جامعة الشهيد حمّه لخضر - الوادى
Université Echahid Hamma Lakhdar - El-Oued

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جامعة الشهيد حمّه لخضر - الوادى
Université Echahid Hamma Lakhdar - El-Oued

CRTI
Centre de Recherche en Technologies Industrielles

PNR RSDT
من أجل بحث علمي مفيد
Pour une Recherche Utile

الندوة الدولية حول التكنولوجيا والتنمية الصناعية المستدامة

Timlilit Tagreγlant γef Tetiknulujit n Usnerni n Tammut d Tamguri

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1. Abstract of Keynote Speakers

Full Name	Mohamed Arezki Mellal
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University	M'Hamed Bougara University
Title	Technological obsolescence: An overview and solutions
Abstract	Nowadays, the competitiveness pressures to innovate new products. These products could be household or industrial items. This situation implies the use of the word "obsolescence" which became fluent. The industrial companies try to deal with the technological obsolescence, but several challenges should be investigated. This keynote presentation highlights an overview of the obsolescence and the solution approaches.

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University	Centre universitaire Abdelhafid Boussouf Mila / Abdelhafid Boussouf Mila University Centre
Title	Entre ville intelligente et développement durable / Between smart cities and sustainable development
Abstract	Les nouvelles technologies ont bouleversés l'espace de la ville, la ville intelligente ou la "smart city" gagne du terrain et prends place graduellement à une vitesse vertigineuse; nous nous retrouvons face à des villes de plus en plus connectées et banchées pas par câbles mais via l'internet qui est arrivé à révolutionner le monde tout entier. La vitesse par laquelle les nouvelles technologies de l'information et de la communication (NTIC) évoluent, donne du fil a retordre pour les spécialistes de la ville notamment les architectes et les urbanistes. Comment arriver à concilier entre les villes durables et les smart cities? Comment arriver à mettre internet au service des villes durables? Nous tenterons dans ce travail de répondre à ces deux questions cruciales. Mots clés: Smart city, développement durable, internet, NTIC, ville. ABSTRACT: New technologies have revolutionized the city's space, the smart city is gaining ground and gradually taking place at a dizzying speed; we are faced with cities that are increasingly connected and plugged not by cables but via the Internet, which has managed to revolutionize all the world. The speed with which new information and communication technologies (NICTs) are evolving is a challenge for city specialists, particularly architects and urban planners. How can we reconcile sustainable cities with smart cities? How to put the Internet at the service of sustainable cities? In this work, we will try to answer these two crucial questions. Keywords: Smart city, sustainable development, internet, NICT, city.

Full Name	Houabes Mourad
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University	ESTIA, High School of industrial technologies - Annaba
Title	Renawable energy
Abstract	Many photovoltaic cells have emerged to make the best use of sunlight through solar panels. In order to produce electricity, silicon, rare earths or plastics are used, but each technology has strengths and weaknesses in this promising area. The CZTS cells has optical and electronic properties similar to that of CIGS, while having the advantage of being composed of abundant elements (unlike tellurium or indium) and not toxic to health or the environment (cadmium can be banned). By moreover, its basic constituents would be five times less expensive than those of the CIGS sector....

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Title	Characterization of structural and textural behavior by using EBSDtechnique: application on metal alloys
Abstract	The EBSD technique (Electron backscatter diffraction)is automated techniques that measurethe orientationscrystallographic in a local microstructure. Experimentally, the EBSD device is placed in an SEM. It is based on the analysis of photographs resulting from the diffraction of backscattered electrons, obtained for each point on the observed surface. So, it is possible to reconstruct a map of the crystallographic orientations of each of these measurement points. Principle of measurement by EBSD EBSD is a technique that uses the backscattered electrons. According to Fig 1a, when the incident electrons arrive at the sample, some have quasi-elastic interaction with the nuclei of the sample atoms. Then they are diffused with a low or loss of energy and their propagation direction is changed by this interaction. The scattered electrons form a diverging point source within the sample surface (Figure 1b). The propagation of the backscattered electrons is in all directions and some of them can then be diffracted by the crystalline planes grains{hkl} of a crystallized material and satisfying Bragg's law.Electrons diffracted by a family of planes create a «diffraction cone» (Figure 1c) and when this cone is intercepted by a phosphorescent screen (the detector screen), a Kikuchi line is obtained.In fact, according to Fig 1d, two almost parallel Kikuchi lines are obtained for a family of planes (they form a band Kikuchi). Therefore, during the analysis, for a given crystal, several strips of Kikuchi can be obtained.Comparing the angle between these bands with theoretical angles, the corresponding plans for each band of Kikuchi can be determined and makes the crystal orientation (Figure 1e) [1]. The objective of this study was to better understand the evolution of the microstructure and the local and overall

texture after shaping processes (plastic deformation) after different thermal treatments applied to industrial metal alloys[2-4] and also to present by cartography reconstructed by the EBSD technique the interest of studying and characterizing the structural and textural behavior as well as the local and global crystallographic orientations of on ferrous and non-ferrous alloys intended for industrial applications[2-4] (Figure2) .

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Figure 1: Principle of EBSD: (a) production of backscattered electrons, (b) formation of the divergent point source of electrons, (c) formation of the Kikuchi line, (d) formation of the Kikuchi Band and (e) Determination of the orientation of a crystal from the Kikuchi diagram.

Figure 2: Cartography reconstructed by EBSD on the perephiric zone of the mild steel wire rod

Références

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	Study of microstructural and mechanical behavior of mild steel wire cold drawn at TREFISOUD, International Journal JERA (TTP indexed by: Thomson Reuters /Scopus -Elsevier)) Vol. 36, pp. 53-59 (2018).

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Title	APA Guidelines for Crediting Sources and forging Research Ethicality
Abstract	Scientific knowledge can be considered as the accumulation of accomplishments achieved by different researchers and scholars across the history. This process can refer to the "inquiry into the nature of, the reasons for, and the consequences of any particular set of circumstances, whether these circumstances are experimentally controlled or recorded just as they occur" (The New Oxford American Dictionary (2001, p. 1448). To ensure the integrity of these efforts and to preserve the scholarly property rights of research participants over time, the American Psychologists Association (APA, 2010), proposes a set of guidelines meant for crediting sources and forging research ethicality. These include recommendations for avoiding plagiarism and self-plagiarism; directions for direct quotations, paraphrasing material, accuracy of quotations, citing secondary sources, as well as permission to quote, reprint, or adapt. The communication concludes with guidelines for citing sources in the text, and constructing an accurate and comprehensive reference List.

Full Name	Mdouki Ramzi
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Title	Résolution numérique du problème de diffusion bidimensionnelle instationnaire: Développement d'un pseudo-code et comparaison avec AnsysFluent
Abstract	Dans ce travail on traite numériquement un problème de diffusion 1D/2D dans un régime instationnaire par les méthodes des différences finies et/ou des volumes finis. On suit les trois étapes principales de la simulation numérique (CFD) ; prétraitement, traitement et post traitement numériques sur deux voies, en développant un pseudo code en Fortran ou Matlab et en utilisant le logiciel commercial AnsyFluent et le mailleur Gambit ou pointwise. Dans la première étape on essayera de projeter la lumière sur la génération de maillage et la méthode de discrétisation du domaine géométrique. Dans la deuxième étape on fait illustrer les détails de la simulation ; discrétisation des termes différentiels de l'EDP avec les différents schémas numériques (explicite, implicite et C. Nicolson), implémentation des conditions aux limites (Dirichlet, Newman et Fourier) et condition initiale, techniques d'analyse numérique pour résoudre les systèmes d'équations obtenus après la discrétisation (Thomas, Gauss, …). Et finalement la troisième étape de post traitement numérique ou on fait exploiter les fichiers des résultats obtenus après le calcul dans la deuxième étape et utiliser un visualisateur tels que le Tecplot pour comparer les résultats du code développé et celles obtenus par AnsysFluent.

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Title	Low Carbon Connected Industries contribution to Society 5.0
Abstract	Green House Gases Emissions Reduction for keeping Global Warming under 2°C limit and development of innovative Technologies based on Internet of Things (IOT), artificial intelligence (AI), Big Data, etc. are important issues for human transition to decarbonised super smart society. IoT solutions combined to 2030 united Nations Agenda integrating 17 Sustainable Development Goals (SDGs) will help transition to society 5.0 by achieving social, economic and environmental development goals while reducing long-term greenhouse gas emissions and increasing resilience to climate change impacts. Internet of things (IoT) technologies in general and Industrial internet of things (IIoT) with collaborative cobots, extended remote monitoring and sensing capabilities in particular will allow real-time diagnostics, proactive reaction with citizens including easy identification and fast accurate design, manufacturing and forecast contributing to the start of the smart society era.

Full Name	Monji KHERALLAH
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Title	Erasmus+ Project description, prototype presentation: "Smart University"
Abstract	Smart University aims at getting our universities smarter by developing a prototype of an intelligent classroom/lab/library. This development will include smart techniques in many field in our universities : - Energy control - Easy of access and Accessibility - Smart management of administrative tasks - Smart educational concepts All these points will be addressed in this project. The main originality is to make sure that beneficiary partners will be 100% independent for creating a smart prototype at the end of the project by giving them all the required expertise that will help to extend the project to other types of the partner universities.

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Title	Promouvoir la culture de sécurité en industrie
Abstract	La culture de sécurité en industrie est importante car il faut protéger les actifs informationnels incluant les procédés, le système d'information, les technologies, les secrets de fabrication etc. Une entreprise industrielle peut dépenser un argent considérable pour des pare-feu, des systèmes de détection d'intrusion et de cryptage ainsi que d'autres technologies de sécurité mais il suffit qu'elle ait un employé vulnérable détenant un pouvoir décisionnel pour que sa sécurité soit compromise. Par ailleurs, il est à noter que la vulnérabilité d'un employé peut provenir de sa négligence vis-à-vis des procédures de sécurité, de sa faiblesse face aux méthodes de manipulation d'autrui, de ses interactions avec son entourage ou encore de son ignorance voire son incapacité à percevoir les risques potentiels pouvant compromettre la compagnie à laquelle il appartient. Le premier objectif de cette conférence est de sensibiliser les employés quelque que soient leurs positions hiérarchiques aux techniques d'ingénierie sociale. Ces dernières exploitent leurs biais cognitifs ainsi que leurs vulnérabilités les menant à divulguer de l'information sensible. Le deuxième objectif de la conférence est de fournir, des recommandations quant aux bonnes pratiques pour un comportement sécuritaire afin d'éviter les techniques de manipulation provenant de l'extérieur y compris de la concurrence.

2. Abstract of Participants

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Title	Amélioration des performances d'un système frigorifique à compression de vapeur
Abstract	Cet article présente une étude comparative entre le cycle frigorifique à compression conventionnel et le cycle frigorifique assisté par éjecteur (éjecteur diphasique). Cette étude démontre l'intégration d'un éjecteur permet d'améliorer les performances d
Keywords	éjecteur-détendeur, réfrigération, COP, rapport d'entrainement

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Title	Evaluation of the anti-Alzheimer's disease activity of N-ferrocenylmethyl-2-nitroaniline using bioinformatics tools.
Abstract	Inhibition of acetylcholinesterase is currently regarded as the leading strategy against Alzheimer's disease. The principal objective of this project was to investigate the acetylcholinesterase inhibitory activity of N-ferrocenylmethyl-2-nitroaniline (2FMNA) using the bioinformatics tools to predict the relationship between them. In this research, we based on docking study of the interaction between N-ferrocenylmethyl-2-nitroaniline and the AChE by using the open source software AutoDock tools. The X-ray crystal structure of the enzyme AChE (PDB ID :5HF5) were obtained from Protein Data Bank (http://www.rcsb.org./pdb). The N-ferrocenylmethyl-2-nitroaniline structure chosen for docking was optimized with the Gaussian 09 software by the DFT method and the set of B3LYP / 6-311G ++ (d, p) bases. The interaction parameters obtained from molecular docking show that the interaction between 2FMNA and the enzyme is of the electrostatic type.
Keywords	N-ferrocenylmethyl-2-nitroaniline, molecular docking, acetylcholinesterase (AChE), Alzheimar.

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Title	MOLECULAR DOCKING AND UV-VISIBL SPECTROSCOPY CHARACTERISATION OF THE COMPLEX FORMED BETWEEN FERROCENE DERIVATIVE AND DNA.
Abstract	In this study the ferrocene derrivative was characterized for interaction with DNA using theoretical and experimental methods. UV-visible spectroscopy was used for the experimental account of Fc-DNA complex. The experimental result showed that the Fc interacts by electrostatic mode. The binding constant (K) and Gibbs free energy (ΔG) for the Fc-DNA complex have been estimated as 5,25 x 104 mol-1 and -26,9 KJ.mol-1 respectively. The theoretical DNA binding of Fc was investigated by performing docking studies using AutoDock molecular docking software. The docking studies yield good approximation with experimental data and explain the sites of binding
Keywords	DNA, ferrocene derivative, Gibbs free energy, The binding constant, AutoDock.

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Title	A Hybrid Optimization Approach to identification problem in thermodynamic models
Abstract	The interaction parameter estimation problem in thermodynamic models is an important requirement and a common task in many areas of chemical engineering because these models form the basis for synthesis, design, optimization and control of process. For bad starting values the use gradient based result in local optimal solutions. To overcome this drawback, a global optimization approach, Simulated Annealing and genetic algorithm, has been coupled with a Nelder-Mead simplex method. To improve the accuracy of the interaction parameter estimate. The experimental ternary LLE data for extraction of toluene from n-heptane with aniline were considered in the NRTL and UNIQUAC activity coefficient model. In conclusion, the different obtained results of the prediction of liquid–liquid equilibrium are compared. These results were obtained to justify that the process of optimization recommended is very practical to estimate the interaction parameters of this ternary system.
Keywords	hybrid optimization approach, genetic algorithm, simulated annealing, parameter estimation

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Title	L'habitat Durable, UN PAS VERS LA Performance Énergétique et la protection de l'environnement en Algérie .
Abstract	La crise économique actuelle, liée à la crise énergétique, exige l'application des solutions dans l'urgence afin d'assurer un développement durable dans le monde. D'après les dernières statistiques, le secteur de l'habitat en Algérie est classé comme étant le plus énergivore des secteurs de la ville, environ 42 % de la consommation énergétique globale revient au secteur résidentiel. Afin d'améliorer la situation énergétique du secteur résidentiel, l'État algérien a lancé un programme de 600 logements de haute performance énergétique distribué sur 11 wilayas selon la variété climatique de chaque région. L'objectif de ce travail est de savoir la situation énergétique du secteur résidentiel en Algérie par la présentation de la consommation d'énergie, la qualité des systèmes constructifs, la règlementation relative à la maîtrise de l'énergie et faire un descriptif des expériences existantes pour économiser la consommation énergétique.
Keywords	habitat durable, performance énergétique, consommation énergétique, climat, règlementation.

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Title	حساب المقاطع الفعالة لذرات ألزوت الشبيهة بالهيليوم في المفاعالت النووية الحرارية
Abstract	لقيت مفاعالت االنصهار النووي ترحيبا كبيرا باعتبارها مصدرا للطاقة الخالية من االشعاع . ومن بين هذه المفاعالت اخترنا دراسة على مفاعل االنصهار النووي توكاماك الذي يعتمد على غاز الهليوم أو غاز الذرات الشبيه بالهليوم كمونات داخلية او شوائب مثل ذرات ألزوت الشبيه بالهليوم. بحيث ان المعطيات الذرية لمثل هذه الغازات تمكن من معرفة خصائص المفاعل النووي الحراري [1] .حيث أردنا من خالل هذا العمل التحكم في حساب المقاطع الفعالة لذرة ألزوت الشبيه بالهليوم وذلك باالعتماد على ومقارنة هذه النتائج بتقريب[2] FAC برنامج بورن كولومب [0] التي أعطت توافقا مقبوال. حيث تمكننا هذه النتائج من حساب معدل التأين لذرة ألزوت الشبيه بالهليوم الذي يقدم معلومات عن خطوط الطيف لهذه الذرة بحيث يمكننا من معرفة خصائص مفاعل االنصهار النووي توكاماك و كدرجة الحرارة والكثافة.
Keywords	المفاعل النووي الحراري، غاز االزوت الشبيه بالهيليوم، المقاطع الفعالة، معدل التأين.

