

Daoued MIHOUBI

Associate Professor

Research and Technology Center of Energy - Ecopark of Borj-Cedria BP 95 Hammam-Lif 2050 Tunisia

Email: daoued.mihoubi@crtten.rnrt.tn

### DIPLOMAS

- 2011 University Habilitation (HDR) in Chemical Engineering : University of Gabes - Tunisia
- 2004 PhD in Energy and Process Engineering : Univ. of Pau et des Pays de l'Addour - France.
- 2000 D.E.A in Energy Engineering : National School of Engineers of Monastir - Tunisia
- 1998 Engineering Degree in Energy Engineering : National School of Engineers of Monastir, Tunisia
- 1993 Baccalaureate, Math : Secondary School of Elkef - Tunisia

### RESEARCH AREAS

The main objectives of our research are:

- Modelling of heat, mass and momentum transfer during drying of deformable media.
- Thermal and physical characterizations of the product.
- Experimental studies of drying kinetics and the effect of the drying on the final quality of the product

### RESEARCH ACTIVITIES

#### ✓ THESIS

**Subject:** Dehydration of clays by compression and drying. Aspects of modelling and simulation.

**Research laboratory:** Laboratory of Thermal and Energy Process, university of Pau et des Pays de l'Addour, France  
Laboratory of Chemical Process, Tunisia

#### ✓ MASTER

**Subject:** Drying of deformable media by using radiation energy

**Research laboratory:** Laboratory of Thermal and Energy Process Tunisia

#### ✓ ENGINEERING MEMORY

**Subject:** Study of reactor of synthesis of DAP: statistical modelling.

**Research laboratory:** National School of Engineers of Monastir

#### ✓ PARTICIPATION IN RESEARCH PROJECTS

- 8 National Research projects. I was the chief of 4 projects among them.
- 2 International research projects. I was the chief of 1 of them.

### REVIEWER IN INTERNATIONAL JOURNALS

A.I.Ch.E. Journal, Journal of Drying Technology, Desalination Journal, Applied Mathematical Modeling Journal, Food and Bio-Processing Journal, Journal of Chemical Product and Process Modelling, Journal of Food Engineering, Journal of Chemical Engineering & Technology, Journal of Food Process Engineering, Journal of Experimental Thermal and Fluid Science, Journal of Thermophysics and Heat Transfer, International Journal of Thermal sciences, Journal of Applied Fluid Mechanics, Journal of Food Research.

### SUPERVISION OF DOCTORAL THESES AND MASTERS

- ✓ 9 Doctoral Theses.
- ✓ 9 Masters
- ✓ 11 PG Engineers and Technicians

### SCIENTIFIC PRODUCTION

◆ 31 papers published in international scientific journals:

