

CV-Prof. Dr BENDJEMIL Badis

## CURRICULUM VITA



**B.BENDJEMIL**, Dipl.-Eng.,-Mag.,-Doctorat Etat, ,

Physique de Solide et Recherche sur la Génie des  
Nanomatériaux, Faculté des Sciences et Technologie, Université  
du 08 Mai 45, BP 401, Guelma-240000

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### INFORMATIONS PERSONNELLES

-Nom & Prénom: **Bendjemil Badis**

-Situation Familiale: **Marié.**

-Adresse Professionnelle: **Département de Génie Mécanique, Faculté des Sciences et de la Technologie, Université du 08 Mai 45, Guelma.**

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-Langues maitrisées: **Arabe, Français, Anglais et Allemand.**

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## PROFIL

- Professeur universitaire expérimenté et administrateur académique.
  - Capable d'**assurer** et de développer l'**assurance qualité** au sein d'établissements de l'**Enseignement Supérieur**.
  - Capable d'**apporter** à la fois une **expérience théorique et pratique** au sein d'Institutions de l'**enseignement supérieur**.
  - Capable de **travailler** en équipe **efficacement** avec un **haut degré** de communication et des **compétences interpersonnelles efficaces**.
  - Possède des **compétences de leader** au sein d'**équipes de travail pluridisciplinaires**.
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## FORMATION-QUALIFICATIONS-

2005 Diplôme : Doctor of Philosophy ou Doctorat d'Etat (Ph.D.)  
Spécialité :Génie des Matériaux en collaboration avec IFW-Dresden-Germany, Leibniz Institute for Solid State and Materials Research Dresden – IFW.

1992 Diplôme de Magister en Métallurgie Physique à l'université de Badji-Mokhtar de Annaba.

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**1989** Diplôme de **DEA** en **Métallurgie Physique** à l'université de Badji-Mokhtar de Annaba.

-**1983-1988** Diplôme de **Ingénieur** en **Métallurgie Physique** à l'université de Badji-Mokhtar de Annaba.

**1983** Diplôme :Baccalauréat en **Mathématique**, Institution : Lycée de Boumarouane de Annaba.

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## **EXPERIENCES ACADEMIQUE**

-**1993-Present** Département de Génie Mécanique, Faculté des Sciences et Technologie, Univ. du 08 Mai 45, Guelma.

-**2010-Present** Professeur des universités au Département de Génie Mécanique, Faculté des Sciences et Technologie, Univ. du 08 Mai 45, Guelma.

-**2005 Maitre de Conférences.** Arrêté Ministériel.

-**1993-1996 Maitre-Assistant,** Institut de Génie Mécanique, Centre Universitaire de Guelma. Arrêté Ministériel.

## **PROFESSIONNELLE**

**2018-** Stage de recherche **auto financé** au Laboratoire Interdisciplinaire Carnot de Bourgogne (ICB)- UMR6303 uB – CNRS sous la direction du Professeur **Frideric Bernard:** -Synthèse et caractérisation des carbures de titane et de Zirconium, leurs nanocomposites et cermets et des , composites silicides. Ces échantions ont été élaborés par Frittage Flash (Sparck plasma sintering)

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**2015-2016-** Postdoc financé par le MESRS au Laboratoire **ESIX-LUSAC**: Elaboration, caractérisation development et applications des **Electrocéramiques** (technologie de fabrication des matériaux céramiques, électrocéramics et composites) par Frittage Flash (Spark plasma sintering). Sous la direction du directeur du laboratoire **LUSAC** et de l'Ecole d'Ingénieur **ESIX** de L'université de Caen-Cherbourg, Professeur David Houivet et Professeur Jacques G, Noudem.

**2014-** Stage de recherche financé par le MESRS au Laboratoire Dipartimento di Ingegneria Meccanica, Chimica e dei Materiali, Via Marengo 2, Cagliari, Italy. Sous la direction du **Prof. Giacomo Cao**: Synthèse et caractérisation nanocomposites à base de carbone nanotubes. Ces échantions ont été élaborés par Frittage Flash (Spark plasma sintering).

**2013-** Stage de recherche financé par le MESRS au Laboratoire de Physik Neue Materialien, FG: Materialwissenschaften, Festkörperphysik. Sous la direction **Prof. Eberhard Burkhardt**: Synthèse et caractérisation nanocomposites à base de carbone nanotubes. Ces échantions ont été élaborés par Frittage Flash (Spark plasma sintering).

**2011-** Stage de recherche financé par le MESRS au Laboratoire du Department of Chemistry, Warsaw University, 1 Pasteur str., 02-093 Warsaw, Poland sous la direction du **Pr. Andrej Huscko**: Synthèse du la nanostructure unidirectionnal de carbone et de carbure de silicium en fibre par réaction auto thermique ou (SHS) et leurs imcporation dans des matrice en résine pour des application en industrie mécanique et bionanomédecine.

