

**REPUBLIQUE ALGERIENNE DEMOCRATIQUE ET POPULAIRE**  
**MINISTERE DE L'ENSEIGNEMENT SUPERIEUR ET DE LA RECHERCHE SCIENTIFIQUE**

**Fiche de présentation d'un projet de recherche universitaire**  
**(CNEPRU)**

Bilan Final			
Établissement	U GUELMA	Domaine de recherche	PHYSIQUE
Code du projet	D01520080010	Année de soumission	2008
Intitulé du projet	Synthèse des molécules nanostructurées de carbone et étude de leurs propriétés optique, électronique, vibronique, magnétique et mécanique pour des applications en biomédical CARBIO		
L'équipe de recherche			
Nom	Prénom	Grade	Participation
BENDJEMIL	Badis	Maître de conférence	Chef projet
Chakri	Naceredinne	Maître de conférence	Membre
Ramdane	Wissème	PG deuxième année	Membre
MAZONI	Farida	Chargé de cours	Membre
MAZONI	Farida	Chargé de cours	Membre
Encadrements/ Co-Encadrements			
Nom	Prénom	Intitulé	Grade
Kimour	Nadjette	Synthesis of carbon nanotubes by combustion and studies of their mechanical properties by molecular dynamic simulation for biomedical application Master	Magister
Zhioua	Abdelrahman	Synthesis of carbon nanotubes by combustion Master	Magister
RAMDANE	Wissème	Synthesis and characterisation of intermetallics non oxides perovskite superconductors (MgB2 and MgCNi3) .	Doctorat
BOUCHAREB	Abdelrezzak	The Effect of the Y and Gd on the Bulk Metallic Glass and ribbon in the Fe50-xCr15Mo14C15B6Mx (M= Y, Gd and x= 0,2) for magnetic applications (Collaboration with the, Università di Torino, Torino Italy , Stipendium of 12 Months)	Doctorat
Publications internationales			
Titre	Ultra-fast efficient synthesis of one-dimensional nanostructures		
Année	2011		

<b>Revue</b>	Phys. Status Solidi B 248
<b>Site</b>	Phys. Status Solidi B 248
<b>Auteurs</b>	browska A. ; Huczko A. ; Soszy M. ; Bendjemil B.
<b>Titre</b>	Combustion synthesis of Copper-Nb <sub>3</sub> Sn monofilamentary superconducting composite wires
<b>Année</b>	2011
<b>Revue</b>	International Journal of Self-Propagating High-Temperature Synthesis
<b>Site</b>	Volume 20, Nr 4
<b>Auteurs</b>	Bendjemil B. ; Bendjemil B. ; Bendjemil B. ; Bendjemil B.
<b>Titre</b>	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
<b>Année</b>	2011
<b>Revue</b>	Int.. Journal of Nanoelectronic and Materials Sciences accepted for printing in: Plant survey. (publisher's declaration of acceptance enclosed), <a href="mailto:ijneam@unimap.edu.my">ijneam@unimap.edu.my</a> .
<b>Site</b>	Int.. Journal of Nanoelectronic and Materials Sciences
<b>Auteurs</b>	Bendjemil B. ; Hafs Ali ; Seghairi Nassima ; Bendjemil Marcello
<b>Titre</b>	Combustion Synthesis of Ti <sub>3</sub> SiC <sub>2</sub> based ceramic
<b>Année</b>	2010
<b>Revue</b>	accepted for printing in: Journal of material sciences, Plant survey. (publisher's declaration of acceptance enclosed) ripjournals@gmail.com.
<b>Site</b>	Journal of material sciences
<b>Auteurs</b>	Bendjemil B ; Bendjemil B. ; Bendjemil B. ; Bendjemil B.
<b>Titre</b>	Icosahedral quasicrystalline Fe <sub>10</sub> Cu <sub>20</sub> Al <sub>70</sub> by thermal explosion: Structural and Magnetic Properties
<b>Année</b>	2010
<b>Revue</b>	International Journal of Self-Propagating High-Temperature Synthesis, Vol. 19, Nr.3
<b>Site</b>	International Journal of Self-Propagating High-Temperature Synthesis
<b>Auteurs</b>	Bendjemil B. ; Benaldjia A. ; Bougdira J. ; Malaman B.
<b>Titre</b>	FeAlPCBGa metallic glasses by heavy current annealing/electrothermal explosion: Structural and soft magnetic properties
<b>Année</b>	2010
<b>Revue</b>	International Journal of Self-Propagating High-Temperature Synthesis, Vol. 19, Nr.4
<b>Site</b>	International Journal of Self-Propagating High-Temperature Synthesis
<b>Auteurs</b>	Bendjemil B. ; Baricco M. ; Bendjemil B. ; Bendjemil B.
<b>Titre</b>	Ultra-STEM-EELS characterization of MgB <sub>2</sub> synthesized superconductor by different route: comparative study