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Title	BIOFUELS AND CLIMATE CHANGE
Abstract	Since the beginning of the 2000s. Public policies in favor of biofuels have been considerably strengthened and extended to a large number of countries. One of the main objectives is the fight against climate change through the reduction of gas emissions. Greenhouse effect (GHG). Biofuels contribute to this goal, since they constitute one of the possible alternatives to fossil fuels (ADEME 2010). However, they are at the crossroads of several significant issues: economic, social, environmental, and climatic. In this context, it has become necessary to discuss the potential impacts of the uncontrolled development of biofuels, which are accused of not presenting the favorable balance sheets that were initially lent to them in terms of reducing greenhouse gas emissions. greenhouse effect.
Keywords	biofuels, fossil fuels, climate change, greenhouse gases, significant issues

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Title	Optimum Correlation filters for Visual Tracking via Histogram of Gradient Features and SVM classifier
Abstract	The majority of object trackers algorithms cannot recover tracking processes from problems of drifting. These problems are caused by several challenges, especially heavy occlusion, scale variation, and fast motion. In this paper, we present a new effective method with the aim of treating these challenges robustly basing on two principal tasks. First, we infer the target location using the correlation map, resulting from the combination of a learned correlation filter model with a histogram of gradient (HOG) features. Indeed, Bat algorithm (BA) is exploited for solving the update model equation of the correlation filters. Second, we use the histogram of gradient features to learn another correlation filter model in order to estimate the scale variation. Furthermore, we exploit an online training SVM classifier to re-detect target in failure cases. The extensive experiments on a commonly used tracking benchmark dataset justify that our tracker significantly outperforms the state-of-the-art trackers.
Keywords	HOG, Correlation filter, BA, SVM, Visual tracking.

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Title	Impact de l'effet du gradient de texture sur le comportement anisotrope d'une tôle
Abstract	Les aciers inoxydables ferritiques laminés à chaud, présentent généralement un fort gradient de texture cristallographique suivant l'épaisseur de la tôle. L'hétérogénéité des textures résulte des effets mécaniques de cisaillement des cylindres sur la peau de la tôle et leur intensité. Cette anisotropie plastique des tôles est caractérisée au moyen d'essais de traction uniaxiale et orthogonale. Le cas d'une tôle hétérogène bicouche a été traité au moyen de deux approches l'une dite simplifiée et l'autre généralisée.
Keywords	modélisation mécanique, texture cristallographique, critère de Hill1948, Tôle sandwich.

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Title	Application du modèle de Schokly-Read-Hall dans l'analyse numérique du système PIN en a-Si:H
Abstract	Les équations de continuités des électrons et des trous en régime stationnaire et l'équation de Poisson appliquées à une structure PIN (a-Si:H) ont été déterminées numériquement en utilisant la méthode des différences finies et la discrétisation 1D. Cette analyse montre l'importance des pièges (traps) qui influencent beaucoup les propriétés physiques du matériau de type a-Si. Pour ce faire, on a considéré la présence de ces centres pièges, situés au niveau Et du gap et de densité constante Nt. La présence de ces pièges accentue suffisamment le mécanisme de recombinaison. Pour bien illustrer le rôle de ces centres de recombinaison, on a appliqué le modèle de Schokly-Read-Hall qui tient compte les interactions entre le niveau localisé de gap Et et le niveau de la bande de conduction. On considère le cas de densité d'état constante qui reste une simple approximation par rapport aux autres modèles des densités d'état plus complexes et qui mettre en jeu d'autres mécanismes encore plus compliqués. L'approche numérique montre que la densité des trous (p) qui est de l'ordre de (3×1017 cm-3) dans la région P et qui diminue dans la région intrinsèque à (1011 cm-3), la même chose s'applique pour les électrons dans la région I et P.
Keywords	si amorphe, structure PIN,simulation , méthode des différences finies,modèle de Schokly-Read-Hall , les densités des trous et des électrons

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Title	Etude expérimentale du contrôle de la couche limite par soufflage continu dans le cas d'un profil aérodynamique
Abstract	Dans les écoulements autour de profils, le décollement de la couche limite se traduit par une dissipation d'énergie et une génération de nuisances sonores. Les techniques de contrôle de la couche limite permettent de diminuer, voire d'éliminer, la zone décollée et par conséquent de réduire la consommation énergétique. Le travail effectué dans cette étude concerne le contrôle actif, par soufflage, de l'écoulement à l'extrados d'un profil NACA 0015. L'étude expérimentale réalisée en soufflerie a permis de mettre en évidence l'effet de la variation du débit de soufflage sur les coefficients aérodynamiques à différentes incidences du profil et de la vitesse de l'écoulement. Les résultats obtenus montrent une amélioration de la portance de l'ordre de 49%, une diminution significative de la traînée de 62 % et un retard au décrochage de 4 degrés.
Keywords	Profil, Couche limite, Soufflage, Portance, Traînée.

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Title	Lead free organic-inorganic perovskites simulation for low toxic solar cell applications
Abstract	CH3NH3PbI3 Perovskite materials applied in organic-inorganic solar cell applications suffer from Pb toxicity. Recent researches aim to find out other alternates free lead materials. In this paper, numerical simulations of free lead perovskite CH3NH3SnI3 have been studied and results have been presented in order to show their performances in comparison of those of CH3NH3PbI3 using SCAPS software. The obtained results show that CH3NH3SnI3 has better performances compared to CH3NH3PbI3.
Keywords	CH3NH3PbI3 CH3NH3SnI3 IV power conversion efficiency lead free perovskite solar cell renewable energy

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Title	The impact of the ventilated facade on the thermal behaviour and energy consumption of buildings
Abstract	La façade des bâtiments est considérée comme une zone de transfert de chaleur entre l'intérieur et l'extérieur. C'est là où s'opèrent les grandes déperditions calorifiques à travers différents modes de transfert thermique dont la convection qui influe considérablement sur le comportement thermique de la construction. L'objectif de ce travail de recherche est d'étudier l'effet thermique de la convection naturelle de la cavité d'air d'une façade ventilée sur son efficacité thermique et énergétique dans un climat désertique. Cette étude est basée sur une approche expérimentale sur modèle réduit où les températures ambiante et surfacique interne et externe ont été mesurées dans des cellules tests. Une simulation numérique en utilisant le logiciel de la thermique dynamique « TRNSYS » a complété l'étude. Les résultats ont démontré que l'effet convectif de la cavité d'air d'une façade ventilée influe directement et d'une manière positive sur la performance thermique et énergétique de la façade.
Keywords	façade ventilée, convection naturelle, transfert de chaleur, efficacité énergétique, climat désertique.

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Title	Investigation of properties for the commun compounds employed in Photovoltaics
Abstract	The III-V semiconductors are the most used compounds high-efficiency for solar cells, In this work we aim, to study the structure and band structure properties for Indium–V semiconductor, The development of new model of solar cells from those semiconductors materials are very promising technology to give high conversion efficiency. To investigate the electronic and optical properties of binary compounds Indium -V (InAs, In Sb, InN and InP) in Zinc blend structure we have used the density functional theory (DFT), with Full-potential linearized Augmented Plane Wave. For exchange and correlation energy treatment we employed the local density approximations (LDA) as proposed by Wang and Pedrew and the generated gradient approximation (wc-GGA) from Wu and Cohen to calculate the accurate band structure we used the mBjexchange potential. These results show that those materials have wide range of bandgap and that its hold promise for the potentiel application in optoelectronic devices as a results we have found that thoses materials could convert these structures capable of converting wavelength between [810 nm and 3500 nm] from solar spectrum into electrical energy. Furthermore, we could have very interesting material by making alloys with those binary compounds.
Keywords	Solar cell, FP-LAPW, mBJ, III-V semiconductor

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Title	Selection of the best wavelet for Diagnostic of fault bearing using neaural network
Abstract	Bearings, considered crucial components in rotating machinery, are widely used in the industry. Bearing status monitoring has become an essential step in the deployment of a preventive maintenance policy. This work is part of the diagnosis and classification of bearing defects by vibration analysis of signals from defective bearings using wavelet transform with Artificial Neural Networks (ANN). WT is used for extracting defect indicators to train the neural classifier. The main goal is the determination of the wavelet generating the most representative indicators of the state of the bearings for better detection and classification of defects. Using the WP-based neural classifier, the obtained simulation results showed that the db6 wavelet with a level 3 decomposition is best suited for diagnosing and classifying bearing defects
Keywords	Conditional maintenance, vibratory, bearing, the wavelet transform, neural networks

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Title	Role of Ergonomics in Sustainable Developments at Agriculture Sector
Abstract	Ergonomics is a scientific field aimed at improving working conditions and adapting them to the physical and mental abilities of the worker and to maintain his health and security and to ensure his effectiveness in production. Although ergonomics originated in industrially advanced countries and technology, this does not mean that they are not being used in developing and developing countries. Developing countries seek to achieve comprehensive development in all their sectors and fields since gaining their political independence. Sustainable development is a global socio-economic term, in which the United Nations has charted a global environmental, social and economic development map whose primary objective is to improve the living conditions of every individual in society, to develop and manage means of production and methods that do not drain the planet's natural resources. We will not deprive future generations of these resources (meeting the needs of the present generation without wasting the rights of future generations) and without overuse the remaining natural resources of our planet. The agricultural sector is one of the sectors with an economic dimension in national income, which contributes significantly to the development of countries and the revival of the economy. However, this sector records large numbers of occupational accidents and injuries, with the International Labor Office recording about 17,000 injuries, 52% of which are musculoskeletal injuries. This paper examines the role of ergonomics in sustainable development and its application in the agricultural field.

Keywords	Ergonomics, sustainable development , Agriculture Sector

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Title	EVALUATION OF THE ANTIOXIDANT ACTIVITY OF SOULANUM NIGRUM BY RADICAL SCAVENGING ACTIVITY USING DPPH
Abstract	In this research work, we studied a medicinal plant of Solanaceae family . In order to evaluate the importance of this plant, which grows spontaneously in our arid zone El-Oued (Algeria). Our research has been oriented towards the extraction of plant material (leaves). The maceration was carried out with both ethanol and distilled water solvents with the ratio (8/2). The clash of the extract hydroethanol obtained with the various polar and apolar solvents, led to obtaining the following extracts: the extract of chloroform, the extract of ethyl acetate and finally the n-butanol extract. Quantification of total polyphenols and total flavonoids was have been performed and the antioxidant activity was also performed. Furthermore, the results showed that EtOAc extract which had the highest level of polyphenol and flavonoid content ,whereas n.BuOH extract has stronger antioxidant capacity against the radical DPPH.
Keywords	total polyphenols; total flavonoids; Solanum nigrum L; Extraction ;DPPH.

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Title	Statistical analysis of fatigue test in jute reinforced polyester composites using Weibull distribution
Abstract	In this research, the unsaturated polyester resin (polylite 420-852) ise used in combination with bidirectional jute fiber to generate composites materials by a contact molding technique. The parameter which was carried out on the prepared samples was impact test to plot the S-N curve, which is based on Wöhler Equation. Two-parameter Weibull probability was used for analysis statistically the fatigue life results of composite jute/polyester samples. Weibull graphic was plotted for each loading level using fatigue data. Then, S–N curves were drawn for different reliability levels (Ps = 99%, Ps =90%, Ps =50%, Ps = 36.8% and Ps = 10%) using Weibull data. These S-N curves were introduced to the identification of the first failure time as reliability and safety limits of the material.
Keywords	jute, polyester, fatigue life, Weibull distribution, reliability probability

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Title	Modelling of synchronous reluctance generator for an isolated wind turbine system
Abstract	This paper proposes an application of synchronous reluctance generator (SyRG) for stand –alone wind turbine system to supply electric power to remote communities. They are robust, simple, and less expensive compared to other types of brushless generators thus an analytical model in the dq reference frame is developed based on very good parameter identificaion including iron losses and saturation. The direct/quadrature inductances were introduced in the model considering no-load and resistive load conditions. A fast method to estimate the minimum capacitance requirement is proposed in order to determine the self-excitation and the required minimum residual rotor magnetism for self-excitation in the reluctance generator connected with capacitances are discussed. The capability of self-excitation in the reluctance generator by connecting charged capacitors is also investigated.
Keywords	Synchronous reluctance machine (SynRM) Synchronous reluctance generator (SynRG) parameters identification magnetomotive force.(MMF) electromagnetic field (EMF) magnetic saturation iron loss self-excited

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Title	Evaluation de la qualité physico-chimique des eaux de quelques sources naturelles dans la région de Jijel (Nord-est Algérien)
Abstract	La présente étude vise à déterminer les teneurs de quelques paramètres physico-chimiques dans les eaux de quatre sources naturelles localisées dans la région de Jijel qui sont : Texenna, le 3ème km, Kissir (Dar-Tbaàna) et El-Aouana (Afouzer). Les eaux de ces sources sont consommées à grande échelle par un grand nombre de citoyens et dont l'évaluation de leur qualité est une nécessité. Les résultats des analyses, qui sont effectuées en collaboration avec le laboratoire de l'A.D.E, sur les eaux des quatre sources sont évalués grâce au SEQ-Eau, ce qui nous a permis d'avoir une perspective à propos de leur qualité. Les résultats obtenus montrent que les eaux de la source de Texenna sont de bonne qualité, celles d'El Aouana sont moyennement bonne mais potable tout de même, alors que les eaux du 3ème km et celles de Kissir sont lions des normes de potabilité.
Keywords	Eaux; sources naturelles ; qualité, SEQ-eau; paramètres physico-chimiques.

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Title	Détermination de la qualité des eaux de l'oued Mencha (W. Jijel) par le biais des indices de pollution : IPO et IQM
Abstract	L'utilisation des eaux de l'oued Mencha pour l'irrigation pose un problème majeur de santé publique. Les échantillons prélevés ont été systématiquement analysés en vue de mesurer un certain nombre de paramètres physico-chimiques et microbiologiques indicateurs de pollution:, DBO 5 , nitrites, ammonium et phosphates. Les résultats obtenus montrent que le cours d'eau est exposé à une forte pollution principalement d'origine organique (IPO=2.33, 2.75 et 2.75 pour les trois stations St1, St2 et St3 respectivement). Des corrélations entre les paramètres de pollution ont été effectuées afin de donner des éléments de réponse aux causes principales de la pollution. Ces analyses ont fait également l'objet d'une recherche bactériologique. Les résultats obtenus montrent la présence d'un taux élevé en CT (coliformes totaux), CF (coliformes fécaux) et en SF (streptocoques fécaux). Ces résultats révèlent que le cours d'eau est exposé à une contamination microbiologique très élevée principalement d'origine fécale (IQM=2.33, 2 et 2 pour les trois stations St1, St2 et St3 respectivement).
Keywords	Oued Mencha; pollution organique; contamination microbiologique

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Title	A new classification of clock Synchronization in Wireless Sensor Networks
Abstract	Since the birth of computer networks and distributed systems, the clock synchronization issue has been considered as a major challenge. In fact, the importance to have clocks synchronized resides in the fact that a wide range of communication protocols and applications necessitate a common notion of time for the overall network nodes to operate perfectly. MAC protocols and node sleep scheduling are protocol examples based on synchronized clocks. The design of synchronization protocols is challenged by the uncertainty arising from message latency and clock drifting, and also by resource constrained nodes. In this work, we rst exhibit the basic concepts of the clock synchronization issue, and we provide a thorough classication based on the features that have to be considered when designing synchronization protocols in such networks.
Keywords	Wireless Sensor Networks, Clock synchronization, Time drift, Message delay uncertainty, Accuracy

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Title	Tuning Decentralized PID Controller for a Quadrotor Using Flower Pollination Algorithm
Abstract	This paper presents a decentralized PID controller applied to Unmanned Aerial Vehicle (UAV). Initially, a decentralized Proportional Integral Derivative (PID) controller was proposed to control the overall system of the quadrotor. Then, the parameters of the proposed controller tuning via Flower Pollination Algorithm against a fitness function which guarantees the convergence of the proposed algorithm to the optimal parameters. The simulation results demonstrate the effectiveness of the proposed optimization algorithm to tune the PID controller.
Keywords	Quadrotor, PID Controller, Metaheuristic Algorithm, Flower Pollination Algorithm.