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**2010-** Stage de recherche financé par le MESRS au Laboratoire du département Chimie et Physique des Solides et des Surfaces (CP2S) ( LPMIA), Université Henri point carré, Nancy, France, sous la direction du Prof. **Jamal Bougdira** chef du département: -Synthèse et caractérisation de couches minces de nanostructures de carbone par plasma froide microonde assistée par CVD (MPACVD).

-Conception d'une manipulation de confinement de plasma chaud dans un champs magnétique (Projet ITER-Cadarache).

**2009-** Stage de recherche financé par le MESRS au Laboratoire du département Chimie et Physique des Solides et des Surfaces (CP2S) (LPMIA), Université Henri point carré, Nancy, France, sous la direction du Prof. **Jamal Bougdira** chef du département: -Synthèse et caractérisation de couches minces de nanostructures de carbone par plasma froide microonde assistée par CVD (MPACVD).

-Conception d'une manipulation de confinement de plasma chaud dans un champs magnétique (Projet ITER-Cadarache).

**2008-** Stage de recherche financé par le MESRS au Laboratoire de physique à l'university Paris-Sud sous la direction du Prof. Odile Stéphan:

Caractérisation des matériaux supraconducteur et nanotubes de carbone dopés par microscopie Ultra- STEM.

**2007-** Stage de recherche financé par le MESRS au Laboratoire de Università degli Studi di Torino, Turin (UNITO) sous la direction du Prof. **Marcello Baricco**: Synthèse et caractérisation (des propriétés mécanique et magnétique) des rubbans amorphe par procédé de melt spinnig et du

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master alloys amorphe-cristallin-bulk à base de Fe et de Zr par arc melting. Et au laboratoire de l'Istituto Nazionale di Ricerca Metrologica, INRIM sous la direction du Prof. Franco Vinai: Synthèse et caractérisation (des propriétés mécanique et magnétique) des bulk amorphe à base de Fe et de Zr par procédé de injection molding et étude des propriétés mécanique au VSM et au AFM-MFM.

2006 -Stage de recherche financé par le MESRS au Laboratoire du département Chimie et Physique des Solides et des Surfaces (CP2S) (LPMIA), Université Henri point carré, Nancy, France, sous la direction du Prof. Jamal Bougdira chef du département: -Synthèse et caractérisation de couches minces de nanostructures de carbone par plasma froide microonde assistée par CVD (MPACVD).

-Conception d'une manipulation de confinement de plasma chaud dans un champs magnétique (Projet ITER-Cadarache).

2000-2004 -Stage de recherche financé par le DAAD (Deutscher Akademischer Austauschdienst) à l'institut Leibniz Institute for Solid State and Materials Research Dresden – IFW- Group Advanced spectroscopy and Surface Interface sous la direction du Prof. Jorg Fink et Prof. Martin Knupfer.

2000- Stage de recherche financé par le MESRS au Laboratoire LSPM , Université Paris 13, sous la direction du Prof. Dominique Vrel directeur du laboratoire - Institut Galilée: Synthèse et caractérisation des carbures, nitrule, borures et carbonitrides et leurs cermets par synthèse combustion

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et explosion thermique, déformation par extrusion à haute pression après compaction isostatique.

**1999-** Stage de recherche financé par le MESRS au Laboratoire du CEMES/CNRS, 29 rue Jeanne Marvig BP 94347 31055 TOULOUSE Cedex 4. Sous la direction du Prof. Kihn Yolande: Synthèse et caractérisation par spectroscopie à perte d'énergie (**EELS**) des carbures, nitrure, borures et carbonitrides par synthèse combustion.

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## EXPERIENCE PROFESSIONNELLE

Plus de **26 ans** d'expérience dans la recherche sur les **multimatériaux** et **multinanomatériaux**, l'**expertise académique** et **technique** et le **leadership**. y compris:-Leadership:-Dirigé le programme d'études en **Génie des matériaux**.

-Organisé des **conférences internationales** et **présidé** des sessions.

-Assurance Qualité,

-Définition des objectifs (développement national, **compétences globales**, utilisation des **nouvelles nanotechnologies** et **nanobiotechnologies**...).

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## COURS ENSEIGNES EN POST-GRADUATION

**1996-présent:**-Mécanique de la rupture **approfondie** endommagement et fatigue.(Cours, TD et TP).

## EN GRADUATION

**1996-présent:**-Mécanique de la rupture **approfondie** endommagement et fatigue.(Cours, TD et TP).

**1993-présent:** Génie des matériaux **approfondie**.

Cristallographie, Diagramme de phase, Traitement de surface par bombardement ionique et plasma, Fatigue, Fatigue olygocyclique, Fluage, Procédés de synthèse des matériaux amorphes et cristallins, Couches minces nanostructurées.

