CURRICULUM VITAE

PERSONAL INFORMATION

Full Name	Amel DAKHLAOUI OMRANI
Gender	Female
Email	dakhlaoui_amel@yahoo.fr

Education

Dates	**2010**
Title of qualification awarded	Habilitation (HDR) in Material Sciences (NanoTechnology),
Name and type of organization providing education	Faculty of Sciences Bizerte, University Carthage, Tunisia
Dates	**2002-2005**
Title of qualification awarded	PhD in Inorganic Chemistry (Excellent/Honourable /Congratulations of the jury)
Name and type of organization providing education	Faculty of Sciences Bizerte, Tunisia
Dates	**2000**
Title of qualification awarded	Master (MSc) in Chemistry and Physics (VERY GOOD) **A+**
Name and type of organization providing education and training	Faculty of Sciences Bizerte, University Carthage, Tunisia
Dates	**1997**
Title of qualification awarded	Licentiate degree **(**BSc) in Physical Sciences (GOOD) **A**
Name and type of organization providing education	Faculty of Sciences Bizerte, University Carthage, Tunisia
Dates	**1993**
Title of qualification awarded	High School Diploma in Experimental Sciences (GOOD) **A**
Name and type of organization providing education	School Mohamed Ali Ennabi Ras Jebel, Bizerte, Tunisia

WORK EXPERIENCE

Dates	***JULY 2018* - Up-to-date**
	PROFESSOR;
Dates	**April 2011- July 2018**
Occupation or position held	Associate Professor /Senior Researcher
Dates	**2005 - 2011**
Occupation or position held	Assistant Professor
Name and address of employer	Department of chemistry, Faculty of Science Bizerte, 7021 jarzouna, Tunisia

PRACTICAL TRAINING AND SKILLS

* ***High-level training on educational Manners'***:
about 430 h in the years *from* 1998 to 2003

* ***High level trainings on the nanoparticles characterization's techniques***:

- Transmission Electronic Microscopy (TEM),
- Scanning Electron Microscopy (SEM),
- Field –Emission Scanning Electron Microscopy (FESEM),
- X-ray Diffraction Powder.

* ***A lot of scientific training in France and Portugal as invited professor or visiting researcher*:**

- **Visits as invited Professor:**
- University of Sciences and Technologies; Nova, Lisboa Portugal, (one week May 2015) and (one week May 2014)
- IUT, University Paris13; France (two months, July 2010 and july 2009)
- (LPMTM), University Paris13, France (December 2009)

- **Visits as Postdoctoral researcher:**
- *IDB postgraduate Scholarships from September 2008 to September 2009)*
- *AUF postgraduate Scholarships from January 2008 to Jun 2008*

- **Traineeships**
- LPMTM, University Paris13 (November 2007); (April 2007 -Jun 2007); (January 2007); (October 2006); (April 2006 -Jun 2006)
- Laboratory of Oxides and Fluorides, University of Maine, Le Mans, France (March 2004 - April 2004

* *Participation to different workshops*:
- Tunisian-Indian workshop on **"Nanomaterials synthesis and applications, TIW 2014,** Tunis, Tunisia**,** 26 - 30 October 2014
- *International* workshop on **nanomaterials**, **Nanotech MEET**; Hammamet, Tunisia, 24-26 April 2014
- Tunisian workshop on the **valorisation of thermic industrial rejects**, Gabes, Tunisia, 18th mars 2014.
- Workshop on **"Structure refinement using the Rietveld method"** 03 - 05 Jun 2005, Monastir, Tunisia.