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Title	Estimation of ionization rate for Li+ using of bi-maxwellian distribution function
Abstract	Electron impact ionization has been an interesting problem for many years, with its important application in fusion reactors (plasma edge processes..), radiation damage in biological matters(including cancer treatment). There is a vast effort to fully understand the electron emission during ion-atom collisions from both the experimental and theoretical perspectives. We report in this paper calculation for cross section and rates coefficients for electron-impact ionization. The FAC code (Flexible Atomic Code) is adopted for calculating cross section and for determining the energy levels. We study the influence of electron energy distribution functions on the calculation of ionization using a bi-Maxwellian energy distribution in the case of weak values of hot electron fractions. The use of bi-Maxwellian energy distribution showed the sensitivity of these rates to the forms of the electron energy distribution. The results are in good agreement compared to those found in the literature.
Keywords	Code FAC, Distribution function, Electron impact ionization, Bi-Maxwellian distribution of electrons

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Title	On a rain inspired metaheuristic
Abstract	Many optimization problems are classified as NPComplete. To obtain near optimal solutionsin a reasonable time, metaheuristics where introduced to overcome the lack of exact solutions. These methods perform a tradeoff between the time complexity and the quality of the obtained solution. From the literature, we note that most of existing metaheuristics are inspired from natural phenomena such as: Genetic Algorithms, Simulated Annealing, Ant Colonies, etc. In this paper, we introduce a new metaheuristic, inspired from the rain phenomena and based on the fall of rain droplets. Our method comes as a new attempt to solve some of the hard problems. Experiments have been performed by considering the well-known Knapsack Problem. The obtained results are very promising which prove the ability of our new metaheuristic in efficiently solving hard optimization problems.
Keywords	Optimization NP-Complete Metaheuristics Rain

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Title	Study of Optical and Thermal Behavior of Linear Fresnel Solar Reflector in Desert Climate Zone
Abstract	the use of solar energy that is available throughout our country Algeria is the main objective of this study. There are several uses of solar energy, through which the superheated steam can be obtained for the direct production of electricity. Through this study, the optical and thermal behavior of a linear Fresnel solar reflector (LFR) was studied. This linear device has been used as a tool to produce superheated steam. The energy balance equations were analyzed and then programmed on the MATLAB to obtain the results. The method of finite differences has been used to simplify and approximate equations. El-Oued's desert climate region was chosen for the study. Four different days of the year have been chosen for this study. The optical efficacy identified by this study has reached 53.60%, where the thermal efficiency is equal to 37.3%. The average values of overall coefficient of heat loss "UL, (W/m².K)" was limited between 5.71837 (W/m².K) and 5.98112 (W/m².K). With regard to superheated steam, the temperature in December reached 500.9913 (K), where this is the lowest value recorded during the study. The results obtained are very encouraging to invest in electric plants that produce superheated steam by the linear Fresnel solar reflector.
Keywords	Solar energy, Linear Fresnel Reflector (LFR), Optical performances, Thermal efficiencies, Superheated steam.

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Title	التطور التكنلوجي ودوره في تفعيل التنمية الصناعية الشاملة
Abstract	The exploitation of technological knowledge is central to industrial the development process,however, the technological knowledge has only a minor role to play in the process of industrial development In most countries. This study aims at identifying the effect of technological knowledge inclusive and sustainable industrial development . This study showed that is that technology can simultaneously serve all three dimensions of sustainability: Rapid - inclusive and sustainable.
Keywords	Industrial Development, technological development, Sustainable Development.

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Title	Simulation numérique d'échange thermique à travers une tour solaire – appliquée à la région du sud d'Algérie.
Abstract	Ce travail intéressé à la simulation numérique d'un écoulement d'air dans une tour solaire, sous l'effet de la convection naturelle. Cette approche numérique dont le but est la compréhension du comportement thermique d'écoulement du fluide dans la tour solaire. En utilisant le Logiciel CFD Comsol multiphysics de simulation pour simulée le comportement thermique de l'air au sein du collecteur et la cheminée, c'est - à - dire les différentes températures et vitesses de l'air en fonction de la radiation solaire du jour. Les résultats obtenus montre que la meilleure performance de la cheminée solaire correspond à la plus haute dégrée d'efficacité thermique et de maximum quantité de chaleur obtenus dans le collecteur par effet de serre.
Keywords	tour solaire, convection naturelle, fluide caloporteur, collecteur, effet de serre, cheminée.

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Title	Influence of Fe doping concentration on SnO2 thin layers
Abstract	In this study, we report structural, morphological and optical properties of Fe-doped SnO2 thin layers. Fe doping concentration has evaluated from 0 to 0.6 wt.%. XRD and SEM results revealed polycrystalline structure for Fe-doped SnO2 thin layers. The optical transmittance of all thin layers displayed high transparency reach to 80% in visible region. The optical gap of these thin layers decreases from 3.87 to 3.58 eV. The crystalline sizes decrease from 35 to 30nm. Electrical resistivity of thin layers increases from 1.2×10-2 to 6.8×10-2 Ω .cm.
Keywords	SnCl2 Spray pyrolysis XRD SEM UV-Vis Spectroscopy 4-point probe system.

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Title	Effect of cover thickness on the yield of a solar distiller under the El oued climate, Algeria
Abstract	The wilaya of El Oued (southeastern Algeria) suffers from a huge lack of drinking water, unfortunately the groundwater is sometimes too salty for them considered drinking water. The most economical way to obtain drinking water is solar distillation using free, renewable and non-polluting energy. Improvement of the single-slope solar distiller is a problem addressed by several researchers around the world. This study also aims at this point by the variation of the thickness of the glass (the condenser). Experiments show that the production is better improved when the thickness of the glazing is low e = 3 mm with a total production of 2313.2 ml /m2.d; when e = 5 mm the production is 1876 ml / m2.d and at the end when e = 6 mm the production is 1236 ml / m2.d. From these results can be said that any increase in thickness will be followed by a decrease in the productivity of distilled water.
Keywords	Desalination Distilled water Evaporation Condensation Solar radiation

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Title	Behavior of Thermochemistry Properties of Biofuels in an Internal Combustion Engine
Abstract	This work presents a numerical study of the behavior properties of biofuels combustion by comparison with the methane combustion, on the different stations of the cylindrical burner. Thereby, the combustion modeling is based on the mathematical approach to resolve the equations set of the chemical and thermal equations terms. Generally, the obtained results show that; the temperature behavior of biofuels is near to the methane combustion. In addition, the carbon monoxide produced by the combustion of biofuels equal to 0 in all stations of the combustion chamber.
Keywords	Biofuels, Combustion, Burner, Temperature, Carbon monoxide.

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Title	Outlier Detection in Wireless Sensor Networks Based on Copula theory
Abstract	Wireless sensor network has progressively emerged as a leading technology to develop new wireless applications that can revolutionize and improve our daily lives. Nonetheless, many WSN applications are mission-critical such as military and disaster area applications. Also, the quality of the sensed data stream collected by sensor nodes is affected by anomalies that occur due to various reasons like noise and errors, events, and malicious attacks. Thereby, anomaly detection in sensor readings efficiently is a major concern and imperative for making right decisions. In this paper, we address these challenges and we propose a new fully on-line distributed approach for anomaly detection in WSN based on Copula theory. Our experimental results on real datasets collected by real sensor network prove the efficiency and effectiveness of the proposed approach and, show that the proposed approach can achieve high detection accuracy with a low false alarm rate.
Keywords	Wireless Sensor Network, Copulas, Anomalies, Outliers.

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Title	Préparation et caractérisation de Cu2O nanoparticule par l'extrait des feuilles de Phoenix Dactylifera L
Abstract	Les nanotechnologies représentent aujourd'hui un domaine scientifique et technique en plein essor. Elles sont en voie de constituer le cœur de la prochaine révolution industrielle. Ces dernières années, la synthèse verte des nanoparticules métalliques (NPs) a attiré une attention considérable parce que ces protocoles sont peu coûteux et plus respectueux de l'environnement que les méthodes de synthèse standard. Dans ce travail, nous rapportons une méthode simple pour la synthèse de NPs de cuivre en utilisant l'extrait de Phoenix Dactylifera L comme bio réducteur. Les NPs de cuivre ainsi préparés ont été caractérisés en utilisant la spectroscopie ultraviolette-visible, la diffraction des rayons X, la spectroscopie infrarouge à transformée de Fourier et microscopie électronique à balayage .En effet, l'UV-Vis montre une absorption maximale à 275 nm liée à l'oxyde de cuivre. En autre, Les spectres FT-IR présentent un faible pic à 554 cm-1 attribué aux vibrations de Cu2O, confirmant la formation de nanoparticules de cuivre. DRX et MEB ont confirmé la nature cristalline, la forme sphérique d'oxyde de cuivre avec une taille de 23nm .
Keywords	Synthèse verte, Phoenix Dactylifera L , Oxyde de cuivre , nanoparticules , XRD.

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Title	Effects of temperature and polarization current on signal laser quality in optics fiber communication systems
Abstract	this paper concerns the analysis and evaluation of the effects of polarization current and temperature of an optical fiber laser based on audio communication systems. For that purpose, we will study the effects of polarization current and temperature on the two main parameters of the communication chain; the transmitter (vertical cavity surface emitting laser) and the receiver (at the end of optical communication chain). The frequencies range considered are between 20Hz and 20 kHz, which correspond to the audible field. The quality of the restored signal depends on the different harmonics that it contains. We need to perform spectrum measurement quality by monitoring and measuring two factors TDH and SNR for the different experiments. The experimental results show that a high-quality audio laser signal can be obtained in fiber optics communication systems employing a vertical cavity surface emitting laser at a temperature of 10 °C and a current of 5 mA without the need for optimized optics.
Keywords	total harmonic distortion, signal-to-Noise-Ratio, vertical cavity surface emitting laser (VCSEL), fiber optic, photodiode (PID), audio Engineering Society (AES-EBU), coded pulse modulation (PCM)

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Title	Effect of Cu doping on optical and structural properties of ZnO thin films elaborated via sprayed moving nozzle.
Abstract	In this work, 0-5wt.% copper doped zinc oxide thin films were deposited by spray pyrolysis technique (homemade) on 375°C heated glass. Zinc acetate (Zn (CH3COO)2, 2H2O) and copper chloride (CuCl2,7H2O) were used as sources precursor of ZnO and Cu doping, respectively. Effect of copper 0-5wt.% doping concentration on optical and structural properties was studied. UV-visible transmission techniques, X-ray diffraction were used respectively to characterize optical and structural properties of elaborated thin films. The average transmittance of all samples was more than 81% in the visible region and become more transparent with Cu doping. Optical gap energy was found to be in 3.25-3.28eV range. X-ray diffraction studies show nanocrystalline thin films with a hexagonal wurtzite structure exhibiting a strong (002) preferred orientation. Particles size ranges in 23-29nm for 0-5wt.% Cu doped ZnO thin films.
Keywords	Thin films; Cu doped ZnO; Spray pyrolysis; X-ray diffraction

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Title	Enhancement of the industrial performances through Value Stream Mapping method: case study in an Algerian company
Abstract	currently, the industrial market witnessing an intense competition that drives the manufacturing firms to accelerate their production tasks to present their products early with lowest costs possible. The work presented in this paper investigates an application a lean manufacturing approach in the Algerian industry. The proposed approach aims to reduce the waste in a manufacturing process through using Value Stream Mapping method. The effectiveness of the proposed approach has been validated with a real case study and obtained acceptable improvements in cycle time, lead time and manpower.
Keywords	Lean Manufacturing, Value Stream Mapping.

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Title	Hot air convective drying of tomato paste as optimized by the experimental design method
Abstract	The present study was carried out with the objective of stabilizing, by hot air drying, the surplus of local tomato production. Obtaining an organic product in the form of tomato paste was then invested. The effect of two different drying conditions (air temperature and air velocity) on the drying behavior of a thin-layer tomato paste was experimentally investigated. Experimental drying kinetics were obtained at 45, 50 and 60°C: performed with airflow velocity of 1.5 and 2.5m/s. In order to optimize the drying processes (color quality and drying time), a 23 complete factorial design of three experiments with two levels of temperature (45 to 60°C) and air velocity (1.5 to 2.5 m/s) was used. The desirability index technique was used to predict the ideal drying conditions. At the best conditions of 45°C air temperature and 2.5 m/s air velocity, drying time was 5.32 hours and redness a* was 23.84.
Keywords	Hot air drying, Tomato paste, Drying temperature, Air velocity, colour

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Title	The Ohmic and activation over-potential in Anode-Supported Solid Oxide Fuel Cells
Abstract	A multi-dimensional model has been established to investigate the performance of anode-supported SOFC fuel cell with two different configuration, :i) the Anode Supported Planar Solid Oxide Fuel Cell (ASP_SOFC) with channel gas surface 1mm² and ii) ASP_SOFC with channel gas surface 0.25mm². The numerical simulation was realized with a SOFC fuel cell model based on the ANSYS FLUENT computational fluid dynamics (CFD) software. The simulation results were illustrated polarization curves including I–V,I–P, Ohmic and activation over-potential curves. It was found that the increase in channel surface has more significant influences on the cell performance. The model is validated using one of the available numerical results from previous researches the comparison between the numerical model and the reported results shows very good agreement
Keywords	Performance Solid oxide fuel cell ANSYS FLUENT Ohmic over-potential activation over-potential.

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Title	Effect of La doping on ZnO thin films by spray pyrolysis
Abstract	Zinc oxide (ZnO) undoped and Lanthanum doped (ZnO: La) thin films were deposited on 400°C heated glass using spray pyrolysis technique with moving nozzle . (Zn (CH3COO)2, 2H2O) and (LaCl3, 7H2O) were used as sources of ZnO and Lanthanum respectively. Effects of dopant on the optical, structural and opto-electrical properties of undoped and 2,4,6 wt. % Lanthanum doped ZnO thin films .Optical transmittance spectra of the films showed high transparency of about 98% in visible region. The optical gap,for ZnO and 0,2,4wt. % La doped ZnO thin films ,were found to be in 3.25-3.28 eV range . X-ray diffraction showed that the thin films have hexagonal wurtzite structure with a strong (002) as preferred orientation, whereas the crystalline size was ranged in 15.89-33.45 nm.. ZnO thin films are promising to be used a light emitting diodes ,gas sensor and UV detectors.
Keywords	Zinc Oxide, thin films, XRD, La doped,Uv-visible ,

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Title	Structural, Stabilities and Energetic properties of BGen clusters: A DFT Study
Abstract	We present a systematic computational study based on the density functional theory (DFT) aiming tohigh light the possible effects of one B doping atom on the structural, energetic, and electronic properties of different isomers of Gen+1 clusters in the atomic size range n = 1-5 atoms. By considering a large number of structures for each cluster size, the lowest-energy isomers are determined. The putative geometries show that the frameworks of the lowest-energy isomers are three-dimensional structures. The growth pattern behaviors and relative stabilities are analyzed from the binding energies, fragmentation energy and second-order difference of energies.
Keywords	Ge Clusters, B atom, Density functional theory, Structural properties, energetic properties.

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Title	Optimisation des paramètres de la fermentation des dattes pour les transformés en bioéthanol
Abstract	La production de dattes occupe une grande partie de la production agricole Algérienne, une quantité considérable de richesses reste non commercialisation. Donc, nous avons vu qu'il doit être exploité en se tournant vers des nouveaux matériaux faciles à utiliser et l'importance industrielle. Comme exemple d'utilisation de nous avons exploitation des dattes (GHARS) pour la production d'éthanol par fermentation alcoolique. A cet effet, nous avons essayé de rechercher les meilleures conditions pour obtenir les meilleurs rendements. Au cours de la période de travail suivie l'effet de: température et l'acidité du milieu réactionnel, masse de levure et la durée de la fermentation.Après cette étude, nous avons conclu: que la température entre 30-32 ° C, le pH entre 2,4 - 4,5, la quantité de levure 12 g pour 1 kg de dattes et la durée de l'interaction entre 48 à 72 heures. A donné le meilleur rendement et qui sont arrivés dans 540 ml d'éthanol pour le poids mentionné précédemment.L'alcool obtenue est d'un degré de 70° qui en peut l'amélioré par recyclage et rectification.
Keywords	la fermentation alcoolique, les dates, l'éthanol.