**1993-présent:** -TP: Génie des matériaux **approfondie**.

**2001-présent:** Controle non destructif (CND) (Cours, TD et TP sur site industriel)

**1993-présent:** Travaux pratiques de Génie des matériaux avancés.

**1993-présent:** Calcul de la résistance mécanique des assemblages soudés sous sollicitations statiques et dynamiques. Application de la mécanique linéaire de la rupture pour appréciation de la nocivité des défauts des assemblages soudés.

Initiation au logiciel de calcul des assemblage soudé par élément finis et au logiciel de calcul des couts de réalisation des assemblages soudés.

**2000-présent:** Procédés de soudage et de ses techniques connexes.

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## ENCADREMENT EN POST-GRADUATION

**-Doctorat-** Synthesis and characterisation of intermetallics non oxides perovskite superconductors ( $\text{MgB}_2$  and  $\text{MgCNi}_3$ ), 2010.

**-Doctorat--** The Effect of the Y and Gd on the Bulk Metallic Glass and ribbon in the  $\text{Fe}_{50-x}\text{Cr}_{15}\text{Mo}_{14}\text{C}_{15}\text{B}_6\text{M}_x$  (M= Y, Gd and x= 0,2) for magnetic applications (En collaboration with the, Università di Torino, Italy , Stipendium of 12 Months), Codirection- Professor Marcello Baricco, 2011.

**-Doctorat--** Magnetic and mechanical properties of glass metallic based on iron (Fe), 2014.

**-Doctorat-** Synthesis and characterisation of glass metallic in the form of bulk and ribbon à base de Zirconium (Zr), 2013.

**-Magister-** Electronic and Fermi surface calculation of the intermetallics heavy Fermions superconducting materials based on lanthanide Pu-115 and actinide Ce-115 by FPLO 3, 2008.

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-**Magister-** Synthesis and characterisation of the intermetallic superconductor TiNb, Nb<sub>3</sub>Sn (LTCS) and oxides ceramic BSCCO (HTCS) by SHS and electro-thermal explosion reactions, 2008.

## EN GRADUATION

-36 mémoires de **Master/Ingénieur** encadrées.-Examinateur de plusieurs mémoires (**Doctorat, Magister et Master**) et projets de fin d'études (**Ingénieurs et Technicien supérieur**).

-**Master**-Synthesis of carbon nanotubes by combustion and studies of their mechanical properties by **molecular dynamic simulation** for **biomedical application**, 2010.

-**Master**-Synthesis of carbon nanotubes by **combustion**, 2011.

-Synthesis of carbon nanotubes by **combustion** and studies of their mechanical properties by **molecular dynamic simulation** for biomedical application, 2013.

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## PROJETS DE RECHERCHE & EXPERTISES

### PROJETS DE RECHERCHE NATIONAUX ET INTERNATIONAUX

**1-B. Bendjemil, Projet CNEPRU,** Elaboration et caractérisation d'un alliage à base de cuivre pour électrode de soudage par résistance par points (Université de Badji-Mokhtar-Annaba). Code J2401/83/05/95, **1995.**

**2-B. Bendjemil, Projet CNEPRU,** Obtention et caractérisation de filtres résistants à l'eau de mer par dépôt d'une phase gazeuse (titane) sur un pré fritté en cuivre poreux (Université 08 Mai 1945, Guelma. GUELMA), Code D2302/10/96, **1996.**

**3-B. Bendjemil, Projet CNEPRU,** Stabilisation du liquide refroidi rapidement et élaboration des alliages amorphe en masses (verres métalliques) (Université 08 Mai 1945, Guelma. GUELMA), Code J2401/84/05/06, **(2005-2008).**

**4-B. Bendjemil, Projet CNEPRU,** -Synthèse et investigations spectroscopiques des molécules nanostructurées de carbone par décharge diode (Krätschmer-Hoffman) et plasma micro-onde assistée par déposition en phase vapeur (MWPACVD) et leur potentiel d'application dans le domaine biomédical (CARBIO). (Université 08 Mai 1945, Guelma. GUELMA), Code D01520080010, **(2009-2012).**

**5-B. Bendjemil, Projet PNR,** Nano conteneurs formés de molécules nanostructurées de carbone et des métaux ferromagnétiques pour des applications en Biomédicale (Université de Badji-Mokhtar-Annaba). **(2011-2013).**

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**6-B. Bendjemil, Projet CNEPRU,** Synthèse des nanotubes de carbone fonctionnalises par PVD et CVD pour des applications en biomedical, (Université 08 Mai 1945, Guelma. GUELMA), Code D01520080015 (2015-2019).