PERSONAL SKILLS AND COMPETENCES

Evaluative skills: Global Consulting

- ***Universal Consultation:***

- **Scientist expert in Nanotechnology**

- Member of the **IDB's External Reviewers** for selection of candidates under the IDB Merit Scholarship Programme (MSP) in **Nanotechnology** field since 2010 till now

- Member of Scientific Examiners **of the Scientific Research Council of Taif University**

- Member of the Scientific committee for the evaluation of PhDs and HDR in the Faculty of Sciences Bizerte and Faculty of Sciences Tunis/

-Evaluation of a lot of PhD manuscripts in Tunisia and France

- Member of the evaluation committee for many **international Conferences**

- **Refereeing of Scientific Articles :** Regular Referee for a lot of journals such as «Journal of Physical Chemistry»; «Journal of alloys and Compounds» ; « Chemical Engineering Journal»; «International Journal of Nanosciences» and «Physical Sciences Research International ».

Organizational skills and Competences

* Organizational Skills and Competences

- Member of the Scientific Committee of the Tunisian-Japanese symposium, **TJASSST 2014**, Gammarth, Tunisia, 28-30th, 2014

- Member of the Scientific Committee of the conference **4th Algerian days of Electrochemistry**, Setif, Algeria, Mars 2015

- Member of the organizing Committee of the international seminar "**Nanomaterials and their applications**, Bizerte, Tunisia, November 2009
- Member of scientific and organizing committee of Scientific meeting in university of Jeddah

Organizational skills and Competences

Some Workshops Organized and presented By Pr Amel DAKHLAOUI

-*Title of the workshop:* Elaboration and characterization of nanomaterials.

Organiser : Pr. Amel Mokhtar DAKHLAOUI
Date and place : 06 et 07 December 2017, University of Jeddah

-*Title of the workshop: Nanoparticles from the laboratory to the Factory.*
Organiser : Pr. Amel Mokhtar DAKHLAOUI
Date and place : on the 04th April 2019 at University of Jeddah

-*Title of the workshop: Nanomaterials for biomedical applications*
Organiser : Pr. Amel Mokhtar DAKHLAOUI
Date and place : on the 19th March 2019 at University of Jeddah

Research Fields Developed and Laboratory Skills

1/ Synthesis of Bionanocomposites for biomedical and environmental applications

2/ Elaboration of isotropes and anisotropes nanoparticles (Ni, Co, ZnO, Zn_xM_{1-x}, Fe_2O_3, Fe_3O_4, nanocrystals of cellulose,…) with controlled structure and morphology for physical, photocatalytic and biomedical applications

3/ Consolidation of nanopowders using the Spark Plasma Sintering and Hot Isostatic Pressing processes

- optimizing the consolidation parameters to elaborate nanostructured n
- study of the effect of particles size on the consolidation results of the nanopwders

4/ Magnetic and optical properties of nanopowders:

- magnetic properties of Ni and Co nanoparticles: effect of the size and the shape of the particles on these properties.
- magnetic properties of the Ni^{2+} or Co^{2+} substituted ZnO.
- Uv- Vis and Photoluminescence properties of the oxides nanopatricles (ZnO, $Zn_{1-x}M_xO$ (M = Ni, Co))

5/ Mechanical properties of dense nanostructured materials

- Uniaxial compressive and Hardness Vickers tests realized on the nanostructured nickel and cobalt materials : effect of the consolidation parameters, the grain growth and the mechanical test parameters on the mechanical properties of the as-elaborated nanostructured materials.

6/ Hydrothermal synthesis, crystal structure and characterization of hybrid phosphate materials:

7/ Structural determination: from single-crystal X-Ray diffraction (good) and from powder X-Ray diffraction (average).

8/ Use of different crystallographic software (SHELX, Treor, Fullprof, X'pert Highscore, Eva, Ufita, Powder cell ...)

9/ Characterization and Analysis Techniques:

- Transmission electron microscopy,
- Scanning electron microscopy,
- Field –Emission Scanning Electron Microscopy,
- X-ray diffraction powder,
- FT-IR Techniques,
- Raman and UV-Visible spectroscopy
- Thermogravimetric analysis (TGA and DTA)

-…

Research interests

- Nanomaterials and Functional nanomaterials;
-Nanobiotechnology
- Nanomedicine
- Catalysis and Photocatalysis