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Title	On the numerical range and numerical radius of convex function operators
Abstract	Let f be a convex function defined on an interval I and A, B $ n \times n $ complex Hermitian matrices with spectrum in I. We prove that the numerical range of convex function matrices is a convex and closed set. Also, the convex function preserving the numerical range and numerical radius. We also proved that for each convex function the spectral radius and the numerical radius are estimated by the numerical radius and the norm.
Keywords	Numerical range, numerical radius, convex operator function

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Title	3D Natural Convection Flow in an Agricultural Greenhouse
Abstract	in this work, we are interesting to the numerical simulation of natural convection in a closed greenhouse heated by tubes. A greenhouse box subjected to different boundary conditions on the roof like the imposed temperature; convective flux and mixed flux. The mathematical model is a system of differential equations formed by the continuity, momentum conservation and the energy equation. We used Fluent Software for numerical simulations based on a finite volume method. In each case, we have determined the average velocity and the average temperature of the air. The obtained results presented as well as isothermal lines, vectors velocity and the profiles of temperature and velocity.
Keywords	Greenhouse, Natural Convection, Radiation, 3D simulation.

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Title	The Impact of Envelope Building Materials On The Thermal Comfort .Case of hot and dry climate
Abstract	Envelope Building materials play an important role in the architecture by providing the protection requirements, comfort, and technical performance while promoting an architectural language and an image. The impact of the building materials varies according to their properties:physical, chemical, mechanical and thermal. Also, their interaction with the environmental factors heat, humidity ... etc.Therefore choosing the right building materials is a key factor in achieving a certain level of comfort inside the building witch effect directly the energy use and consumption. In this study, we investigate the impact and the thermal behavior of different envelope materials, the most used materials traditional and modern under the climatic conditions of Biskra a hot and arid climate. Also, we analyzed the results of a different simulation using "ecotect5.0" to performed thermal analysis and we used "opaque3.0" and "u-wert" to figure some envelope proprieties in order to choose the best material that ensures thermal comfort inside the building. The results show that choosing local massive materials and thermal insulation can achieve that to a certain degree.
Keywords	Envelope, Building Materials, Thermal comfort, Energy consumption, Passive strategy, Hot and Dry Climate

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Title	Amélioration des Caractéristiques Physico-Mécaniques d'un Béton de Sable à Base de Paille d'Orge
Abstract	Ce travail expérimental a porté essentiellement sur l'étude de l'effet du traitement de la paille d'orge par le vernis. Dans des travaux antérieurs, la composition optimale avec de paille non traitée a montré que l'ajout des pailles allège le béton de sable et lui confère des propriétés thermiques largement acceptables. Cependant, elle a montré une chute remarquable au niveau des propriétés mécaniques. L'objectif de ce travail est donc l'amélioration de ces propriétés par le traitement de la paille avant son utilisation. Les résultats mécaniques et thermiques ainsi obtenus ont montré une amélioration intéressante. Des améliorations allant jusqu'à d'environ 60% ont été atteintes. Il convient de noter que même la conductivité thermique a été réduite d'environ 10%. Enfin, les résultats trouvés sont très encourageants et ouvrent des perspectives de recherches d'utilisation de ce produit de traitement sur d'autres fibres.
Keywords	Béton de sable, Traitement de la paille d'orge, Vernis, Propriétés physico-mécaniques.

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Title	Programmation en G code de L'usinage des aubes droites de compresseur sur Machine Cnc
Abstract	Actuellement, l'emploi de l'outil informatique en termes de Conception et Fabrication Assistées par Ordinateur (CFAO) est fortement recommandé. L'intégration de la CFAO dans un processus de fabrication se traduit par la prise en compte du savoir-faire de fabrication dés la phase de conception. La fabrication des formes complexes en Cnc impose une évolution vers une très haute technicité des méthodes de la FAO et des moyens de mise en œuvre de l'opération d'usinage. Dans ce contexte on propose une méthodologie pour le choix du processus le plus adéquat pour l'usinage d'une AUBE dans le but de réduire le coût d'usinage et d'améliorer la qualité de surface de finition. D'abord on commence par la description du module de conception de pièce (Aube sous SolidWorks. Ensuite, On propose les simulations nécessaires pour déterminer la trajectoire optimale d'usinage. Enfin nous terminons cette étude par la recherche des meilleures conditions de la qualité de surface finie.
Keywords	CFAO , Stratégie d'usinage , Interpolation polynomiale , Aube

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Title	Mathematical modeling and analysis of a solar still with multiple-effect cover cooling
Abstract	This paper presents a theoretical study of the thermal performance of a double-sloped basin still coupling with multiple-effect cover cooling. The still was built so that one of its cover sides (the multiple-stage) is tilted to be parallel to sun rays and, therefore, be in the shaded area. Direct solar radiation heated the saline water and evaporated it. A fraction of the resulting vapor condensed on the inner glass cover surface while the rest was condenser to the outer first partition to be condensed there. The distiller was double-slope with a double pass capillary film distiller. Is effective base area was 1m2 and its cover slope was 65° to the horizontal. The results showed that combining a capillary film distiller with basin type solar still caused an improvement in the still performance. The proposed still of two parallel cells with 50-mm gaps is theoretically predicted to produce 11.8 kg m-2 d-1 on a sunny day of daily solar radiation of 42.5 MJ m-2 d-1 on the glass cover.
Keywords	Solar, distillation, capillary, modeling

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Title	Optimization and reliability approaches of a cam mechanism
Abstract	Cam follower mechanism is widely used in mechanical machines to transform the type of motion with a high accuracy. For this task, the optimal design of the mechanism have a main attention in mechanical engineering The current study presents a synthesis of a cam mechanism with offset translating roller follower based on deterministic optimization and reliability approaches. In the first step, a deterministic optimization is performed in order to minimize size of the mechanism and to ensure a good performance. The optimal results obtained are employed, in the second step, to study the reliability of the system where the failure probability is evaluated by approximation and simulation methods, using the Phimeca engineer Software. Furthermore, the inverse first order reliability method (FORM) is carried out based on the sensitivity measurements to improve the design quality of the mechanism. The obtained results illustrated the effectiveness of the proposed synthesis by making the system more robust.
Keywords	cam mechanism, deterministic optimization, reliability study, inverse FORM

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Title	مؤشرات النمو الأخضر وأبعاد التنمية في المغرب (دراسة تحليلية للفترة 1990-2015)
Abstract	إن الانتقال نحو الاقتصاد الأخضر أصبح ضرورة نتيجة لخيبة الأمل من النظام الاقتصادي العالمي السائد حاليا والأزمات العديدة المتزامنة وانهيار سوق النفط في الفترة السابقة، التي كانت الدافع الأكبر لتوجه معظم الدول لتبني الاقتصاد الأخضر، حيث يتسم هذا الاخير بالاستخدام الفعال للطاقة وتخفيض التلوث وانخفاض انبعاثات الكربون، والاهتمام بالطاقات المتجددة والنظيفة، وتغير أنماط الاستهلاك غير مستدامة، كما يحث بالاهتمام بالفئات الفقيرة وتشجيع الصناعات صديقة البيئة إضافة الى ذلك توفير مناصب عمل، ويعتبر الاقتصاد الأخضر سبيل من سبل تحقيق التنمية المستدامة بمختلف أبعادها الإقتصادية والإجتماعية. وفي هذا الإطار تهدف هذه الدراسة إلى تشخيص واقع الاقتصاد الأخضر في المغرب، من خلال إبراز بوادر التوجه نحو الاقتصاد الأخضر التي ظهرت بشدة من خلال الميثاق وطني للبيئة والتنمية المستدامة، والذي بدأ تفعيله من خلال برامج قطاعية ورصد اعتمادات مالية مهمة حيث تم تحويل هذا الميثاق إلى قانون خلال سنة 2012 ويعتبر إدماجًا رسميًا للبعد البيئي في جميع السياسات الوطنية الاقتصادية والاجتماعية والثقافية، ويهدف هذا الميثاق إلى تحديد أهم السياسات وإستراتجيات التي تساهم في إرساء مناخ إيجابي يتيح الانتقال بالاقتصاد الوطني نحو اقتصاد أخضر. كما تقدم هذه الدراسة تحليلا اقتصاديا لأهم مؤشرات النمو الأخضر في المغرب خلال الفترة 1990-2015 وابعادها التنموية، ويكون التحليل بحسب المجال الذي ينتمي له المؤشر نذكر منها: المجال الاجتماعي والاقتصادي ومجال الموارد الطبيعية ...الخ، ثم التطرق إلى أهم المشاريع الخضراء المنجزة في المغرب.
Keywords	الاقتصاد الأخضر، البيئة، الطاقات المتجددة، التنمية المستدامة، المشاريع الخضراء.

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Title	The Single Basin Solar Still Productivity Enhancement Using Flat-Plate Collector
Abstract	In this experimental study, single basin solar still (SBSS) has a low productivity, to solve this problem some techniques have been used, these techniques consist of using a flat plate collector. The main objective of this research was to effectively utilizing the flat plate collector (FPC) for solar still productivity enhancement and it is working as a hybrid system. The flat plat collector (FPC) model solar water heater was coupled with a solar still, and the experiments were repeated in 3 to 5 winter days, and the results were measured in the same manner for each day. The results revealed that the productivity of the still was increased 87% when it was coupled with one and was decreased 20% and 50% when it was coupled with two and three flat plate collector respectively under winter condition (5-20/01/2016) in Ouargla (31.95°N, 5.4°E), south of Algeria.
Keywords	Solar energy; Solar desalination; Distillation; Single basin solar still; Flat plate collector; Coupled; Productivity; Enhancement.

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Title	Chemical kinetic numerical of analysis of NOx removal by negative corona discharge
Abstract	This study presents a chemical kinetic analysis of different species involved in nitrogen-oxygen mixed gas treated by stationary negative corona discharge at atmospheric pressure. We take account 16 different chemical species reacting following 120 selected chemicals reactions. The mathematical model used consists of a system of equations that takes into account the variation of the density and the chemical kinetics of the environment. The reaction rate coefficients are taken from the literature. We analyse especially, the temporal evolution (10-9 – 10-3 s) of NO, NO2, NO3 and N2O5 species under different values of electrical field. The results show that the evolution of these nitrous oxides is substantially affected by the application of the electrical discharge. This allows us the important role played by the negative corona discharge in NOx removing.
Keywords	Nitrogen oxide, NOx reduction, rate reaction, reduced electric field

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Title	Effectue of heat treatment on micro structural properties of X70 welded pipeline steel
Abstract	Welding is the post important méthode of joiying component made of metalic matériels.This méthode bas been very successful, as evident un thé popularité of thé processing virtually all structural engineering application .It become zone of the most common processes used un manufacturing ans engineering industries shipbuilding,pipeline fabrication among others. Thé welding processus bas been realized by industriel arc welding with circular weld seem. This work presents some heat treatments were used to improve the microstructure un différent zones of the welded pipe steel of grade API X70 .scanning electron microscopie ans X-ray diffraction have been used as caracterisation techniques to observe the WM microstructures , un addition hardness are also measured.The results revealed. That isithermal heat treatment caused progressive recristallization réactions un the weld zone and. the hardness of the weld joints decreased, were the main transformations after increasing the temperature of the heat treatment
Keywords	Heat treatment, low carbone steel, microstructure, welding

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Title	Hot air convective drying of tomato paste as optimized by the experimental design method
Abstract	The present study was carried out with the objective of stabilizing, by hot air drying, the surplus of local tomato production. Obtaining an organic product in the form of tomato paste was then invested. The effect of two different drying conditions (air temperature and air velocity) on the drying behaviour of a thin-layer tomato paste was experimentally investigated. Experimental drying kinetics were obtained at 45, 50 and 60°C: performed with airflow velocity of 1.5 and 2.5m/s. In order to optimize the drying processes (color quality and drying time), a 2^2 complete factorial design of four experiments with two levels of temperature (45 to 60°C) and air velocity (1.5 to 2.5 m/s) was used. The desirability index technique was used to predict the ideal drying conditions. At the best conditions of 45°C air temperature and 2.5 m/s air velocity, drying time was 5.32 hours and redness a* was 23.84.
Keywords	Hot air drying, Tomato paste, Drying temperature, Air velocity, colour

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Title	Study of Turbulent Flows through A Conduct Square Section with A 90 ° Elbow
Abstract	In the present work, a numerical simulation of turbulent flows, three-dimensional incompressible of a fluid through a 90° elbow square section, using a computing code ANSYS CFX that models the characteristics of the flow of fluids in complex geometries and using structured meshes. The general structure of the flow (hydrodynamic fields as well as the parameters of the turbulence) has been obtained for the Geometry considered, we have tested the performance of two models of k-ε turbulence and k-ω SST, it proves that the model k-ω SST is more efficient meadows of wall that the k-ε model. the study confirms the existence of secondary flows to the interior and after the elbow. In fact, the flows at the level of Elbow are characterized by the presence of cells counter-rotating responsible on the disruption of the flow
Keywords	Elbow, Turbulence model, Secondary flow, counter - rotating cells, ANSYS-CFX

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Title	"تكنولوجيا التعليم وعلاقتها بمشروع التنمية المستدامة في السِّياق المحلي"
Abstract	تتمثل رؤيتنا إلى المستقبل في إقامة منطقة تعتنق قيما مشتركة هي " التضامن والمساواة والاحترام المتبادل بين الأشخاص والبلدان والأجيال، وهي منطقة سمتها التنمية المستدامة، (...) والتعليم، بالإضافة إلى كونه حقا من حقوق الإنسان، فهو شرط لابد منه لتحقيق التنمية المستدامة وأداة لا غنى عنها لصلاح الحكم واتخاذ القرارات وتعزيز الديمقراطية، لذلك فإن التعليم من أجل التنمية المستدامة من شأنه أن يساعد في ترجمة رؤيتنا إلى الواقع" إستراتيجية لجنة الأمم المتحدة الاقتصادية لأوروبا للتعليم من أجل التنمية المستدامة بهذه الأسطر ابتدأت لجنة الأمم المتحدة لأوروبا تقريرها حول الدور الكبير والأهمية البالغة للتعليم في تحقيق التنمية المستدامة للدول، فالتعليم من أجل التنمية المستدامة ينمي ويعزز قدرة الأفراد والجماعات والمجتمعات والمنظمات والبلدان على تبني أحكام واختبارات تخدم التنمية المستدامة، ومن شأنه أن يحدث تغييرا في عقليات الأشخاص فيمكنهم بذلك من جعل العالم أكثر أمنا وعافية وازدهارا. في سياق متَّصل، تضمنت أهداف التنمية المستدامة 17 هدفا و169 غاية، و229 مؤشراً، بحيثيعتبر التعليم الهدف الرابع، بـ 07 غايات و03 وسائل للتنفيذ، لما له من أثر على جدول أعمال التنمية المستدامة، فالحصول على تعليم جيد يعتبر الأساس الذي ترتكز عليه تحسين حياة الناس وتحقيق التنمية المستدامة، وهذا ما تسعى إليه كل دول العالم. ولا شكَّ أنَّ التَّعليم يُعد واحدًا من أهم الجبهات الحضارية التي تُشكل رهان المجتمعات المتقدمة، لما للتَّعليم من فرص أوفر في الرَّفع من الحضور الاجتماعي والاقتصادي والثقافي لمجتمعات القرن الحادي والعشرين، بحيث لم يعد التَّعليم التَّقليدي قادرًا على استيعاب التحولات الجذرية التي طرأت على الحياة اليومية، خصوصًا أمام تزايد اتساع رقعة العالم الافتراضي – إن صحَّ التَّعبير - على حساب تقلص الواقع في شكله الفيزيقي، ولعلَّ تجارب الكثير من دول العالم اليوم كاليابان وغيرها، لخيرُ ناقوسٍ يُدقُّ إيذانًا بضرورة إعادة النَّظر كليًا في فهمنا للتَّعليم وعلاقته بجودة الحياة. لقد آمنت كثيرٌ من دول العالم اليوم إلى ضرورة الاستثمار الأمثل في تكنولوجيات الاتصال الحديثة خصوصًا في الشق التعليمي، لما يُوفِّره من اقتصاد في التكلفة والجهد والوقت المبذول؛ على اعتبار أنَّ العملية التَّعليمية لم تعد تتطلب الحضور الفيزيقي/ الجسدي للمعلم والمتعلم معًا في فضاءٍ

	يُحدِّده الطرفين؛ فالوساطة الافتراضية والوسائل التكنولوجية المتاحة التي مكنت الفرد من تجاوز ثنائية المكان والزمان غيَّرت كليًا من هذ المعطى المرهق. الجزائر، تُعتبر واحدة من دول العالم العربي التي فرضت نفسها وسط هذا الرهان الحضاري – وإن جاء متأخرًا – رغم التعقيدات والنقائص التي لا تزال تُعيق هذا التَّحول الحتمي نحو نقطة الوصول، ولعلَّ الخيار الذي اتخذته وزارة التَّعليم العالي والبحث العلمي في قرارها رقم 932 المؤرخ في 28 جويلية من العام 2016 الصادر في نسختيه العربية والفرنسية، والذي يتضمن "كيفيات تنظيم المرافقة البيداغوجية لفائدة الأستاذ الباحث حديث التوظيف"، لخيرُ دليل على التوجه الجديد لإحداث ثورة مدروسة في طرائق وأشكال التَّعليم الجامعي مستقبلاً، على اعتبار أن أهم المقاييس المحورية التي سيتكوَّن فيها نخبة الجامعة (الأساتذة) هي مقاييس ترتبط ارتباطًا وثيقًا بالتَّعليم عن بعد وتكنولوجيا الاتصال، كمقياسي C2I و E-learning. استتباعًا لما سبق فلا تنمية من دون تعليمٍ نوعي، ولا تعليم نوعي دون تعليمٍ يستثمر في عطايا ومزايا تكنولوجيات الاتصال الحديثة... وكثيرُ من تجارب العالم تُثبت هذه المعادلة (التَّعليم النَّوعي = التَّعليم الإلكتروني)، التَّعليم المستمر، المتواصل والمفتوح الذي لا تعيقه نقص المرافق، وضعف التأطير والظروف المناخية المتقلبة؛ التَّعليم الذي لا يتركُ هامشًا لتبرير الفشل بالمرَّة. وعلى ضوء ما سبق تُثار إشكالية هذه الورقة العلمية في الآتي: كيف استثمر فضاء التَّعليم في الفرص التي منحتها التكنولوجيات الاتصالية الحديثة؟ وكيف أمكن لجودة التعليم أن تكون أحد أهم المؤشرات العالمية في التَّنمية المستدامة؟ واتِّكاءً على هذه الإشكالية، خيطت بعض التساؤلات الفرعية: □ ما أهم حقول وفضاءات التَّنمية المستدامة؟ □ ما علاقة التعليم بتحقيق التنمية المستدامة؟ وماذا نقصد "بالتعليم عن بعد" وما هي شروط الجودة فيه؟ □ ما ملامح التجربة الجزائرية في إدراج تكنولوجيا التَّعليم ضمن مخطَّطاتها التنموية؟
Keywords	التَّعليم التَّقليدي - التَّعليم عن بُعد–التَّكوين -الرَّسكلة وتجديد المعارف - تكنولوجيا الاتصال الحديثة – التنمية المستدامة .