**7-B. Bendjemil, Projet CNEPRU,** Etude ab initio des proprieties électroniques par le code FPLO 6) des Fermions lourds. (Université de Badji-Mokhtar-Annaba). Code D01730080018 (2018).

**8-B. Bendjemil, Projet TASSILI,** Lasea, Département de Chimie, Université Badji-Mokhtar-Annaba et Institut Jean Lamour, UMR 7198 CNRS-UL, Equipe Dolphin Nanomatériaux pour la vie, Parc de Saurupt CS 50840, 54011 NANCY cedex, France. (2018).

## EXPERTISES

Expertise de plusieurs projets nationaux dans le domaine de la **nanobiotechnologie, nanomédecine et la biomècanique** en collaboration avec: ATRSS, Agence Thématique de Recherche en Sciences de la Santé (Oran).

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## PUBLICATIONS

Prof. Badis BENDJEMIL

/home/badis/.gnupg/Documents/Bendjemil Badis (0000-0001-8360-4798) -  
ORCID | Connecting Research and Researchers-fichiers

**1-Badis Bendjemil**, Mohamed Mouyane, Jacques G. Noudem, Jérôme Bernard, Jean Michel Reboul, Yannick Guel and David Houivet, The Role of Sintering Additives on Synthesis of High Performance Ceramic- Matrix Composites (CMC's) by Volume Combustion in The  $TiO_2$ -Al-C System: Structural and Mechanical Properties, **Journal of Applied Material Science & Engineering Research**, Vol.3, issue 2, 2019.

**2-Badis Bendjemil**, Mohamed Mouyane, Jérôme Bernard, David Houivet and Jacques G. Noudem, Exploration of the Sparck Plasma Sinter Technique for the Manufacture of Implants for Orthopedic Applications: Development of A High-Performance NbTi-SWCNTs Nanocomposite Welded TA6V Alloy and Densification of Preforms, **Journal of Applied Material Science & Engineering Research**, Vol.3, issue 2, 2019.

**3-Badis Bendjemil**, Mohamed Mouyane, Jacques G. Noudem, Jérôme Bernard, Jean Michel Reboul, Yannick Guel, and David Houivet, Analysis and investigation of iron addition on Synthesis of High Performance Ceramic-Matrix Composites (CMCs) by Electro Thermal Explosion reaction in The  $TiO_2$ -Al-C System, **Experimental and Theoretical Nanotechnology**, 3(2019):129-160.

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**4-Badis Bendjemil, Jacques G Noudem, Mohamed Mouyane, Jérôme Bernard, and David Houivet, Design and manufacturing of the nanocomposites implants NbTi/CNTs welted with TA6V in situ by spark plasma sinter for Total Hip and Knee arthroplasty (THA, TKA), Biomed J Sci & Tech Res., Volume 20- Issue 2, 2019.**

**5-Badis Bendjemil, Franck Cleymand, Thomas Pichler, Martin Knupfer, Jörg Fink, Carbon Nanostructures in Cancer Diagnosis and Therapy, Journal of Nanomedicine, Nanoscience and Technology, vol. 4,1, 2019.**

**6-Mohamed Mouyane, Bassamat Jaber, Badis Bendjemil, Jacques G. Noudem, Jérôme Bernard, and David Houivet, Sintering behavior of magnesium aluminate spinel  $MgAl_2O_4$  synthesized by different methods, International Journal of applied ceramics technology, Volume 16, Issue 3, 2019.**

**7-Badis Bendjemil, Mohamed Mouyane, Jérôme Bernard, David Houivet, and Jacques G Noudem, Effect of Carbon Nanotubes on the Behavior of the Nanocomposites TiNb/CNTs and its Weldability with TA6V by Spark Plasma Sinter for Orthopedic Application, Biomed J Sci & Tech Res., Volume 16- Issue 4, 2019.**

**8-Badis Bendjemil, Frank Claymand, Thomas Pichler, Martin Knupfer and Jorg Fink, Carbon and Core Shell like Molecular Nanostructures in Cancer diagnosis and Therapy, Journal of Advances in Nanoscience and Nanotechnology, 2018.**

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**9-Badis Bendjemil**, Jacques G. Noudem, , Jérôme Bernard, Jean Michel Reboul, Yannick Guel, and David Houivet, The Role of Sintering Additives on Synthesis of High Performance Ceramic-Matrix Composites (CMCs) by Volume Combustion in The  $TiO_2$ -Al-C System, Structural and Mechanical Properties, **Sch. J. Appl .Sci. Res.** Vol. 1: 5, 2018.