SUPERVISION ON SCIENTIFIC THESIS

*** PhD Thesis Concluded**

- **S. AKIR**" (Supervisor) Synthesis of oxide nanoparticles (ZnO, Zn_{1-x} Cu_x O) and nanocomposites (**Graphene**-ZnO, Carbon-ZnO). Application in photocatalysis under visible light"

Concluded 30 Jun 2017

- **M. DARDOURI** (Supervisor) Synthesis and characterization of magnetic scaffolds based on hydroxyapatite and magnetite nanoparticles: new substitutes for tissue engineering. "

Concluded 18 October 2018

- **F. KHILI** (Supervisor) "Synthesis and characterization of Bionanocomposites (nanocrystalline cellulose/Graphene oxide/Metal nanoparticles). Catalytic applications" concluded May 2019
- **F. FELLAH** (Co-supervision) Concluded on 15 December 2009.
- **M. A. BOUSNINA** (Co-supervision) Concluded on 19 December 2013.

- **L. ALLAGUI** (Supervisor) " Magnetic nanoparticles for biomedical applications" concluded 2021

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- Sc Thesis concluded (*10*)
Supervision and co-supervision of 8 MSc thesis

DEVELOPMENT OF SCIENTIFIC PROJECTS

***** Scientific Responsible of the Tunisian-Portuguese project :
- "BoneMimic – New bone-like Assemblies based on Liquid Crystalline Phases of nanocrystalline Cellulose" *FCT/5964/27/5/2013/S*

*Scientific Responsible of the following projects at university Jeddah

- ***Green synthesis of pure and highly doped (II–VI) semiconductor nanoparticles and nanocomposites for biological and environmental applications***

- ***Air and petroleum products' desulfurization using semi–conductor nanoparticles***.

SCIENTIFIC PUBLICATIONS

1/ Enhanced magnetic behavior of cobalt nano-rods elaborated by the polyol process assisted with an external magnetic field
Mohamed Ali Bousnina , **Amel Dakhlaoui-Omrani** , Frédéric Schoestein , Yaghoub Soumare , Aliou Hamady Barry , Jean-Yves Piquemal , Guillaume Viau , Silvana Mercone, Noureddine Jouini
NANOMATERIALS 10 (2020) 334 ***(I.F. = 5.4)***

2- Optimized Twin Support Vector Clustering in Transmission Electron Mi**croscope of Cobalt Nanoparticle,** Atrab A. Abd El-Aziz, Heba Al Shater, **A. Dakhlaoui**, Aboul Ella Hassanien, Deepak Gupta . International Conference on Innovative Computing and Communications pp 829–842, (2020)

3/ Preparation of cellulose nanocrystals structure I and II and their application for reduction **of graphene oxide** and nanocomposite elaboration
F. KHILI**, P. Lúcio Almeida, J. Borges, R. Boukherroub, **A. DAKHLAOUI OMRANI
Waste and Biomass ValorizationValorization**"(2018) 1-15** ***(I.F. = 3.4)***

4/ Synthesis of nanocellulose/cobalt oxide composites for efficient degradation of rhodamineB by activation of peroxymonosulfate, ***F. KHILI**, **A. DAKHLAOUI OMRANI,*** European Journal of Chemistry 10 (1) (2019) 19-25.

5/ Facile synthesis of **carbon-ZnO** nanocomposite with enhanced visible light photocatalytic performance

S. AKIR, A. ADDAD, Y. COFFINIER, R. BOUKHERROUB, **A. DAKHLAOUI OMRANI,**

*'Applied Surface Sciences', **400** (2017) 461-470* ***(I. F. = 6.7)***

6/ Tailoring the morphology of Hydroxyapatite nanoparticles using a simple solvothermal route

M. DARDOURI, J. P. BORGES, **Amel DAKHLAOUI OMRANI**,

Ceramics International 43 (2017) 3784-3791. ***(I. F. = 5.2)***

7/ Eco-friendly synthesis of ZnO nanoparticles with different morphologies and their visible light photocatalytic performance for the degradation of Rhodamine B

