in WEEE Recycling: Research, Development, and Policies, Elsevier, 2016, pp. 75-106.

15 invited lectures at universities and international conferences in India, Romania, and Algeria.

112 papers in international conference proceedings: IEEE Industry Application Society Annual Meeting, Annual Meeting of the Electrostatics Society of America, ...

PROJETS

Industrial contracts

Since 2015, my research activities have led to a dozen research contracts with Michelin, Rowenta, Environment Recycling, GRANUPLAST, APR2 and CITF.

Participation in national and European projects
European Union call for projects:
I am the scientific leader of PPRIME's participation in a 16-member consortium, coordinated by Michelin, which has won the EU's call for projects, Horizon 2021-2027: Research Executive Agency REA.B - Green Europe B.3 - Biodiversity, Circular Economy, and Environment - "WHITECYCLE" project.
ADEME's France 2030 call for projects:
I am scientific leader for PPRIME's participation in a 5-member consortium, coordinated by the company Environment Recycling, winner of the ADEME AAP RRR call for projects, “Innovative solutions for improving the recyclability and reincorporation of materials”. The project is entitled "DEVIPEEE” (Innovative Decontamination and Recovery of Brominated Plastics from WEEE).