**10-Badis Bendjemil**, Jacques G. Noudem, Mohamed Mouyane, Jérôme Bernard, Jean Michel Reboul, Yannick Guel, and David Houivet, Investigations of Cubic BN-TiC Molecular Nanotubes of Carbon Nanocomposites Ceramics Matrix (NCCMs) Tools Sintered by Field Activated Sparck Plasma Process, **Universal Journal of Materials Science**, Vol. 6(4), 2018, pp. 119 - 132.

**11-Badis Bendjemil**, Jacques G. Noudem, Mohamed Mouyane, Jérôme Bernard, Jean Michel Reboul, Yannick Guel, and David Houivet, Effect of Single Walled Carbon Nanotubes in the Nanocomposites  $(Mo_2C)_{1-x}-(TiC)_x$  ( $2 \leq x \leq 4$ )/1wt% SWCNTs during Field Activated Sintering Technique (SPS): Physical, Mechanical Properties and Sintering Process, **Universal Journal of Materials Science** 5(2), 38-51, 2017.

**12-Nassima Seghairi, Badis Bendjemil**, Brahim Belfarhi, Gabriel Lavorato, Alberto Castellero, Enzo Ferrara, Franco Vinaiaand Marcello Baricco, Effects of Yttrium addition on glass-forming ability of Fe-based bulk metallic glasses: Structural and mechanical properties by Nanoindentation Technic, **Academia Journal of Biotechnology** 5(5): 073-077, May 2017.

**13-Badis Bendjemil**, Djelloul Messadi, Faming Zhang, Jamal Bougdira, Nano-Ceramics  $Ti_3SiC_2$  Max Phase Reinforced Single Walled Carbon

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Nanotubes by Spark Plasma Sintering, **Nano sciences and technology**, vol. 2, 2015.

**14-Badis Bendjemil**, Djelloul Messadi, Abdelaziz Lankar, and Dominique Vrel, Processing and Properties of Nanocarbon Reinforced Iron Nanocomposites by Self-Catalytic Propagation High- Temperature Synthesis for Cancer Therapy, **Nano sciences and technology**, vol..2, 2015.

**15-Badis Bendjemil**, Djelloul Messadi, Faming Zhang, Eberhard Burk, Single walled carbon nanotubes reinforcement intermetallic TiNi matrix composites by Spark plasma sintering : Structural properties, **Chemical and Materials Engineering**, vol.4, 2015.

**16- Badis Bendjemil**, Nassima Seghairi, Gabriel Lavorato, Alberto Castellero, Jamal Bougdira, Franco Vinai, Marcello Baricco, Preparation and Characterization of Master Alloys Fe48Cr15Mo14C15B6Y2 Metallic Glasses, **Chemical and Materials Engineering**, 2(7): 155-159, 2014 DOI: 10.13189/cme.2014.020702.

**17-Badis Bendjemil**, Faming Zhang,  $Ti_3SiC_2$  MAX Phase Synthesis by Plasma Basis Method, **Universal Journal of Materials Science** 2(5): 83-89, 2014.

**18-Badis Bendjemil**, Abdelaziz Lankar, Abdelaziz Benaldjia, Djelloul. Messadi and Dominique Vrel, Pharmacological Molecule Based on Nanocarbon Container Encapsulated Ferromagnet by Combustion Synthesis for Cancer Therapy, **Universal Journal of Chemistry** 2(3): 30-39, 2014.

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**19-Badis Bendjemil**, Nasr-eddine Chakri, Jamal Bougdira, Enzo Ferrara, Franco Vinai, Marcello Baricco, Crystallization Kinetics and Magnetic Properties of  $\text{Fe}_{40}\text{Ni}_{40}\text{B}_{20}$  Amorphous Ribban. **Chemical and Materials Engineering** 2(4): 93-95, 2014.

**20-Nasr-Eddine Chakri, Ali Hafs, Badis Bendjemil, Ahmed Belbeh, AhceneMouassa, Marcello Baricco**, Glass forming ability and crystallization kinetics in  $\text{Zr}_{59}\text{Cu}18\text{Ni}_8\text{Al}_{10}\text{X}_5$  (X= Nb, Ti and Ta) bulk glassy alloys, **ChemXpress**. 03/2013; 2(2):2013.

**21-N. Chakri, B. Bendjemil and M. Baricco**, The Mechanical Properties of the System and Training  $\text{Zr}_{59}\text{Nb}_5\text{Cu}_{18}\text{Ni}_8\text{Al}_{10}$  Bulk Metallic Glasses, **Advances in Chemical Engineering and Science**, Vol. 3 No. 4, 2013, pp. 274-277. doi: 10.4236/aces.2013.34034.