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Title	Characterization and analysis study of low-alloy steel used for application industriels
Abstract	Abstract This experimental work illustrates a descriptive and analytical study, conducted on the core of a welding electrode; from row material (wire rod) to the deposited state (welding).The studied material is a pearlite ferrite low-alloy steel presenting a slight texture of type <110>at the periphery of the wire rod. Like any process based on plastic deformation, the drawing process increases the hardness and the mechanical strength and lowers the tensile elongation of the drawn wires.At the microstructural level, there is an elongation of the grains along the drawing axis,in this respect it was found that the ferritic phase deforms in turn before the pearlitic phase, and increasing the deformation level. These evolutions are reflected, at the crystalline level, by the widening and the displacement of the diffraction peaks of the □-phase. This mode of formatting helps the development and reinforcement of the fiber texture<110> (initially at the periphery) over the entire section of the drawn wire.The increasingof the deformation reverses the ratio of the fractions of the fiber <110> between the core and the periphery. After welding, the deposited metal exhibits a finer and lighter ferritic microstructure than the wire rod. At the textural level, the deposited metal illustrates a new texture composed of fiber <111>, <110> and <100>.Characterization methods used in this work is: Optical microscopy (OM), scanning electron microscopy (SEM), the Electron Back Scattered Diffraction EBSD, X-Ray diffraction, Vickers microhardness and tensile tests. References [1] W.Wang, Etude des mécanismes de recristallisation

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Keywords	Mild steel, Cold drawing, Microstructure, Tensile test, Mechanical properties, Microhardness. Deformation level

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Title	تنسيق جهود الإبداع والابتكار بين توجهات الحكومة وكفاءة الجامعة
Abstract	يتطلب إنجاح الإبداع العلمي والابتكار الصناعي، التنسيق المحكم بين الجامعة كـ: «مُنتِج» للابتكار وبين المستفيد منه: «االزبون» وهو الحُكومة بكل مؤسساتها، وخاصة المؤسسات والشركات العمومية الإنتاجية والخدمية الكبرى؛ دون إغفال أهمية الترابط الوثيق بين الجامعة ومحيطها الاقتصادي والاجتماعي. وبقدر ما يجب أن تكون الخطة الاستراتيجية العامة للحكومة محفزة، بقدر ما يتطلب من الجامعة أن تكون في مستوى توجهات الحكومة وشركائها. حتى لا تكون الجامعة مُنكفِأة على ذاتها؛ منحسرة الأدوار في الاقتصاد والمجتمع، ما يفوّت على الدولة فرصة تحقيق النمو الاقتصادي المستدام، المبني على البحث العلمي والابتكار التكنولوجي والإبداع الإداري. وترتكز الأساليب الحديثة للتسيير على ضرورة تبني الجامعة مفاهيم الإدارة وفق الجودة الشاملة، لتُهيأ المناخ الملائم لصناعة وتسويق الإبداع والابتكار. وبناء على ما سبق فإن حسن التنسيق الجيّد والفعال بين الحُكومة والجامعة والمؤسسات، يجعل من الإبداع والابتكار في المنتجات والخدمات ينتقل وفق خطة واضحة بين الجامعة كمنتج للابتكار والإبداع، والحكومة والشركات كزبون. ومن ثَمَّ يمكن طرح المشكلة البحثية الآتية: أين تتجلى آليات تنسيق صناعة الابتكار والإبداع بين الحُكومة والشركات والجامعة؟ وسنجيب على التساؤل الرئيس من خلال محاولة إماطة اللثام على التساؤلات الفرعية الآتية: 1. ما هي أهمية الإبداع والابتكار في قطاع التعليم العالي؟ 2. ما علاقة إدارة الجودة الشاملة بالإبداع والابتكار في الجامعة؟ 3. كيف تهيأ الجامعة مناخ الإبداع والابتكار وما هي سبل تسويقهما؟ 4. أي دور تلعبه الحكومة والجامعة في التوجه نحو إنتاج معرفي يتسم بالإبداع والابتكار؟ وبناء على ما تم طرحه من تساؤلات يمكن وضع المحاور الرئيسية للورقة البحثية على النحو الآتي: أولا- منهجية الدراسة. ثانيا - مفاهيم الإبداع والابتكار في قطاع التعليم العالي.

	ثالثا - العلاقة بين إدارة الجودة الشاملة والإبداع والابتكار في الجامعة. رابعا - الجامعة المحضن الرئيس لخلق الإبداع والابتكار. خامسا- الإبداع والابتكار بين توجهات الحكومة والشركات والجامعة. سادسا- النتائج والخلاصة.
Keywords	الإبداع؛ الابتكار؛ الحكومة؛ الجامعة.

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Title	Comparative Study Between the Field Oriented Control and Backstepping Control of Open-End Winding Five-Phase Induction Motor under Open Phase Fault Conditions
Abstract	Open-End Winding Five-Phase Induction Motor (OEW-FPIM) are employed in applications where the reduction in the total power per phase and the highest level of overall system reliability is required, where a self-starting and operation under open phase(s) stand as the most salient features. This paper presents a comparative study of the most powerful control strategies for motor: field-oriented control and backstepping control. The awaited goal is to evaluate the proposed approaches which gives the best performance under open phase fault conditions. The performance of the two control approaches verified and compared by simulation. Provided tests analyze steady and transient states, including an open-phase fault condition. Obtained results prove the interest of the proposed approaches, which ensures the open-phase fault-tolerant capability of OEW-FPIM.
Keywords	five-phase induction motor, field-oriented control , Backstepping control, open-phase fault, open-end winding

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Title	Auto-Combustion Synthesis of CeO2 Nanopowders and Photocatalytic Properties.
Abstract	Nano-particles of CeO2 with the smallest average particle size (200 nm) and uniform morphology, well-dispersion, especially with single crystal of CeO2 were obtained from a mixed solution of Cerium nitrate Ce(NO3)3.6H2O, glycine C2H5NO2 and water by auto-combustion method. The synthesized CeO2 powders were characterized as the crystalline phase identification by X-ray diffraction (XRD), the morphology by scanning electron microscopy (SEM), Nano-particles of CeO2 also were characterized by: particle size distribution, Fourier transform infrared spectroscopy, uv-vis spectroscopy. The effect of CeO2 samples on degradation of methyl red (MR) was investigated.
Keywords	Nano-particles, CeO2, combustion, degradation, photocatalytic

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Title	Simulation Numérique de la Dépollution d'un Milieu Poreux Contaminé par un Hydrocarbure
Abstract	La présence fréquente de contaminants immiscibles (hydrocarbures, solvants chlorés) dans les formations souterraines peut constituer un grand danger pour la santé humaine. La dépollution de ces formations s'avère, alors, nécessaire afin de préserver les écosystèmes et les futures générations. Il existe plusieurs techniques permettant d'extraire de polluants à partir du sol. La technique utilisée va dépendre essentiellement du type de polluant et de la nature du milieu. La simulation numérique, basée sur des modèles mathématiques, est devenue aujourd'hui un outil incontournable qui peut aider à la compréhension de beaucoup de phénomènes naturels notamment lors du transport de polluants dans le milieu souterrain. L'objectif de ce travail est de simuler en 3D la dépollution d'un milieu poreux, assimilé à un parallélépipède, initialement saturé avec un hydrocarbure. De l'eau sous pression est injectée pour déplacer le polluant vers un point de soutirage. Le modèle est résolu par le code de calculUTCHEM-9.0 qui est un simulateur multiphasique basé sur la méthode des différences finies. Les résultats obtenus sont présentés sous forme de champs de saturation.
Keywords	écoulements diphasique, dépollution du sol, UTCHEM, milieu poreux, fracture.

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Title	Physical-chemical analysis and effect of waste frying oil ethyl ester on diesel engine performance
Abstract	The objective of this work is to use the waste cooking oil as an innovative fuel alternative of the conventional fuel for the diesel engine. In this respect, it is therefore essential to evaluate its physic-chemical characteristics in order to predict the new behavior of the engine compared to the European standard EN 14214. It becomes easy to define the adaptation process to be applied to the oil for its use without modification of the engine. In this respect, trans-esterification has shown and compared to other techniques such as preheating and dilution with alcohol. This technique is the most effective in compensating for the failures of waste oil in terms of viscosity and volatility. The most important contribution of this paper is the engine tests were conducted on pure diesel and diesel/biodiesel blends. The goal is to evaluate the various parameters allowing the estimation of energy performance of the engine.
Keywords	Waste frying oil, trans-esterification, biodiesel, physicochemical characteristics, engine diesel test.

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Title	On the effect of the micromechanical models on the free vibration of FGM Beam
Abstract	In this paper, a new refined hyperbolic shear deformation beam theory for the free vibration analysis of functionally graded beam is presented. The theory accounts for hyperbolic distribution of the transverse shear strains and satisfies the zero traction boundary conditions on the surfaces of the functionally graded beam without using shear correction factors. In addition, the effect of different micromechanical models on the free vibration response of these beams is studied. Various micromechanical models are used to evaluate the mechanical characteristics of the FG beams whose properties vary continuously across the thickness according to a simple power law. Based on the present theory, the equations of motion are derived from the Hamilton's principle. Navier type solution method was used to obtain frequencies, and the numerical results are compared with those available in the literature. A detailed parametric study is presented to show the effect of different micromechanical models on the free vibration response of a simply supported FG beams
Keywords	Functionally graded beam, Free Vibration, Micromechanical models, Hamilton's principle

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Title	Numerical simulation of natural convection in the air gap of an inclined flat plat thermal solar collector with partitions attached to its glazing
Abstract	In this work, the natural convection in the air gap of an inclined solar collector contains partitions attached to its glazing has been studied numerically. The temperatures of the two horizontal walls are constants and different. The two vertical walls are supposed adiabatic. The equations of the problem are solved with the finite volume method, using of the Fluent software. The necessary objective is to study the influence of the partitions (length and number) on the natural convection in the air gap of the solar collector. The obtained results indicate that the presence of the partitions has important influence on the heat transfer with the decreasing of heat losses with natural convection, so improving of the solar collector efficiency. In this study, it reached that the number of partitions must be higher than 10, and their optimal length is Lp=0.4. The presence of the partitions with the optimal values reduces the heat losses by natural convection with 46 %.
Keywords	thermal solar collector, partitions, FLUENT, natural convection, thermal radiation, efficiency.

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Title	Control of Three-Phase PWM Rectifier using P-DPC models
Abstract	This paper presents a predictive direct power control (P-DPC) as a method to control a three- phase PWM rectifier, This strategy divided into two parts , the DPC method for decoupling between instantaneous active and reactive power ,The predictive control to achieve a good performance and a fast response. The combination between predictive control and direct power control cancel the active and reactive power tracking errors a due to the average voltage, and chose the optimal voltage vector that minimizes a cost function then applied to converter. the main advantages of the P- DPC compared to DPC, that no need to use predefined switching table , the developed P-DPC was verified by simulations and the results obtained prove excellent performance .
Keywords	Predictive Direct power control (P-DPC), , predictive control, ,PWM rectifier, active and reactive power

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Title	simulation of color tunable laterally arranged quantum well light emitting diodes
Abstract	laterally arranged QW active region (LED) is proposed and simulated, in this structure GaN, InGaN and AlInN material are used , electron blocking layers is involved to reduce electron overflow in the p-type region, The structure have been numerically investigated using the ATLAS simulation software.
Keywords	KeyWords : GaN , AlInN , Color tunable LED , Silvaco , Quantum well, Laterally arranged QW.

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Title	واقع وآفاق الاستثمار في الطاقات المتجددة بالجزائر
Abstract	تهدف هذه الدراسة إلى التعرف على مجمل مفاهيم الطاقات المتجددة ومصادرها المتنوعة، والأهمية البالغة التي جعلت العالم في منافسة مفتوحة للاستثمار فيها بشتى أنواعها وهذا راجع إلى التوجه العالمي نحو الاقتصاد الأخضر القائم على حماية البيئة وتحقيق التنمية المستدامة، كما هدفت هذه الدراسة إلى التعرض إلى تجربة الجزائر مع الطاقات المتجددة وواقع الاستثمار فيها، وما لها من فائدة على الدخل الوطني، والتعرض إلى أهم التحديات التي تواجهها والآفاق المستقبلية للاستثمار فيها.
Keywords	الطاقة المتجددة، الاستثمار العالمي،الاستثمار في الجزائر،الطاقة الشمسية.

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Title	Contribution to the design of a Parabolic Trough Collector with composite material using GRP pipes scrap
Abstract	Among renewable energies, Parabolic Trough Collector power plants constitute the biggest share of the installed concentrating solar power technology. The bearing structure is the most expensive part of a parabolic trough power plant. These structures must meet certain requirements. In particular, the stiffness requirements are very high. It's obvious that an inappropriate carrier structure should involve additional material and manufacturing costs. Composite materials have great potential to be suited for development of renewable energy structures. GRP pipes scraps derived from cutting process can be revalorized and used in the bearing structure of a parabolic trough. The advantage of these materials lies in their high mechanical strength, corrosion resistance and low density compared to metals. Additionally, their high stiffness allows longer troughs so that the number of pylons and tracking units can be reduced, which reduces costs.
Keywords	Glass Reinforced Polyester; Parabolic Trough Collector; Solar Power; Renewable Energy.