1. D. Mihoubi, F. Zagrouba, M. Ben Amor & A. Bellagi, Drying of clay. I. Material Characteristics, *Drying Technology*, 20(2), 2002, PP. 465-487.
2. D. Mihoubi, J. Vaxelaire, F. Zagrouba & A. Bellagi, Filtration and expression of mineral sludge, water, waste, and environment research, 3(1-2), 2002, pp. 64-71.
3. F. Zagrouba, D. Mihoubi & A. Bellagi, Drying of clay. II Rheological Modelization and Simulation, *Drying Technology*, 20 (10), 2002. PP. 1895-1917.
4. F. Zagrouba, D. Mihoubi, A. Bellagi & A. Szalay, Study of process of clay drying: Kinetics and Characteristic Curve for Convective and Infra-Red Conditions, *Hungarian Journal of Industrial Chemistry*, 30, 2002, PP. 155-160.
5. D. Mihoubi, J. Vaxelaire, F. Zagrouba & A. Bellagi, mechanical dewatering of suspension, *Desalination*, 158, 2003, pp. 259-265.
6. D. Mihoubi, F. Zagrouba, J. Vaxelaire, A. Bellagi & M. Roques, Transfer phenomena during the drying of a shrinkable product: modelling and simulations, *Drying Technology*, 22(1-2), 2004, PP. 91-109.
7. S. Timoumi, D. Mihoubi & F. Zagrouba, Simulation model for a solar drying process, *Desalination*, 168, 2004, pp. 111-115
8. B. Khiari, D. Mihoubi, S. Ben Mabrouk & M. Sassi, Experimental and numerical investigations on water behaviour in a solar tunnel drier, *Desalination*, 168, 2004, pp. 117-124.
9. S. Timoumi, F. Zagrouba, D. Mihoubi & M.M. Tlili, Experimental study and modelling of adsorption and desorption isotherms of two agricultural products: apple & carrot. *Journal de physique IV*, 122, 2004, PP. 235-240.
10. D. Mihoubi, mechanical and thermal dewatering of residual sludge, *Desalination*, 167, 2004, pp. 135-139.
11. D. Mihoubi, A. Bellagi, thermodynamic analysis of sorption analysis of bentonite, *The Journal of chemical Thermodynamics*, 38(9), 2006, PP.1105-1110.
12. S. Timoumi, D. Mihoubi & F. Zagrouba, Shrinkage, Vitamin C Degradation and Aroma Losses during Infra-Red drying of Apple Slices, *LWT - Food Science and Technology*, 40(9), 2007, P.P. 1648-1654.
13. D. Mihoubi, A. Bellagi, Two-dimensional heat and mass transfer during drying of deformable media, *Applied mathematical Modelling*, 32(3), 2008, P.P. 303-314.
14. D. Mihoubi, S. Timoumi, F. Zagrouba, Modelling of convective drying of carrot slices with IR heat source, *Chemical Engineering and Processing: Process intensification*, 48, 2009, P.P. 808-815.
15. D. Mihoubi, A. Bellagi, Drying Induced Stresses during Convective and Combined Microwave and Convective Drying of Saturated Porous Media, *Drying Technology*, vol.27, No. 7, 2009.
16. D. Mihoubi, A. Bellagi, Stress generated during drying of saturated porous media, *Transport in Porous Media*, vol. 80, P.P.519-536, 2009
17. BEN FREDJ, D. Mihoubi, Séchage par Infrarouge de la bentonite et du kaolin Partie 1: Caractérisation physico-chimique et cinétique de séchage, *Revue des Energies Renouvelables* P.P.79-88, (2008).
18. D. Mihoubi, A. Bellagi, Modeling of heat and moisture transfers with stress-strain formation during convective air drying of deformable media, *Journal of Heat and Mass transfer*, 48 (10), 1697-1705, (2012)
19. K. Bejar, N. Ghanem, D. Mihoubi, N. Kechaou, and N. Boudhrioua Mihoubi, Effect of infrared drying on drying kinetics, color, total phenols and water and oil holding capacities of orange (*Citrus sinensis*) peel and leaves, *International Journal of Food Engineering*, Vol. 7: Iss. 5, Article 5 (2011).
20. Nesrine Ghanema, Daoued Mihoubi, Nabil Kechaou, Nourhène Boudhrioua Mihoubi, Microwave dehydration of three citrus peel cultivars: Effect on water and oil retention capacities, color, shrinkage and total phenols content, *Industrial Crops and Products* 40 167– 177 (2012).
21. Hammouda, D. Mihoubi, Modelling of drying induced stress of clay: elastic and viscoelastic behaviours, *Mechanics of Time-Dependent Materials*, 18 (1), 97-111 (2014)
22. Hammouda, D. Mihoubi, Thermodynamic and mechanical characterisation of kaolin clay, *Polish Journal of Chemical Technology*, 16, 1, 28 – 35(2014)
23. . I. Hammouda, D. Mihoubi, Modelling of thermo-hydro-viscoelastic behaviour of a partially saturated ceramic material during drying, *Drying Technology*, 32, 1219-1230 (2014)
24. M. Ben Abdelhamid, D. Mihoubi, J. Sghaier, A. Bellagi, Strain-stress formation during stationary and intermittent drying of deformable media, *Drying Technology*, 32, 1245-1255, (2014)
25. Hammouda, D. Mihoubi, Thermo-hydro-mechanical modeling of combined convective, microwave and infrared drying of saturated porous material., *Energy Conversion and Management*, 87, 832-839, (2014)

26. M. Ben Abdelhamid, J. Sghaier, D. Mihoubi, A. Bellagi, Multiphase thermo-hydro-mechanical model for concrete under drying at high temperatures, *Drying Technology*, 33(2), pages 143-152, 2015.
27. Ben Abdelhamid Manel, Mihoubi Daoued, Sghaier Jalila ,Bellagi Ahmed, Drying-generated stresses of non-saturated hardened cement paste under variable conditions, *International Conference on Control, Engineering & Information Technology (CEIT'14) Proceedings - Copyright IPCO-2014 ISSN 2356-5608*
28. Hammouda, D. Mihoubi, Changes of physico-mechanical characteristics of a ceramic paste during drying., *Comptes rendus Mecanique*, 343(7-8), pages 419-428, 2015
29. Messaoudi , N. M'hiri , D. Mihoubi , R. Ksouri, R. Chekir 1 , N. Boudhrioua Mihoubi, Effect of processing on color and antioxidants of *Malva parviflora* leaves, *Journal of new sciences, Agriculture and Biotechnology*, JS-INAT(10), 891-898, 2015
30. J. LITAIE; D. MIHOUBI; A. TOUIL; F. ZAGROUBA, Experimental and theoretical investigation of drying behavior of garlic in infrared dryer, *Journal of new sciences, Agriculture and Biotechnology*, JS-INAT (6), 861-867, 2015.
31. Ben Abdelhamid Manel, Mihoubi Daoued, Sghaier Jalila, Bellagi Ahmed, Water Sorption Isotherms and Thermodynamic Characteristics of Hardened Cement Paste and Mortar, *Transport in Porous Media*, Volume 113, Issue 2, pp 283-301, 2016.

◆ 70 communications (oral or by poster) presented in national and international symposia.