**22-B. Bendjemil, A. Hafs, N. Seghairi and M. Baricco**, Microstructure and mechanical properties of amorphous phase formation in  $\text{Zr}59\text{Ta}5\text{Cu}18\text{Ni}8\text{Al}10$  bulk glassy alloy, **Int. Journal of Nanoelectronic and Materials Sciences**, Volume 7, Nr. 1, 2013.

**23-Badis Bendjemil, Abdelaziz Lankar, Abdelaziz Benaldjia, Djelloul. Messadi and Dominique Vrel**, Combustion Synthesis: Novel Routes to Novel molecules nanomaterials **International Journal of Self-Propagating High-Temperature Synthesis**, Volume 22, Nr. 2, 2013.

**24-Kamel Zemmour, Badis Bendjemil and Ahmed Belbah**, **Journal of superconductivity and novel magnetism**, Vol. 3, Nr. 3, P. 431-438, 2012.

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**25-Ali Hafs, Badis Bendjemil, Nassima Seghari and Marcello Baricco, Glass forming ability and mechanical properties of Zr<sub>59</sub>Ti<sub>5</sub>Cu<sub>18</sub>Ni<sub>8</sub>Al<sub>10</sub> bulk metallic glasses, Int. Journal of Nanoelectronic and Materials Sciences, Volume 5, Nr. 2, 2012.**

**26-Nassima Seghairi, Badis Bendjemil, Gabriel Lavorato, Alberto Castellero, and Marcello Baricco, Preparation and characterization of Fe-based metallic glasses with pure and raw elements, Chinese. Phys. Lett. Vol. 29, Nr. 10, 2012.**

**27-Bidis Bendjemil, Abderrezak Bouchareb, Ahmed Belbah, Jamal Bougdira, Rafael Piccin, Marcello Baricco, Crystallization Behaviour of Fe<sub>50</sub>Cr<sub>15</sub>Mo<sub>14</sub>C<sub>15</sub>B<sub>6</sub>M<sub>x</sub> (x = 0, 2 and M=Y, Gd) Bulk Metallic Glasses and Ribbons by in situ High Temperature X-Rays Diffraction, Chinese. Phys. Lett. Vol. 29, No. 10, 108103, 2012.**

**28-A. Hafs, B. Bendjemil, N. Seghairi and M. Baricco, Microstructure and mechanical properties of amorphous phase formation in Zr<sub>59</sub>Ti<sub>5</sub>Cu<sub>18</sub>Ni<sub>8</sub>Al<sub>10</sub> bulk glassy alloy, Int. Journal of Nanoelectronic and Materials Sciences, Volume 5, No. 2, 2012.**

**29-Bidis Bendjemil, Ali Hafs, Nassima Seghairi, Marcello Baricco, The morphology and mechanical properties of Zr<sub>59</sub>Nb<sub>5</sub>Cu<sub>18</sub>Ni<sub>8</sub>Al<sub>10</sub> metallic glasses, Int. Journal of Nanoelectronic and Materials Sciences, Volume 5, No. 2, 2012.**

**30-Bidis Bendjemil, Ali Hafs, A. Benaldjia, and D. Vrel, Superconducting NbTi by Combustion Synthesis, International Journal of Self-Propagating**

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**High-Temperature Synthesis**, accepted for printing in: Plant survey. Volume 31, Nr 2, 2012.

**31-A.** Dąbrowska, A. Huczko, M. Soszyński, **B. Bendjemil**, F. Micciulla, I. Sacco, L. Coderoni, S. Bellucci, Ultra-fast efficient synthesis of one-dimensional nanostructures, **Phys. Status Solidi B** 248, Nr. 11, 2011, P. 2704–2707.

**32-B.** **Bendjemil**, Combustion synthesis of Copper-Nb<sub>3</sub>Sn monofilamentary superconducting composite wires, **International Journal of Self-Propagating High-Temperature Synthesis**, Volume 20, Nr. 4, 2011. P. 229–235.

**33-B.** **Bendjemil**, A. Benaldjia, J. Bougdira and B. Malaman, Icosahedral quasicrystalline Fe<sub>10</sub>Cu<sub>20</sub>Al<sub>70</sub> by thermal explosion: Structural and Magnetic Properties, **International Journal of Self-Propagating High-Temperature Synthesis**, Vol. 19, Nr.3, 2010, P. 209-213.

**34-B.** **Bendjemil** and M. Baricco, FeAlPCBGa metallic glasses by heavy current annealing/electrothermal explosion: Structural and soft magnetic properties, **International Journal of Self-Propagating High-Temperature Synthesis**, Vol. 19, Nr.4, 2010, P. 281-284.