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Title	OPTICAL PROPERTIES OF CH3NH3PbI3 BY SPRAY PYROLYSIS WITH MOVING NOZZLE
Abstract	Organic-inorganic perovskite based solar cells are a promising material in recent research. It is characterized by its high light absorbance regarding to other technologies. In recent research perovskite solar cells have an exponential evolution in power conversion efficiency which have reached more than 20%. In this paper we try to get optical and electrical properties for the CH3NH3PbI3 perovskite fabricated based on spray pyrolysis method. Obtained results shows that optical properties can be enhanced using specific molarity of 2 moles and processing temperature of 100 °C
Keywords	Perovskite CH3NH3PbI3, Spray pyrolysis, Postannealing, IV

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Title	Biomass valorization routes and their impact on the environment
Abstract	The exploitation of fossil fuels is certainly a fundamental factor for the development and the economic progress of the nations, but to the detriment of the environment, and of their exhaustion, indeed their combustions generate gases with greenhouse effects, which contribute to the warming climate, whose visible repercussions (melting of glaciers, droughts, floods, etc.), and their medium and long-term impact, will endanger the ecosystem, plant and animal fauna, including humans and future generations. Therefore, how to find a compromise that preserves the economic and social progress of humans without endangering our environment and future generations? Through the use of cleaner renewable energy sources that preserve the environment, the ultimate solution remains, hence the birth of the concept of sustainable development. The use of biomass energy given its importance and availability (wood, sawdust, agri-food waste, algae, animal waste, sludge, etc.) is one of the solutions. The proposed work aims to examine the possibilities offered by the use and recovery of various vegetable waste (sawdust, agricultural waste, agro-food waste, etc.), through their densification, thus facilitating their transport, handling and storage while improving their calorific value for their use as a source of energy for heating or producing electrical energy. In addition to the positive impacts on the environment (elimination of harmful waste, release of a neutral carbon, preserved fossil resources), we will also have socio-economic benefits through the sustainable development of isolated regions in our country and the launch of industrial units. manufacturing of biomass enhancement materials.

Keywords	biomass; densification; environment; sustainable development ; life cycle analysis

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Title	Tuning PID Controller for Altitude and Attitude of a Microcoaxial Helicopter Using Bat Algorithm
Abstract	This paper presents an optimal Altitude and Attitude control strategy for a microcoxial helicopter, using a new evolutionary optimizing algorithm. Initially, Newton-Euler method is used to obtain system equations. Then, the strategy of PID controller is applied to stabilize the helicopter by controlling: the altitude which is the translation in z axis and attitude which are the rotation angles. In order for tune the parameters of the PID controller, we propose the BAT Algorithm who guarantees the high performance against the mean square error (MSE) as a cost function. The simulation results show the effectiveness of the proposed scheme control.
Keywords	UAV, Microcoaxial Helicopter, PID Controller, Optimization, Metaheuristic Algorithm, Bat Algorithm.

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Title	A simple equation for estimating hourly water consumption in CSP plants
Abstract	Unlike conventional thermal power plants which are generally erected in the coastal regions near water bodies, seas and oceans, where water resource availability is not a critical factor, concentrating solar power (CSP) plants are usually installed in high sunny zones which generally characterized by semi-arid and arid climates, where water resources are hard to find and/or to employ. On the other side, the hourly simulations of water consumption in CSP plants are very complex and require many calculations, data analysis and time consuming. Therefore, the aim of this paper is to develop a simple equation to estimate the hourly water consumption of a solar tower plant based on its generated power, and the existing power plant Gemasolar has been chosen to establish the methodology. The obtained results of the statistical analysis show that the cubic model based on the generated power, can be used as a simple and general model to predict hourly water consumption in a large scale solar tower power plant.
Keywords	Correlation, Gemasolar, statistical analysis, water consumption.

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Title	Modified Direct Torque Control Strategy using Improved Switching Table of Permanent Magnet Synchronous Motor Fed by Two-Level Inverter
Abstract	Direct Torque Control (DTC) of a Permanent Magnet Synchronous Machine (PMSM) allows high dynamic performance by means of very simple control schemes. In this paper various direct torque control methodologies as conventional DTC (C_DTC), modified DTC (M_DTC) and twelve sectors (12_DTC) have been analysed and compared in order to evaluate the influence of the motor operating condition on steady state performances. A particular emphasis on stator flux trajectory, torque ripple and stator current distortion has been made. Simulation results show the effectiveness of the proposed control methods
Keywords	Permanent Magnet Synchronous Motor, Direct Torque Control, Three Phase Inverter, Look-Up Table.

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Title	Modeling and study the photovoltaic system, with the influence of internal and external operating conditions
Abstract	Photovoltaic systems operates to generate electricity. In Algeria is used as a source of alternative electric power connected to the electricity grid. Because of its many benefits, this photovoltaic energy source can be a good replacement or addition to conventional sources of supply of electricity. In this paper, a model of a photovoltaic generator is proposed, where generator uses directly the voltage and current of the photovoltaic panel to search for the operating point corresponding to the maximum power of system photovoltaic studied to proposed control strategy adopted for this system. The objective of this work is to model the photovoltaic system in a way intelligible and understandable to see the influence of the metrological conditions such as illuminance and temperature and the operating parameters internal to photovoltaic system. This allows the development of an on-board system in order to control the point of maximum power despite the variation of the temperature, irradiation and the electrical characteristics of the load.
Keywords	Photovoltaic system, electricity generation, electricity grid, maximum power, MPPT control.

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Title	Étude originale destinée à l'exploitation des techniques de rafraîchissement passif dans l'architecture hôtelière de Fernand Pouillon en Algérie.
Abstract	Dans le cadre de cette recherche, l'étude a été menée en vue de mettre en exergue l'apport spécifique qui revient en matière de valorisation de patrimoine architectural local contemporain en soi. Ainsi que dans son rapport au contexte environnemental. Cependant, l'objectif de ce travail est d'analyser cinq œuvres qui ont été conçus par Fernand Pouillon et de dégager les différentes techniques de rafraîchissements utilisées. Ceci s'est réalisé pour avoir un environnement thermique intérieur ambiant confortable. Aussi pour comprendre les méthodes et les outils de l'adaptation climatique dans un climat saharien qui aide à une meilleure planification des actions de protection, de sauvegarde, et de mise en valeur. Afin d'avoir des hôtels plus confortables, de nombreuses techniques traditionnelles pourraient être améliorées en utilisant des connaissances modernes, plutôt que les abandonnées totalement.
Keywords	Patrimoine, Fernand Pouillon, Architecture Saharienne, Hôtel, Technique de rafraîchissement.

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Title	The Role of Technology in Enhancing the Writing Capacities through Electronic Feedback
Abstract	The Role of Technology in Enhancing the Writing Capacities through Electronic Feedback
Keywords	Electronic Feedback, Learning Management System, Writing Capacities

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Title	Production de sucre liquide à partire des dérivées de dattes
Abstract	Le but de notre travail c'est l'exploitation de la matière première « dérivées de dattes variété Ghars » pour produire un sucre liquide d'une façon respectant notre environnement, le principe contribution de cette étude c'est le validation de qualité de sucre obtenu produire a base biotechnologique et des analyses physico-chimique et biochimique se fait pour permettre de savoir la qualité de sucre, le rendement obtenu est 79.33% en produit fini et les résultats de cette étude montre que le sucre liquide de datte est conforme aux normes internationales. La production de sucre liquide deviendra probablement un élément important pour notre pays à réduire la facture d'importation et renforcer la sécurité alimentaire
Keywords	dérivées de dattes, sucre liquide, Ghars.

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Title	Synthesis of diatomite Silica Doped Iron Nanoparticle Innovative Material Composite and their Enhanced Photocatalytic Activity Driven by UV Light
Abstract	Diatomite silica doped iron nanoparticle thermally calcination at 600 °C " DMF3X6 " composite as catalyst for heterogeneous photocatalysis of vat green 03 indanthren and characterized in this study.The Diatomite silica doped iron nanoparticle thermally calcination at 600 °C called " DMF3X6 " was made through surface modification treatment including NaOH deposition on raw diatomite with thermally calcination .In NaOH treatment, surface of Diatomite silica doped iron nanoparticle thermally calcination at 600 °C " DMF3X6 " was partially dissolved in NaOH with thermally calcination at 600 °C by means of x-ray fluorescence (XRF), x-ray diffraction (XRD), attenuated reflection-Fourier transform infrared (ATR-FTIR), scanning electron microscopy (SEM), energy dispersive x-ray (EDX) ,thermogravimetric analysis (TGA) , differential scanning calorimetry (DSC) and UV–visible diffuse reflectance spectroscopy (DRS) .The surface area of Diatomite silica doped iron nanoparticle thermally calcination at 600 °C " DMF3X6 " is 218.2 m2/g .The bad gap of DMF3X6 was Eg = 1.15 eV by UV-visible DRS technique .The surface modification also increased the point of zero charge (pHPZC) values to 6 for Diatomite silica doped iron nanoparticle thermally calcination at 600 °C " DMF3X6 " .The vat green 03 indanthren textile dye degradation has pH dependency, the better result is at pH =10 with colour remove about 92 %.The photodecolourisation rate follows pseudo-first order kinetic with to respect to the dye concentration.

Keywords	Diatomite, silica , iron , composite, heterogeneous photocatalysis , band gap , dye degradation, UV irradiation, photodecolourisation.

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Title	Improving Adiabatic Film-cooling Effectiveness by using a chevron shape ramp
Abstract	Film cooling
Keywords	film cooling, Chevron, Upstream Chevron, Spanwise, CRVS, Anti CRVS

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Title	Experimental study of two basin type solar stills with energy storage
Abstract	• Many solutions are developed to cure and solve the lack of potable water problem such as : sea and brackish water desalination , which can be granted easily through the solar still as far as, it needs less high technologies, besides it is of low cost and while the energy is free. Solar distillation is one of the simplest processes of separation, in this study we are interested in the realization and the experimentation of the coupling of a still solar with a solar collector that primly will warm up the water constantly influencing the productive rate and the competent one. Naturally, some of the key characteristics of this distillation instrument are that the equipment is simple, easy to operate, needs no maintenance and produces high quality distilled water. The series of tests were carried out in summer 2014 in order to identify its various parameters. The daily output of the solar distiller is of 6 liters/day with pre-heating for an absorber surface of 1m2.
Keywords	solar Still; Solar sensor; Performance, Efficacy; Distillation.

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Title	Study of Electrical characteristics of the Nanoscale SOI MOSFETs with HfO2 dielectric material using different gate metal workfunction
Abstract	we present in this paper the simulation results obtained by using the two dimensional Atlas-SILVACO tools for the nanoscale SOI-MOSFET device with high-k dielectric of gate HfO2, The effects of variations of the device's key electrical parameters, such as threshold voltage, subthreshold slope, transconductance, on-current, the leakage current and on/off current ratio are presented and analyzed, the simulation results concluded to the effect of the gate work function variations on the considered structure, These variations have a direct impact on the electrical device characteristics. The results show that the threshold voltage decreases when we reduce the gate metal work function Φm. As a consequence, the behavior of the leakage current improves and the oncurrent decreased with increased Φm, higher Ion/Ioff ratio results and lower transconductance obtained for higher metal gate workfunction, Therefore, the short channel effects in 2-D SOI-MOSFET structures can reasonably be controlled and improved by proper adjustment of the gate metal workfunction.
Keywords	SOI-MOSFET, Nanoscale, Workfunction

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Title	Mécanisme de précipitation dans l'alliage Al-Mg-Si
Abstract	L'étude de mécanisme de la précipitation dans l'alliage Al-Mg-Si, à l'état de trempe, a été effectuée en utilisant l'analyse par la calorimétrie différentielle à balayage (CDB) comme une méthode expérimentale. L'exposant d'Avrami n est l'un des paramètres cinétiques le plus important; il reflète la nature d'une transformation. L'analyse par le CDB montre l'existence de différentes phases. Les zones Guinier-Preston (GP) et la phase métastable β' ont des valeurs de n autour de 2, et les phases β" et β ont des valeurs de n autour de 3.
Keywords	Al-Mg-Si, l'exposant d'Avrami n, précipitation,mécanisme, CDB

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Title	L'effet du chauffage différentiel d'un cylindre axisymétrie sur l'écoulement tournant
Abstract	Dans ce travail, on fait une étude numérique d'un écoulement de convection mixte de métal liquide (0.011) confiné dans une enceinte cylindrique différentielle chauffé ayant un rapport de forme égal à 2. Le code commercial ANSYS FLUENT et la méthode des volumes finis a été utilisée pour résoudre numériquement les équations de transports gouvernants le phénomène étudié. On présente nos simulations numériques pour différentes valeurs du nombre de Richardson (Ri= 0.001, 0.1, 0.5, 3, 5, 10), afin de voir leurs effets sur la valeur du nombre de Reynolds. Les résultats présentés pour les deux cas de rotations de disques du cylindre montrent une profonde modification pour des valeurs de nombre de Richardson élevées et lorsque les deux disques tournent en contre-rotation.
Keywords	chauffage différentiel, cylindre axisymétrie, volumes finis, écoulement tournant.

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Title	Design EMI filter using Multi-Objective Optimization for Mitigation of Conducted Noise in Photovoltaic System.
Abstract	Electromagnetic interference (EMI) generated in a photovoltaic (PV) system issue has become one of the extremely important problems to be solved. It is well known that the inverter used in PV system is the major sources of conduct disturbances which are the common mode and differential mode. Often, the solution used to reduce conducted emissions consists to use the EMI filters. In some cases, EMI filter assemblies require up to 40% of the total installation space of an inverter. These mechanisms lead to increasingly tougher demands on filter assemblies in terms of insertion loss and volume. To solve this problem, an automatic design optimization tool based on a co-simulation MATLAB and LT- SPICE oriented at obtaining high performing EMI filters with the minimum volume and filter attenuation. A Database information of commercially available passive components (e.g. magnetic cores, capacitors), this last one allowed feed the program of design under MATLAB. Finally, the final phase allowed validating the filter performance with a temporal solver and frequency under LT-SPICE. Simulation and experimental results give a firm support to the proposed method.
Keywords	Electromagnetic interference, Automatic Design EMI filter, Multi-Objective Optimization, Conducted emissions Photovoltaic inverter, Parasitic elements, Filter attenuation.

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Title	Sliding mode control of a doubly fed induction generator for wind energy conversion systems
Abstract	This work presents a sliding mode control for wind energy conversion system based on a Doubly Fed Induction Generator (DFIG). The power transfer between the stator and the network is achieved by acting on the rotor signals via a bidirectional converter. Our objective is to apply this control to command independently the active and the reactive power generated by the DFIG. Simulation results on a 10 kW DFIG system are provided to demonstrate the effectiveness and robustness of the proposed control strategy during variations of active and reactive power and machine parameters, based on software MATLAB / SIMULINK.
Keywords	Doubly Fed Induction Generator, flux orientation control, sliding mode control , wind energy, active and reactive power.

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Title	Impact of climatic conditions on photovoltaic modules performance
Abstract	Significant advances have been made in PV systems within the last few decades. However, designers still face challenges related to the effects of climate conditions on PV systems performance. Climatic conditions such as temperature, humidity, wind velocity, solar irradiation and dust accumulation can effect significantly on the performance of PV modules. This experimental work aims to determine the effect of two parameters (PV module temperature and dust accumulation) on output power of solar PV panels in arid area. The experimental results showed the effect of dust accumulation in drooping of photovoltaic energy production, with decreasing by 5.35%, 0.38% and 5.94% in short circuit current, open circuit voltage and maximum power output respectively compared to cleaned PV panel. In the other hand results showed that the open circuit voltage and maximum power of non-cooled PV module are lower than cooled module by 5.66% and 6.17% respectively.
Keywords	temperature output power dust accumulation photovoltaic cooling

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Title	Overall Reliability Optimization of a Production System
Abstract	At the present time, the competitiveness in the industrial world became more and more harsh, which requires that the system must be as reliable as possible. In most of the optimization problems, hard fitness functions are considered. These functions cannot be solved by the traditional mathematical methods. An alternative solution to the conventional approaches is the use of meta-heuristic optimization techniques, due to their ability to obtain global or near-global optimum solutions. In the present paper, we address the overall system reliability-redundancy allocation optimization problem of a production system (pharmaceutical production line), using a powerful algorithm called the Stochastic Fractal Search (SFS). The constraints of the problem are handled by resorting to the penalty function method.
Keywords	Reliability, Production system, Optimization, Stochastic fractal search.

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Title	Bond graph Model-Based Methods for Fault Diagnosis: A Comparative Study
Abstract	Advanced methods of fault diagnosis become increasingly significant for improving the safety, reliability and efficiently of dynamic systems in various domains of industrial engineering. This paper reviews and compares between three bond graph model-based methods for fault diagnosis. These methods are causality inversion method, augmented Analytical redundancy relation method, and fault estimation method. These methods are applied on a simulation model of an electrical system. This latter is used to simulate the system variables in both normal and faulty situations and to generate residuals for fault detection and isolation. The results of the case study are compared for highlighting the fault diagnosis performance and capability of a method over another. The result show that the fault estimation method has batter diagnosis performance when compared to the other methods.
Keywords	Diagnosis, Bond graph, Causality inversion, Augmented Analytical redundancy relation, Fault estimation.