<b>Année</b>	2010
<b>Revue</b>	International Journal of Self-Propagating High-Temperature Synthesis, Vol. 19, Nr.1,
<b>Site</b>	International Journal of Self-Propagating High-Temperature Synthesis
<b>Auteurs</b>	Bendjemil B. ; Ramdane W. ; Stephane O. ; P. Fernandez R.
<b>Titre</b>	Perovskite-type MgCNi <sub>3</sub> Superconductors as prepared by combined sintering-ETE process and SHS reaction: Structural Characterization and superconducting Properties
<b>Année</b>	2010
<b>Revue</b>	International Journal of Self-Propagating High-Temperature Synthesis, Vol. 19, Nr. 1
<b>Site</b>	International Journal of Self-Propagating High-Temperature Synthesis
<b>Auteurs</b>	B. Bendjemil B. ; B. Bendjemil B. ; B. Bendjemil B. ; B. Bendjemil B.
<b>Titre</b>	SHS produced MnNiAl magnetic shape memory alloys
<b>Année</b>	2010
<b>Revue</b>	International Journal of Self-Propagating High-Temperature Synthesis, Vol. 19, Nr.2
<b>Site</b>	International Journal of Self-Propagating High-Temperature Synthesis
<b>Auteurs</b>	Bendjemil B. ; Bendjemil B. ; Bendjemil B. ; Bendjemil B.
<b>Titre</b>	Effect of magnetic field and Boron addition on the structural and magnetic properties of rapidly solidified Fe <sub>60</sub> Nd <sub>35</sub> Al <sub>5</sub> by section casting
<b>Année</b>	2010
<b>Revue</b>	Int. Journal of Nanoelectronic and Materials Sciences, Vol. 3, Nr. 1
<b>Site</b>	Int. Journal of Nanoelectronic and Materials Sciences
<b>Auteurs</b>	Bendjemil B. ; Bouchareb A. ; Hafs A. ; Barrico M.
<b>Communication internationales</b>	
<b>Titre</b>	Ultra-fast efficient synthesis of onedimensional nanostructures
<b>Année</b>	2011
<b>Séminaire</b>	IWEPNM 2011
<b>Lieu</b>	Kirchberg/Tirol, Austria
<b>Auteurs</b>	browska A. ; Huczko A. ; Bendjemil B. ; Bendjemil B.
<b>Titre</b>	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
<b>Année</b>	2011
<b>Séminaire</b>	International conference on non-equilibrium materials, ICONEM 2011
<b>Lieu</b>	3-5 may, University of Annaba
<b>Auteurs</b>	Hafs A. ; Bendjemil B.

<b>Titre</b>	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
<b>Année</b>	2011
<b>Séminaire</b>	ICONEM 2011, International conference on non-equilibrium materials
<b>Lieu</b>	3-5 may, University of Annaba.
<b>Auteurs</b>	Bouchareb A. ; Bendjemil B.
<b>Titre</b>	Synthesis and spectroscopic investigation of SWCNTs by HiPCo process for bio-application
<b>Année</b>	2010
<b>Séminaire</b>	Chem On Tubes 2010
<b>Lieu</b>	Arcachon, France, 15 April 2010.
<b>Auteurs</b>	Bendjemil B. ; E. Chakri N. ; Bougdira J. ; Bougdira J.
<b>Titre</b>	Synthesis and spectroscopic investigation of SWCNTs by HiPCo process for bio-application
<b>Année</b>	Paris
<b>Séminaire</b>	2010
<b>Lieu</b>	SF2M Paris, 13-17 juin
<b>Auteurs</b>	Bendjemil B. ; Chakri N. E. ; Bougdira J. ; Bougdira J.
<b>Titre</b>	HREELS and OAS Studies of Pristine and Purified Single-walled Carbon Nanotubes Produced by HIPCO Process for Bio-application,.
<b>Année</b>	2010
<b>Séminaire</b>	NT 10, Montreal CANADA 2010
<b>Lieu</b>	Montreal CANADA
<b>Auteurs</b>	Bendjemil B. ; Selbmann D. ; Selbmann D. ; Selbmann D.
<b>Titre</b>	Spectroscopie diagnostic of the reaction zone on the synthesis of carbon nanotubes by combustion
<b>Année</b>	2010
<b>Séminaire</b>	Séminaire SF2M, 22-24 juin, <a href="http://www.sf2m.asso.fr/JA2010/JA2010.htm">http://www.sf2m.asso.fr/JA2010/JA2010.htm</a>
<b>Lieu</b>	Paris
<b>Auteurs</b>	Bendjemil Badis ; Chakri Nacereddine ; Kimour Nadjette ; Benaldjia Abdelaziz
<b>Titre</b>	The Effect of the Y and Gd on the Bulk Metallic Glass and ribbon in the Fe <sub>50-x</sub> Cr <sub>15</sub> Mo <sub>14</sub> C <sub>15</sub> B <sub>6</sub> M <sub>x</sub> (M= Y, Gd and x= 0,2)
<b>Année</b>	2009
<b>Séminaire</b>	12th International Conference on Fracture, Ottawa
<b>Lieu</b>	Canada July 12-17
<b>Auteurs</b>	Bouchareb A. ; Piccin R. ; Bendjemil B. ; Baricco M.
<b>Titre</b>	Synthesis and characterization of multilayers of crystalline and amorphous TiN-Al <sub>2</sub> O <sub>3</sub> by Pulsed DC-PCVD
<b>Année</b>	2009

<b>Séminaire</b>	SF2M Rennes, 13-17 juin
<b>Lieu</b>	Rennes
<b>Auteurs</b>	Bendjemil B. ; Chakri N. E. ; Bougdira J. ; Chakri N. E.