**35-B.** **Bendjemil**, W. Ramdane, O. Stephane, R. P. Fernandez, and C. Colliex, Ultra-STEM-EELS characterization of MgB<sub>2</sub> synthesized superconductor by different route: comparative study, **International Journal of Self-Propagating High-Temperature Synthesis**, Vol. 19, Nr.1, 2010, P. 57-64.

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- 36- **B. Bendjemil**, Perovskite-type  $MgCNi_3$  Superconductors as prepared by combined sintering-ETE process and SHS reaction: Structural Characterization and superconducting Properties, **International Journal of Self-Propagating High-Temperature Synthesis**, Vol. 19, Nr. 1, 2010, P. 52-56.
- 37-B. **Bendjemil**, SHS produced MnNiAl magnetic shape memory alloys, **International Journal of Self-Propagating High-Temperature Synthesis**, Vol. 19, Nr.2, 2010, P. 110-113.
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- 3- **Badis Bendjemil**, Frank Claymand, Thomas Pichler, Martin Knupfer and Jorg Fink, Carbon nanotubes in cancer diagnosis and therapy, **Congress of materials**, Strasbourg, 18-23 nov., France, 2018.
- 4- **Badis Bendjemil**, Jacques G. Noudem, Mohamed Mouyane, Jérôme Bernard, Jean Michel Reboul, Yannick Guel, and David Houivet, Effect of Single Walled Carbon Nanotubes in the Nanocomposites cBN-TiC during Field Activated Sintering Technique (SPS): Physical, Mechanical Properties and Sintering Process, **Congress of materials**, Strasbourg, 18-23 nov., France, 2018.
- 5- M. Mouyanne, B. Jaber, **B. Bendjemil**, J. Bernard, D. Houivet and J.G. Noudem, Multifunctional properties of MgAl<sub>2</sub>O<sub>4</sub> ceramic processed by Spark Plasma Sintering, **International Conference on Electroceramics ICE 2017**, 28-31 Mai 2017, Nagoya, Japon.
- 6-**Badis Bendjemil**, et al., Synthesis of nanomaterials for drug delivery and cancer biomarkers and therapy, **International Conference and Exhibition on Nanomedicine and Drug Delivery**, May 29-31, Osaka, Japan, 2017.

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**12-** **Badis Bendjemil**, Abdelaziz Lankar, Abdelaziz Benaldjia, and Dominique Vrel, Combustion Synthesis: Novel Routes to Novel moleculars nanomaterials based on the one-dimensional nanostructures and nanocarbon-encapsulated metal nanoparticles for nanomedecine and nanotechnology applications, **EPNM**, Strasbourg, France, 1-5 May 2012.

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**37-****B. Bendjemil** et al., Synthesis and purification of Carbon nanotubes, **CISGM4**, Tlemcen 2-4 Mai 2006.

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**39-****B. Bendjemil**, K. Zemmour, Properties and structure of nitrogen deposit on substrat in Ti<sub>3</sub>CSi<sub>2</sub> bi carbide by plasma assisted CVD, **CISGM4**, Tlemcen 2-4 Mai 2006.

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**54-D.** Selbmann, A. Leonhardt, **B. Bendjemil**, Synthesis of SWCNTs by HIPCO process, Diamant and related materials, 2003, Salsbourg, Austria.

# **CV-Prof. Dr BENDJEMIL Badis**

## **MEMBRE, COMITES D'EXPERTISE DE JOURNEAUX ET CONFERENCES**

Member of the scientific and technical committee & editorial review board and Reviewer of the 'International Journal of New materials' (2017-Présent).

## **SOCIETE PROFESSIONNELLE**

## **RECONNAISSANCES ET APPRECIATION**

## **BIOGRAPHY**

Since 1989 at the institute of metallurgy and materials (Annaba university), i have initited experiment on resistance welding (spot welding) and theirs applications no in volume combustion and Sparck plasma sintering (FAST-SPS). Combustion synthesis methods (SHS by W, Mo filament, graphit corde and shiet; and by THERMAL EXPLOSION or volume combustion using spot welding machine) and then i have introduced this technics in the LEREC Laboratory institute of physics since 1999. I have initiated and propagatet reaction according to Pr. MERZHANOV (ISMAN, URSS) criterium then i have produced in the short time complex carbure, nitrure and borure with the collaboration of the Pr. Dominique VREL at the LIMPH laboratory (Paris, France). For completing experimental mesuerements (T adiabatic and propagation wave velocity by

## CV-Prof. Dr BENDJEMIL Badis

infrared camera), and developement of program able to calculate this values and compare it.

Prof. Badis BENDJEMIL, has got his PhD in solid states Physics (Surface-Interface-Spectroscopy) as PhD joint researcher between the LEREC Laboratory institute of physics, University of Badji-Mokhtar, Annaba, Algeria and, Leibniz-Institut für Festkörper- und Werkstoffsorschung Dresden (IFF-IFW-Dresden), Germany (august 2001 – september 2004) (Deutscher Akademischer Austauschdienst (DAAD, STUPENDIUM) under the direction of the Pr. Martin KNUPFER and Pr. Jorg FINK (Dresden, Germany).