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Title	Heat and Mass Transfer Processes of Solid-State Hydrogen Discharging: A CFD Study
Abstract	This article deals with the numerical investigation of two-dimensional coupled processes of heat and mass transfer within the intermetallic (Mischmetal) compound LaNi5 packed in unit disc of annulus-disc reactors, during hydrogen gas desorption. Using the finite volumes technique bundled in the OpenFOAM® CFD code, temperature and amount of desorbed hydrogen and their time-averaged quantities inside the metal-hydride packed bed are obtained for various heat transfer fluid temperatures, and several outlet pressure magnitudes. By means of a set of numerical simulations, we have emphasized the impacts of both parameters on metal-hydride reactor performance in terms of discharging time. The dehydriding time minimization and the adjustment of heat addition amounts are strongly related for the desorption process inside this studied MH reactor. An excellent accord was recorded for the present simulations results compared against the literature-reported experimental data of Jemni et al. [20]. We have attempted to examine and explain some parameters effects (HTF temperature and delivery pressure) on the dynamical performances of hydrogen desorption involved in MH packed reactors design and optimization.
Keywords	Metal hydride, LaNi5, Desorption, Numerical simulation, Finite volumes.

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Title	Limites de capacité de transport thermo-hydraulique d'un système de caloduc en boucle (LHP) : Etude analytique
Abstract	Cet article présente une analyse théorique des limites de transfert de chaleur associées à un caloduc à boucle (LHP), qui implique l'utilisation d'une structure innovante d'alimentation/distribution de liquide et de séparation vapeur/ liquide. Les équations mathématiques régissant la capacité de transport de chaleur ont été appliquées pour simuler plusieurs limites de transfert de chaleur communément connues de la conduite, à savoir les limites visqueuse, sonique, d'entraînement, capillaire, d'ébullition et de masse de liquide de remplissage. Cela permettra de déterminer la valeur réelle de la limitation et les analyses des facteurs affectant les limites, y compris la température de fonctionnement de la boucle, type de mèche, diamètre/longueur de l'évaporateur, angle d'inclinaison de l'évaporateur, diamètre de la colonne de vapeur de raccord a trois voies et différence de hauteur évaporateur-condenseur. Les résultats obtenus à partir du modèle analytique considéré indiquent que la mèche en toile composite peut atteindre une meilleure performance thermique par rapport au métal frittée et aux mèches à rainures rectangulaires ouvertes. Il a également été constaté que la capacité de transport thermique de ce type de LHP est positivement proportionnelle à la température de fonctionnement, au diamètre de l'évaporateur, à l'angle d'inclinaison de l'évaporateur, au diamètre de la colonne de vapeur, a la masse de liquide de remplissage et dans un ordre réciproque à la longueur de l'évaporateur. En sachant qu'avec la configuration de boucle et les conditions opérationnelles spécifiées, le LHP peut atteindre une capacité de transport de chaleur élevée d'environ 930 W.

Keywords	Caloduc à boucle, transfert de chaleur, refroidissement des composants electroniques

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Title	Assessment and enhancement of the performance level of an algerian company
Abstract	The work presented in this paper investigates an application of Six Sigma approach for the purpose of assessment of the competitiveness capability of an Algerian company through a period of three years. To do this we use a weighted DPMO and Six Sigma level approaches. Firstly the weighted DPMO was used to calculate the proportion of quality defects. Secondly, Sigma level was introduced to evaluate the competitiveness of the company. The proposed methodology is applied in a real case study, the obtained results are discussed.
Keywords	Six Sigma, DPMO, Sigma level, weighted DPMO

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Title	Tuning of an IP Speed Controller using GA and PSOi n Sensorless Vector Control of an IM
Abstract	This paper presents a sensorless vector control (VC) of an induction motor (IM) based on Model Reference Adaptive System (MRAS) scheme. An Integral Proportional (IP) controller is used in speed control loop. To obtain good speed performances, the IP controller is tuned by two methods: Genetic Algorithm (GA) and Particle Swarm Optimization (PSO). The VC of the motor is tested with several conditions as speed reference variation and a sudden change in load torque. Simulation results show, in our case, that the PSO can provide good speed performance than GA.
Keywords	Induction motor, Sensorless vector control, Model Reference Adaptive System, IP controller, Genetic Algorithm, Particle Swarm Optimization.

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Title	DFVELOPMENT OF NEW LOW COST MATERIALS FOR ENVIRENEMENT TRAITEMENT
Abstract	Research is centered on the use of the new materials of low cost, available locally, biodegradable adsorbent, manufactured starting from the natural sources for the removal of a large volume of colored aqueous effluents of various industries, Clays were largely used like adsorbent to treat the various effluents because of their easily preparation and regeneration, their variety of structural and surface properties, high chemical stability, high specific surface area and high adsorption capacity. Various technologies have been developed for decontamination purposes including chemical oxidation, biological treatment, coagulation–flocculation, and membrane separation. However, these treatment processes are costly and cannot effectively be used to treat a wide range of dye containing wastewater. Adsorption process has been proven as one of the best wastewater treatment technologies around the world. This study has investigated the potential use of acid activation of an Algerian bentonite as adsorbent for the removal of brilliant green BG and methylene blue MB from aqueous solution. The results showed that the acid activated clays are able to absorb BG and MB at a very high extent of 232 mg/g and 67mg/g respectively. We can conclude that it can be used for water purification and it can preserved environment.
Keywords	Adsorption, Acid-activated bentonite, Textile, Dye.

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Title	Étude numérique du transfert thermique dans les différentes géométries des mini canaux
Abstract	Dans le présent travail, on a effectué une étude numérique des échanges thermiques entre différentes géométries des mini canaux d'un refroidisseur de dimensions (21 x 21 x 3,5 mm3) de trois formes différentes pour refroidir un composant électronique de dimensions (100 x 0,25mm3) en utilisant un nanofluide (Cu –eau) comme liquide de refroidissement. La simulation a été effectuée à l'aide du logiciel industriel, FLUENT v15.0. Nous avons obtenu des résultats pour un nombre de Reynolds (Re) entre 300 et 1500 et en considérant le régime d'écoulement comme stationnaire. L'analyse des résultats de la simulation pour les trois formes proposées des mini canaux montre que l'augmentation de la surface d'échange entre les parois des mini canaux et le fluide de refroidissement conduit à une augmentation du coefficient d'échange thermique et à l'amélioration de la température maximale de jonction du composant électronique par augmentation du nombre de Reynolds.
Keywords	transfert thermique, refroidisseur, minicanaux , simulation numérique, nanofluide

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Title	A New robust Level Set image segmentation method based Signed Pressure Force function : Application to Medical Images
Abstract	Segmentation is an extremely active field of research since it is an important step in the treatment and the interpretation of the medical images. It represents one of the most difficult step for relevant parameters extraction from images. In this paper, we study A New robust Level Set image segmentation method is developed by formulating Signed Pressure Force Function (SPF). The advantages of this method are Firstly, the Function of Signed Pressure can efficiently stop the contours at weak or blurred edges, Second, exterior and interior boundaries can be detected no matter where the initial contour starts. We compare this method with Chan Vese (C-V) model and Geodesic Active Contours (GAC). The performance of each method can be evaluated either visually, or from similarity measurements between a reference and the results of the segmentation. We have applied each method for different medical images. Through simulated results, we have demonstrated that the best results are achieved by the proposed method.
Keywords	Image Segmentation, Geodesic Active Contours (GAC), Level Set, Chan Vese (C-V) model Active Contours, Medical Images, Function of Signed Pressure (SPF).

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Title	Investigation of the Barriers Influence in the Air Gap Point-Plane by Electric Field Estimation
Abstract	In this paper ,we develop a model for three computation of the electric field in the presence of a space charge which is given in its turn after the knowledge of the effective ionization factor. The effect of the barriers in the intervals of air point-plan was the subject of several investigations; those showed that the influence of the barrier is especially related to the accumulation of loads on its surface on the active electrode side. Thus the barrier constitutes a mechanical and electrostatic obstacle with the increase in discharge. From an economic standpoint, the quality and dimensions of the barrier should not be the only criteria for the insulation coordination, in each system of HV electrodes. Results show that electric stress in the air gap decreases due to space charge left in the point-barrier gap, but it increases suddenly at the handle of the avalanches and on the upper barrier surface. This later effect related to the presence of the dielectric barrier is due to the polarization charge.
Keywords	Streamer, Electric field, Space Charge Barrier, Ionization Factors, Point-Plane, FVM

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Title	A Robust segmentation method using Bias Field Correction for medical images
Abstract	Bias field in medical images is an undesirable artifact primarily arises from the improper image acquisition process or the specific properties of the imaged object. In this paper, we present a robust method for image segmentation, which is able to simultaneously segment the image and estimate he bias field, this study proposes an improved level set method for segmenting images with Bias field. One of the improvements is to consider the difference between an original image and an estimated image without bias field in the image model. Apart from using this difference, Rayleigh distribution with means and variance is utilised as the local intensity descriptor to map the original image into another domain so the object and the background can be better separated in the transformed domain. Then, an improved level set energy function that combines the image term, local variance, and the above difference is defined. Therefore by minimizing this energy, our proposed method is able to simultaneously segment the image and estimate he bias field, and the estimated bias field can be used for intensity inhomogeneity correction. Finally, experiments on some medical images have demonstrated the efficiency and robustness of the presented model.
Keywords	Image Segmentation, Medical Images, Bias correction, intensity inhomogeneity.

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Title	Influence of Air Microcavities on Electrical Field Distribution, Electromechanical Pressure and Dielectric Losses in High Voltage Cable Insulation
Abstract	The origin of electrical discharges in high voltage cables insulation probably can be attributed to many causes such as: overvoltage and the presence of impurities which have been introduced into the insulation during the manufacturing step. These impurities may lead to electrical field increasing thus to the formation of partial discharges. The purpose of this work is to determine the effect comes from cavities presented in Cross-linked Polyethylene (XLPE) on the electrical field, temperature and electromechanical pressure distribution into and around the cavity. The calculation of these constraints is performed by the resolution of LAPLACE equation using Finite Difference Method (FDM).
Keywords	Electrical discharges, Crosslinked Polyethylene (XLPE), Finite Difference Method (FDM), Air Microcavities.

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Title	Study of the characteristics of mud bricks reinforced with plastic polymer
Abstract	—with the enormous development of human life and increase in energy consumption, new challenges are facing this high consumption, particularly with the climate changes affecting our desert regions, in particular the State of Ouargla, one of the hottest regions in Algeria especially in summer. In this challenging context, this work continues in research axes aimed at creation better building materials, with better thermal and mechanical properties, from which we seek in the characterization of new plastic process and earth bricks. In this sense we study the thermal and mechanical behaviour of bricks based on local materials and ecology (Case: Ouargla region) such as clay and sand dunes, this composition is where each composition is subjected to a set of thermal (conductivity) and mechanical (compressive strength, tensile strength, sonic propagation speed). The results show an overall negative effect in the sense of physico – mechanical.
Keywords	bricks, clay, dune sand, plastic, polymer, mechanical properties.

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Title	EFFECT OF SOIL TYPE ON VERTICAL CLOSED-LOOP GEOTHERMAL HEAT EXCHANGERS SIZING
Abstract	The closed ground source heat pump systems are one types of ground source heat pump (GSHP) systems and are classified as low enthalpy geothermal systems since they make use of low temperature differences, it consists of heat exchanger loops that utilize the heat conduction mechanism of the ground to reject or extract heat. The design of geothermal heat exchangers strongly depends on the properties of the soil as they affect soil resistance, which is an indication of the amount of energy that can be transferred to/from the ground. Because of the unavailability of experimental data in the selected region, particularly those concerning the nature of the soil, this study was conducted to examine the influence of the kind of soil (Three different soils) on the design of a vertical closed loop for a residential unit under the meteorological conditions of Tamenrasset, city located in the south of Algeria, using analytical design procedures (ASHRAE) which highlight the influence of heat exchanger properties and ground parameters.
Keywords	Ground-source heat pumps, Ground Heat exchanger, vertical closed loop, Geothermal energy, thermal properties of soil

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Title	Etude et caractérisation d'un ligand organique polydentates à base dérives d'hydrazone
Abstract	Pendant ces dernières années, les ligands polynitrile à base de schiff ont suscité un intérêt croissant dans le domaine de la chimie de coordination et la conception des matériaux moléculaires magnétiques. Cet intérêt est le résultat des caractéristiques que présentent ces ligands comme dérivés d'hydrazone à partir du composé α-dicarbonylé le Benzile. Ces molécules, par la contenance dans leurs structures des groupements α-iminocarbonylés ou α-diiminiques, constituent des agents pontant utilisés en chimie de coordination tel que: 1,2-diphenyl-2 (2-Chlorophenylhydrazono) Ethanone
Keywords	derives hydrazone, base de Schiff , ligands organique

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Title	Temperature and frequency-dependent conductivity of polystyrene/polyaniline composite
Abstract	The electrical properties of polyaniline and polystyrene/polyaniline materials are investigated using the dielectric relaxation spectroscopy. The measurements showed that polyaniline has a conductivity of 10-5 S/cm, while polystyrene/polyaniline exhibits nearly10-6 S/cm. The observed increase in conductivity with temperature is a property of semiconductor but the decreasing conductivity above 293.5K could be due to the presence of absorbed water and its removal may have caused structural changes in the hygroscopic PANI polymer chains.
Keywords	Polyaniline, polystyrene, conductivity, composites.

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Title	Contribution de l'énergie solaire photovoltaïque à l'alimentation des pivots d'irrigation : Cas du pivot ANABIB
Abstract	L'objectif de cet article est d'étudier la contribution de l'utilisation de l'énergie photovoltaïque(PV) dans l'alimentation électrique des pivots d'irrigation. L'introduction massive des pivots a engendré des consommations énergétiques très élevées et dans certains cas très nuisibles à l'équilibre du réseau électrique. Dans ce travail, une étude pratique a été adoptée sur un pivot de marque ANABIB pour l'évaluation hydraulique, avec un dimensionnement PV autonome à l'aide d'un logiciel approprié. Deux scénarios d'étude ont été envisagés le premier scénario consiste que le système photovoltaïque autonome prendre en charge l'alimentation électrique des parties suivantes : le pompage de l'eau, la pression hydraulique et les moteurs de traction. Dans le deuxième scénario, le système photovoltaïque alimentera uniquement les moteurs de traction. Les résultats obtenus ont montrés que ce type de pivot d'irrigation nécessite une nouvelle étude technique à cause de chute de pression et de débit à l'extrémité aval de la rampe pivot. Deuxièmement, l'exploitation de l'énergie PV dans le premier scénario représente cinq fois le deuxième cas en termes d'énergie et de stockage avec les batteries. Dans ce dernier cas, le système PV réduit la dépendance énergétique du pivot de 20% avec l'énergie de source fossile non renouvelables.
Keywords	pivot d'irrigation systèmes photovoltaïques évaluation hydraulique

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Title	Geothermal energy development and future possible applications in Algeria
Abstract	The main objective of the present study is to review the development of geothermal energy utilization in Algeria, giving its historical development and opportunities. Geothermal energy is used for direct utilization in Algeria, which is among the main countries in Africa in geothermal direct use applications. The inventory of thermal springs has been updated with more than 240 springs identified. The highest temperatures recorded were 98 °C in Hammam El Maskhoutin (Guelma) and 118 °C in Biskra, in the western part of the country. In the south, the thermal springs have a mean temperature of 50 °C. The northeastern zone of the country, covering an area of 15,000 km2, remains potentially the most interesting geothermal area, with the Barda spring giving 100 L/s. Geothermal energy is a relatively benign energy source, displaying fossil fuels and thus reducing greenhouse gas emissions. So it is expected that geothermal energy development will significantly speed up in the country if the geothermal law becomes effective.
Keywords	Geothermal energy; Direct use; Heat pumps; Space heating; District heating; Renewable energy; Sustainable development.