### Communications nationales

<b>Titre</b>	Molecular-dynamic simulation of structure and stability of C60 and K@C60 superconducting compounds and carbon nanotubes with a promising future
<b>Année</b>	2009
<b>Séminaire</b>	Colloque National sur les Techniques de Modélisation et de Simulation en Science des Matériaux, 23-24 novembre
<b>Lieu</b>	Sidi Bel-Abbès.
<b>Auteurs</b>	Bendjemil B. ; Bendjemil B. ; Bendjemil B. ; Bendjemil B.

<b>Titre</b>	Electronic structure and Fermi Surface calculation of MgB2 Superconductor materials
<b>Année</b>	2009
<b>Séminaire</b>	Colloque National sur les Techniques de Modélisation et de Simulation en Science des Matériaux, 23-24 novembre
<b>Lieu</b>	Sidi Bel-Abbès.
<b>Auteurs</b>	Bendjemil B. ; Bendjemil B. ; Bendjemil B. ; Bendjemil B.

<b>Autre à préciser</b>	<p>BENDJEMIL BADIS Professor A. Bouchareb, B. Bendjemil, R. Piccin and M. Barrico, Formation and thermal properties of Fe-based BMG's with Y or Gd addition, Int. Journal of Nanoelectronic and Materials Sciences, Vol. 3, Nr. 1, 2010, P. 63-70. A. Bouchareb, B. Bendjemil, R. Piccin and M. Barrico, Influence of Rare-Earth Substitution for Iron in FeCrMoCB Bulk Metallic Glasses, Chinese. Phys. Lett. Vol. 27, Nr. 7 076103, 2010. B. Bendjemil, Electronic and optical properties of the express purified SWCNTs by HIPCO Process, Int. Journal of Nanoelectronic and Materials Sciences, Vol.2, Nr. 2, 2009, P. 173-182. K. Zemmour and B. Bendjemil, Electronic density of states and strong electron-phonon coupling in Nb3Sn, Journal of superconductivity and novel magnetism, Vol. 3, Nr. 3, 2009, P. 431-438. O. Guellati, W. Bounour, A. Benaldjia, B. Bendjemil, M. Guerioune, S. Ferhat and B. Nagy, Carbon nanotubes future, Physical and chemical news (PCN International journal) ISSN, 2009, P. 1114-3800. B. Bendjemil, A. Bouchareb, A. Belbah, M. S. Hamani, J. Bougdira R. Piccin, M. Baricco, Isothermal crystallization behaviour of Fe 50-x Cr 15 Mo 14 C 15 B 6 M (x = 0, 2 and M=Y, Gd) bulk metallic glasses and ribbons by in situ high temperature X-rays diffraction, submitted to the Journal of Chinese Phys. Lett. 2012. 2- B. Bendjemil, A. Hafs, N. Seghairi and M. Baricco , x Microstructure and mechanical properties of amorphous phase formation in Zr 59 Ta bulk glassy alloy, submitted to the Int. Journal of Nanoelectronic and Materials Sciences, 2012. 3- Badis Bendjemil, Ali Hafs 5 Cu 18 Ni 8 Al 10 , Nassima Seghairi, and Marcello, Crystallization kinetics and magnetic properties of Fe amorphous ribbon, submitted to the Int.</p>
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	<p>Journal of Nanoelectronic and Materials Sciences, 2012. 40 Ni 40 B 20 4- 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, submitted to the International Journal of Self-Propagating High-Temperature Synthesis, 2012.</p>
<p>Demande de prolongation</p>	<p>M. BENDJEMIL BADIS GUELMA, LE 06-01- 2012 FACULTÉ DES SCIENCES UNIVERSITÉ DE GUELMA A MONSIEUR LE DIRECTEUR DES PROJETS CNEPRU OBJET: DEMANDE DE PROLONGATION D'UNE ANNÉE MONSIEUR LE DIRECTEUR; J'AI L'HONNEUR DE VOUS DEMANDER DE BIEN VOULOIR PROLONGER D'UNE ANNÉE MON PROJET CNEPRU, AFIN DE COMPLÉTER LES EXPÉRIENCES ET CARACTÉRISATIONS RESTANTE. VEUILLEZ AGRÉER, MONSIEUR LE DIRECTEUR, L'EXPRESSION DE MES SINCÈRES SALUTATIONS. Pr. BENDJEMIL BADIS</p>