S. AKIR, A. BARRAS, Y. COFFINIER, M. BOUDINA, R. BOUKHERROUB, **A. DAKHLAOUI OMRANI**,

Ceramics International 42 (2016) 10259–10265 ***(I. F. = 5.2)***

8/ Template-free synthesis of sub-micrometric cobalt fibers with controlled shape and structure. Characterization and magnetic properties

L. ALLAGUI, J. BORGES, A. BEN HADJ AMARA, **A. DAKHLAOUI OMRANI**

'*Journal of Magnetism and Magnetic Materials*, 425 (2017) 6–11 ***(I.F. = 5.532)***

9/ Preparation of cellulose nanocrystals structure I and II and their application for reduction of graphene oxide and nanocomposite elaboration

F. KHILI**, P. Lúcio Almeida, J. Borges, R. Boukherroub, **A. DAKHLAOUI OMRANI

"Waste and Biomass Valorization**"(2018) 1-15** ***(I.F. = 3.83)***

10 Synthesis of nanocellulose/cobalt oxide composite for efficient degradation of Rhodamine B by activation of peroxymonosulfate,

F. KHILI**, **A. DAKHLAOUI OMRANI, European Journal of Chemistry 10 (1) (2019) 19-25

11/ Comparative study of Ni and Co substituted ZnO nanoparticles : synthesis, optical and magnetic properties

I. BALTI, A. MEZNI, ***A. DAKHLAOUI - OMRANI****, P. LEONE, B. VIANA,O. BRINZA, L.S. SMIRI, N. JOUINI, The Journal of Physical Chemistry C, 115 (2011)15758.* ***(Journal I.F= 3.7)***

12/ Bulk nanostructured cobalt materials: A bottom-up production process combining soft chemistry and compaction – Mechanical properties

F. FELLAH, F. SCHOENSTEIN, **A. DAKHLAOUI–OMRANI,** S.M. CHERIF, G. DIRRAS, N. JOUINI, *Material Characterization* 69 (2012) 1. ***(Journal I. F. = 4.7)***

13/ Nickel nanofibers and nanowires : Elaboration by reduction in polyol medium assisted by external magnetic field.

Y. SOUMARE, **A. DAKHLAOUI-OMRANI**, F. SCHOENSTEIN, S. MERCONE, G. VIAU, N. JOUINI, *Solid State Communications, 151 (2011) 284.* ***(Journal I. F. = 2.1)***

14 microstructure, mechanic and magnetic characterization.

M. BOUSNINA, **A. DAKHLAOUI-OMRANI***, F. SCHOENSTEIN, L.S. SMIRI, N. JOUINI *Journal of alloys and compounds 504S (2010) S323* ***(Journal I. F. = 6.37)****.*

15/ Elaboration of nickel nanoparticles by modified polyol process and their Spark Plasma Sintering, Characterization and magnetic properties of the nanoparticles and the dense nano-structured materials.

A. DAKHLAOUI-OMRANI, M. BOUSNINA, L.S. SMIRI, M. TAIBI, P. MOLEONE, F. SCHOENSTEIN, N. JOUINI, *Material Chemistry and Physics 123 (2010) 821.* ***(Journal I. F. = 4.6)****.*

16/ Synthesis, characterization and optical properties of ZnO nanoparticles with controlled size and morphology

A. DAKHLAOUI***,** M. JENDOUBI, L.S. SMIRI, A. KANAEV, N. JOUINI**,** *Journal of Crystal Growth* ***311*** *(2009) 3989.*

17/ Controlled elaboration and magnetic properties of sub-micrometric cobalt fibers

A. DAKHLAOUI***,** L.S. SMIRI, G. BABADJIAN, F. SCHOENSTEIN, Ph. MOLINIE, N. JOUINI**,** *Journal of Physics and Chemistry* C, **112*(37)*** ***(****2008) 14348.*

18/ Synthesis and crystal structure of $[N_2C_6H_{16}].[H_2PO_4]_2$, a new amine phosphate templated by 1,4-diaminocyclohexane,