Since 2004, I computed by FPLO 3 code from the Institut of theoretical physics of IFW-Dresden-Germany (Pr. Dr Manuel Richter and Pr. Dr Klaus Kopernick) (Dresden, Germany). and have unupdated the license by FPLO 18 in 2018 for calculation of the electronic structure of the solids and molecule more than 20 atoms, Fermi surface of the superconductor materials and dHvA magnetisation are also visualised and computed.

And then to study the synthesis of metallic glasses in the form of massive and rubbans abd theirs nanocomposites by different processes (injection molding, arc melting and melt spinning at the UNITO with Pr. Marcello BARRICO and the INRIM laboratory (Melt spinnning, Arc melting and injection molding apparatus in addition Microscopy, spectroscopy and magnetism like MFM, VSM and AFM technics) with Pr. Francko VINAI of Torino (Italy) and established a cooperation with the UNITO by a student mobility under my direction grant funded by the Torino Bank.

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In 2016 until 2010 at LPMIA, Henry Point Carré University Nancy (France) to study cold plasma physics processes (MWPACVD, RF and other plasma processes) for producing of carbon nanostructures by nanoform and initiated a collaboration in hot plasma (CADARACHE, ITER Project) : study of the confinement of the hot plasma physics particles interaction in elecoidal superconducting NbTi , ITER , Project, Plasma with the Pr. Jamal BOUGDIRA(Nancy, France).

Since 2013 I have lernet to use Field Activated Sparck Plasma Sintering at the institute of Physics of new materials at Rostock university (GERMANY) with Pr. Eberhard BURKEL and Pr. Faming ZHANG (Rostock, Germany). and then i have develloped my experience in SPS and HIP at the laboratory of Pr. Giacomo GAO at Cagliari university of technology (Italy) and with the Pr. Frédéric BERNARD at the laboratory of (Procédés Métallurgiques, Durabilité, Matériaux) (Dijon, France).

During that time he managed to publish a lot of publications and attend different International conferences in drug delivery and nanotechnology field in different countries using the functionnalisation of one dimensional molecular carbon nanostructure. Furthermore, he has got a postdoctoral research grant for one year, funded from the Algerian Ministry of Higher Education in ESIX, LUSAC, Cherbourg-Octeville, in collaboration with the Caen university (Basse Normandie) Bd, Maréchal Juin, France (august 2015 to September 2016) in Advanced Electroceramics and Nanocomposites with Pr. Jacques G. NOUDEM, Dr Mohamed MOUYANE and Pr. David HOUIVET . Prof. Badis BENDJEMIL upgraded to full Professor since April, 2010 to date. He has over 40 publications in peer reviewed journals

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with high impact factor as well as he attending a lot of international conferences all over the world.

Biomed expert with the ATRSS (Agence Thématique de Recherche en Sciences de la Santé, Oran, Algeria).

## Research Interest's

Prof. Badis BENDJEMIL Research interest include Drug delivery applications; Cancer therapy; Orthopedy, Ondontology, Neurology, Tissus ingeniering, Nanotechnology; Advanced ceramics and nanocomposite; Glass metallic; Advanced spectroscopy technics;FPLD 18; Fermi surface; Superconductivity and magnetismus.

## Research trainings

CEMES of Toulouse	Pr. Kihn Yolande	France, 1999, (01 month)
University of Paris 13	Pr. Vrel Dominique	France, 2000, (01 month),.
IFW-Dresden-Germany	PhD thesis, Pr. Jörg Fink, Pr. Martin Knupfer	Germany, 2001-2004
University of Nancy(LPMIA)	Pr. Jamal Bougdira	France, 2006, (01 month)

## CV-Prof. Dr BENDJEMIL Badis

INITO University of Torino	Pr. Marcello Baricco.	Italy, 2007, (01 month)
University of Paris 11- Orsay	Pr. Odile Stephane	France, 2008, (01 month)
University of Nancy (LPMIA)	Pr. Jamal Bougdira	France, 2009-2010, (02 months)
University of Warsaw Poland	Pr. Andrej Huscko	Poland, 2011, (01 month)
University of Rostock	Pr. Burkel Eberhardt	Germany, 2013, (01 month)
University of Cagliari	Pr. Giacomo Gao	Italy 2014, (01 month)
University of Cherbourg	Pr. Jacques G. Noudem, Pr. David Houivet	France starting August. 2015, (01 year)
University of Dijon	Pr. Frédéric Bernard	France, 2018, (02 month)