A. DAKHLAOUI*, K. GMIGUI, L. S. SMIRI, *Acta Crystallographica,* ***E 63*** *(2007) o537.*

19/Synthesis, crystal structure, thermal behavior and spectroscopic studies of $[NC_5H_{12}][H_2PO_4]$

A. DAKHLAOUI, L. S. SMIRI**,** *Journal de la Société Chimique de Tunisie,* ***9(1)*** *(2007) 59.*

20/ A new amine phosphate templated by tris(2-aminoethyl)amine,

A. DAKHLAOUI, L.S. SMIRI, A. DRISS, *Acta Crystallographica,* ***E60*** *(2004) o2241.*

21/ Infrared and polarized raman spectra of a noncentrosymmetric compound ″sodium samarium fluorosilicate″ $NaSmSiO_4$•0.25NaF,

A. DAKHLAOUI, M. TOUMI, L. S. SMIRI, A. BULOU, *Spectrochimica Acta Part* ***A 61*** *(2005) 193.*

22/ $[Zn(H_2PO_4)_4]^{2-}$ clusters and $_\infty[Zn_2(HPO_4)_3(H_2PO_4)_2]^{4-}$ layers in two new zinc phosphates templated by $[H_2$(4-amino-2.2.6.6-tetramethylpiperidine$)]^{2+}$ cations,

A. DAKHLAOUI, V. MAISONNEUVE, M. LEBLANC, L.S. SMIRI, *Journal of Solid State Chemistry, **178** (2005) 1880.*

23/ Hydrothermal synthesis, characterization and magnetic properties of $[N_4C_6H_{21}][Co(H_2PO_4)(HPO_4)_2]$,

A. DAKHLAOUI, S. AMMAR, L.S. SMIRI, *Material Research Bulletin, **40** (2005) 1270.*

24/ Hydrothermal synthesis, crystal structures and characterization of two dimensional framework zinc phosphate templated by hexylamine: $[NC_6H_{16}][Zn(HPO_4)Cl]$,

A. DAKHLAOUI, L.S. SMIRI, A. DRISS, *Phosphorus Sulfur and Silicon, **180** (2005) 1967.*

25/ Hydrothermal synthesis, crystal structures and characterization of two hydrogen phosphates templated by 4-amino-2,2,6,6-tetramethylpiperidine,

A. **DAKHLAOUI**, V. MAISONNEUVE, M. LEBLANC, L.S. SMIRI, *Phosphorus Sulfur and Silicon, **180 (11)** (2005) 2573.*

26/ Crystal structure of a new hydrogen phosphate $[N_2C_9H_{22}][HPO_4]$ $4H_2O$,

A. DAKHLAOUI, M. LEBLANC, L. S. SMIRI, *Analytical Science, **21(11)** (2005) 171.*

Proceedings

1/ Reduction of **graphene oxide** using a natural polymer,

F. Khili, R. Boukherroub, **A. Dakhlaoui Omrani**,

Nanotech_MEET_Tunisia_2014_International_Conference_Proceeding, Hammamet, Tunisia. pp 161-163

2/ ZnO Nanoparticles Growth Mechanism

S. Akir, S. Ayadi, N. Jouini**, A. Dakhlaoui Omrani**, *Proceedings TJASSST 2013 November 15th-18th, 2013. Hammamet, Tunisia,* pp 66-70

3/ Synthesis and Characterization of Cellulose/ PLA Biocomposite Films

F. Khili**, A. Dakhlaoui Omrani**, *Proceedings TJASSST 2013, November 15th-18th, 2013. Hammamet, Tunisia,* pp99-104

4/ Synthesis and characterization of iron oxide nanoparticles,

M. DARDOURI, J. BORGES, **A. DAKHLAOUI OMRANI**,

Nanotech_MEET_Tunisia_2015_International_Conference_Proceeding. pp99-104

PRESENTATIONS AT NATIONAL AND INTERNATIONAL MEETINGS

- *(04) Conferences as invited speaker*
- *(09) Participations to International conferences*
- *(20) Presentations in national conferences*