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Title	CHT Prediction of Thermal State of Underground Conductor in Power Distribution Networks
Abstract	This research aims at a deeper understanding of the steady-state thermal behavior of underground cables using Computational Heat Transfer (CHT) techniques modeling based Ansys Fluent software. The results concern the thermal study of 33 kV single and multiple copper conductors with a nominal conductor cross-section of 615 mm2 buried in the ground for a single cable, two cables and for three cables in horizontal position. The most unfavorable summer conditions, the burial depth as well as the physical properties of the soil as a function of the moisture content, are studied. The operating current of the conductors is taken 940 A. The results show that the temperature of the cables decreases with the burial depth, a compromise temperature/cost of installation corresponds to 80 cm of burial depth. Further, the maximum temperature of a single cable buried in the ground is considerably lower than that allowed (363 K) for a good use, namely 313 K in summer conditions, so there is a considerable margin to increase its ampacity, also the temperature decrease with increase of water content of the soil surrounding the cable of approximately 2 to 5 degrees. The results obtained are in good agreement with those of the literature.
Keywords	underground cables, ampacity, thermal state, power distribution networks, CHT modeling

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Title	The impact of using thermal insulation and solar energy on the reduction of energy consumption, case of housing in Constantine, Algeria.
Abstract	The purpose of this document is to optimize integrated solutions to the envelope of a building and to combine solar energy with architecture to achieve an optimal level of energy consumption in a collective dwelling. This is done by using materials performance in thermal insulation such as cork, polystyrene, brick, renewable energy, an architectural form that must take into account solar radiation in summer and winter. The objective is to evaluate the evolution of the energy needs according to the energy efficiency measures (BBC case) and the thermal comfort conditions, with geographical coordinates of the basic building correspond to the city of Constantine, in Algeria. The use of the TRNSYS version 16 software was chosen to make the comparison simulations between the two collective dwellings in the city of Constantine. The first is that of a current housing standard case of the city, and the second housing is the optimizing one proposed as project in Constantine city. For a positive and efficient return , where the final goal is to examine the effectiveness of the first compared to the second in terms of energy, economic and environmental.
Keywords	Optimize, BBC, Energy, Constantine, Collective-dwellings.

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Title	Prediction of critical heat flux in porous coated tubes
Abstract	To predict the phenomena of critical heat flux, an empirical method based on experimental data and the known effects of certain parameters on the CHF are presented in this study. The study of parametric effects found that the main factors that influence critical heat flux are: pressure, mass flux, tube diameter, tube length Creation of a new correlation to predict critical heat flux requires careful data selection based on the local conditions for which the differences between measured and calculated values are the lowest, we have 892 values to develop a correlation to approximate the CHF collected from different literatures. Three CHF correlations were compared to a recently developed new correlation for smooth and porous vertical tubes heated uniformly at low pressure and low mass flux. The standard deviation was calculated for the new correlation as well as the correlations of Stein, Weber, and Ruan .Significant CHF results were predicted with the new correlation that resulted from the mean relative errors and standard deviations for the smooth and porous tubes better than the other selected correlations.
Keywords	critical heat flux smooth tubes porous tubes water dry out burnout boiling vapor

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Title	Récupération d'énergie de la Station de traitement Boudouaou pour la production d'électricité
Abstract	The water that reaches our faucets follows a path represented by the pipe lines. It must be supplied with energy so that it can circulate along the pipeline. There is therefore a link between energy and water.Water treatment plants in Algeria consume electrical energy for its pumping and lighting systems.The objective of this work is the study of the feasibility of recovery of energy at the breezes-loads that are generally installed on the field to break the pressure of water to the tank. This gives an opportunity to innovate in the hydropower sector, bringing water and energy without CO2 emission and with an inexhaustible and economical energy capable of providing almost continuous hydroelectric power.
Keywords	Turbine prototype, Simulation, Renewable energy, Hydroelectricity, Water turbines

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Title	Adaptive consistency models in the cloud: review and comparative study
Abstract	NoSQL storage systems are used extensively by Web applications and provide an attractive alternative to conventional databases due to their high security and availability with a low cost. High data availability is achieved by replicating data in different servers in order to reduce access time lag, network bandwidth consumption and system unreliability. In this context, one major challenge is data consistency. In one hand, strong consistency guarantees data freshness but affects directly the performance and availability of the system. In the other hand, weaker consistency enhances availability and performance but increases data staleness. Therefore, an adaptive consistency strategy is needed to tune, during runtime, the consistency level depending on the criticality of the requests or data items. Although there is a rich literature on adaptive consistency approaches in cloud storage, there is a need to classify as well as regroup the approaches based on their strategies. This paper will establish a set of comparative criteria and then make a comparative analysis of existing adaptive consistency approaches. A survey of this kind gives an insight to the user/researcher about not only a comparative analysis of performance of approaches but also suggests suitability of these approaches for candidate cloud systems
Keywords	Cloud storage Big data adaptive consistency adaptive policy

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Title	Study of an industrial sulfur boiler with four baffles
Abstract	The aim of this paper is to develop a numerical simulation to study the performance of an industrial sulfur boiler with four baffles. The commercial CFD software Ansys Fluent 16.2 was performed to characterize the fluid flow inside the modified sulfur boiler. The turbulence model k-ε standard was used. The turbulent flow characteristics such as the temperature distribution, the velocity distribution, and the turbulence characteristics were discussed.
Keywords	Sulfur combustion, boiler, baffle, design

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Title	Influence of the fractional derivative on Bose-Einstein condensation
Abstract	Using the fractional derivative theory we study non-interactive boson systems described by a Hamiltonian which contains non-integer order derivative. We have derived the eigenvalues of the fractional Hamiltonian for a free particle in a box (L1;L2;L3). It turns out that the found eigenvalues are those found using the Riesz definition of the fractional derivative. We use this energy spectrum to study the influence of the fractional derivative on Bose-Einstein condensation. We find that the non-interactive boson systems which have fractional Hamiltonian can condensate in 3D and also in 2D on contract to the standard model where the free bosons condensate only in the 3D case.
Keywords	fractional Hamiltonian; fractional derivative; Bose-Einstein condensation; non-interactive boson systems .

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Title	Contribution of Solid Particles Receivers to Improvement of Solar Thermal Power Plants Storage Capacity.
Abstract	Since 1980s, electricity generation with solar thermal power plants has been a way to replace fossil fuels.By concentrating the direct solar radiation of heliostats, very high temperatures of thermal fluid can be reached. The resulting heat is converted into mechanical energy in a steam cycle that generates electricity. High yields and rapid start are achieved using air as a heating medium, as well as using ceramic materials in the solar receiver of the concentrated sunlight. [1] The use of solar concentrating system (CRS) for electricity production promises to be one of the most viable options to replace fossil fuel plants. This article reviews the most important studies on the main components of solar thermal power plants with central receiver, including the heliostat field, the system of power conversion and the solar receiver such as the solar receiver with particles. After a glimpse of solar energy concentration (CSP) Central Receiver Technologies with Conventional Solar Energy Concentration (CSP) using molten salts were limited to temperatures of about 600 °C. Direct absorption and storage of heat has the potential to increase the temperature maximum heat transfer fluid to more than 1000 °C. Once heated, the particles can be stored in an isolated tank and / or used to heat a working fluid (for example, steam, CO2, air) for the cycle of power. Thermal energy storage costs can be considerably reduced by directly storing heat at higher temperatures and with higher temperatures gradients for higher storage capacities in a relatively inexpensive medium (ie, sand

	particles) where solar energy is directly absorbed.
Keywords	solar receiver, particle, thermal storage, HTF, CSP

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Title	A Hydraulic Comparison between Center Pivot Irrigation Traditional and Modern Type ANABIB
Abstract	The objective of this article is to realize a hydraulic comparison between the traditional and modern irrigation pivot system (Type ANABIB). This comparison is based on evolution of hydraulic parameters like pressure, flow and length between the sprinklers (nozzles) to obtain a homogeneous distribution of water over the entire irrigated area. Center Pivot irrigation has an important agricultural component in Algeria, especially in the South such (El Oued, Ouargla, Biskra, Meniaa, Adrar, etc.). However, this irrigation technique is often used by farmers, who don't have the scientific expertise to develop and improve the performance of their equipment, taking into account the weather conditions of desert areas, as well as the sizing of the pumping system. Farmers in Souf deal with the traditional pivot system and don't accept the modern type ANABIB with suitable normalization factor because its high cost. Therefore, the necessity to improve hydraulic performance of the traditional system until it has a high normalization factor and good uniformity of irrigation. However in well-designed devices we can get a good hydraulic efficiency the order of 85%. The results of the work observed for the hydraulic parameters of traditional system commonly used by farmers give us 59,58 and 70,76% of Cuh that values gives us the possibility to improve its uniformity of irrigation by the predominant effect of the sprinkler distance to get an acceptable values of normalization factor (over than 85%), on the other hand ANABIB system gives 95,98 and 97,28% of Cuh that considers as a perfect values . It is intended that this article be served as a starting point from which improved uniformity may be developed in the future.

Keywords	Hydraulic performance, nozzles, pumping system, irrigation system...

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Title	A Survey on modulation approaches for Z-source inverter
Abstract	This paper discusses and compares several control strategies for the Z-source inverter, contrary to the traditional inverters the impedance network in the ZSI provides one extra switching state called shoot-through state which ensures the unique buck-boost voltage feature. This study aims to analyze and compare four control methods namely, SBC simple boost control, MBC maximum boost control, MCBC maximum constant boost control and maximum constant boost control with third harmonic injection.
Keywords	Z Source inverter, SBC, MBC, MCBC

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Title	التنمية المستدامة وريادة الأعمال: المساهمات السابقة والاتجاهات المستقبلية
Abstract	في ظل التغيرات المتسارعة التي تشهدها بيئة الأعمال والضغوط المرافقة للمنافسة العالمية، تولي العديد من المنظمات الاهتمام لتبني المفاهيم الإدارية الحديثة، وتعتبر ريادة الأعمال من المواضيع الاقتصادية والإدارية المحدثة التي أولتها الأدبيات المعاصرة اهتماما وثيقاً، إن هذه التغيرات الهائلة أصبحت مصدرا خصبا للرياديين للإتيان بأفكار إبداعية وابتكارات جديدة، وتعتبر الريادة أداة ووسيلة هامة لخلق الثروة والمعرفة، من أجل تحقيق أهدافها الاقتصادية والاجتماعية، ومن ثم تحقيق التنمية المستدامة، وقد ركزت الأهداف الجديدة لهذه الأخيرة على رسم غايات حول كيفية النهوض بالصناعة والابتكار والإبداع وريادة الأعمال، وأعطت نقاطًا محددة للخروج من أزمة استهلاك التكنولوجيا إلى ابتكارها محليًا وعلى أيدي جميع سكان الأرض, من خلال تعزيز التصنيع الشامل للجميع والمستدام، وتحقيق زيادة كبيرة في حصة الصناعة في العمالة وفي الناتج المحلي الإجمالي، وزيادة فرص حصول المشاريع الصناعية الصغيرة على الخدمات المالية، بما في ذلك خدمات الائتمان قليلة التكلفة، وتضمنت تلك الأهداف، تحسين البُنَى التحتية، وتحديث الصناعات؛ لتحقيق استدامتها، مع حث دول العالم على زيادة كفاءة استخدام الموارد، وزيادة اعتماد التكنولوجيا والعمليات الصناعية النظيفة والسليمة بيئيًا، مؤكدة على أهمية تعزيز البحث العلمي، وتحسين القدرات التكنولوجية في القطاعات الصناعية في جميع البلدان.
Keywords	ريادة الأعمال، التنمية المستدامة، الابتكار، الإبداع، البيئة.

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Title	Coordinated Design of SVC and PSS Controllers Using PSO Algorithm for Damping Power System Oscillations
Abstract	In this paper, the coordinated Static VAR Compensator SVC and Power System Stabilizers PSS devices using for damping of oscillation in the multi-machine power system. Particle Swarm Optimization PSO is used for searching optimized parameters of proposed coordinated controllers. The objective function in this study is based on the minimization of integral of time speed deviation. In PSO, individuals in a new generation are created by update position and velocity of each particle. The effectiveness of this algorithm and the proposed coordinated controllers are examined for the multimachine power system, subjected to a disturbance. The results proposed technique are compared with the same power system without a controller, with the PSS controller, and with coordinated controllers without PSO.
Keywords	Particle swarm optimization PSO, power system stabilized static var compensator, FACTS, multi-machine, oscillation.

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Title	Characterization and sizing of a wind pumping System in an Algerian South East Region
Abstract	this work concerns the assessment of the wind potential available at El-Oued located in the South East region of Algeria, with a view to size and characterizes a wind pumping system. The available wind potential of the studied site was evaluated using the WAsP software. Wind data recorded at 10m from the level of the Meteorological National Office of the Guemar (El-Oued) station for the period of two years 2010-2011 are used in this work. The results obtained allow determining the different categories of distribution of the average wind speed on a monthly and multi-year scale, as well as the evaluation of the annual energy produced A.E.P by the small wind turbine of 1 kW. In addition we will estimate the daily water flow pumped by the wind system according to the total manometric head. The results analysis obtained indicates that wind energy remains an essential asset for the pumping of water, taking into account the announced performances
Keywords	wind farm available; Weibull distribution; WAsP; wind pumping.

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Title	Sol-gel synthesis of Al-Tin oxide thin films deposited via dip-coating technique
Abstract	Thin films of Al-doped SnO2, have been synthesized via sol-gel method and deposited by the dip-coating technique. The samples were characterized by UV-visible spectroscopy, Fourier transform infrared spectroscopy, and impedance spectroscopy, respec¬tively. The effect of thermal annealing and Al-doping on the optoelectronic properties, were investigated. The Nyquist plots suggest that the conduction in the films is correlated with the formation of oxygen vacancies and the scattering of charge carriers over the grains boundaries.
Keywords	Thin films, Al-doped SnO2, sol-gel, impedance spectroscopy.

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Title	Maintenance Of Wind turbines Based on Condition Monitoring System
Abstract	This article focuses on a new methodology based on fuzzy logic to predict the maintenance of wind turbines. In wind systems, Vibrations present the main cause of the occurrence of failures. The prediction of these failures can be ensured by correct processing of the set of vibration signals collected by the Condition Monitoring System (CMS) and declaration of the appropriate maintenance action by the connected management system SCADA (Supervisory Control And Data Acquisition). In this paper, fuzzy logic is used as a new approach to processing vibration signals by exploiting their features for the generation of probabilities of occurrence of failures. The probabilities generated correspond to alarms (Green, Orange and Red) and the alarms correspond to maintenance actions to be applied.
Keywords	Alarms, Condition Monitoring System, Fuzzy logic, Maintenance, Wind turbines.

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Title	Study of the Statistical Indicators of Global Solar Radiation in Algeria Using the Angström Model
Abstract	This study was conducted to estimate the monthly global solar radiation in the Algerian territory using the Angström model, for seven sites in Algeria, namely: Algiers, Ain Bessem, Constantine , Oran, Djelfa, Mascara, and Tamanrasset. The models are based on global solar radiation in the horizontal surface as well as sunshine hours . To evaluate the results obtained by the different sites we calculated the following relative average algebraic differences: MAE, MBE and RMSE. The results show a remarkable agreement between the measured and computed values, especially in Tamanrasset site where the slope is of the order of 1
Keywords	Solar Radiation, Angström Equation, Modeling, Algeria

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Title	Analyse des performances d'un étage transsonique pour un compresseur axial avec un contrôle passif
Abstract	L'étude est basée sur deux approches ; la méthode de la courbure de ligne de courant et la simulation numérique stationnaire et instationnaire dans le but, premièrement, d'analyser l'écoulement à travers un étage transsonique pour un compresseur axial. La simulation numérique nous permet d'examiner la topologie du spectre du frottement pariétal y compris les points singuliers et la ligne principale dudécollement. La validation est assurée en comparant les résultats numériques obtenus et les données expérimentales fournies par les travaux réalisés à la NASA sur les rotor 37 et 67. Les modèles de turbulence proposés sont le RANS (Reynolds Averaged Navier Stokes), URANS (Unsteady Reynolds Averaged Navier Stokes) et DES (Detached Eddy Simulation). Le but principal visé est d'appliquer une technique passive (générateur de vortex fluidique passif, rainures et fentes) pour contrôler le décollement de coin et l'écoulement de jeu entre la tête d'aube et le carter. Une étude paramétrique sera réalisée afin d'optimiser la configuration contrôlée et arriver à une efficacité maximale de contrôle. Dans le cas où les moyens nous permettront de faire les essais avec générateur de vortex fluidique passif, les rainures et les fentes, on aura la possibilité de valider ce type de configurations.
Keywords	Étage transsonique,compresseur axial, décollement de coin, écoulement de jeu, interaction rotor-stator, fentes, GV fluidique passif, rainures, analyse topologique, RANS, URANS, DES.

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Title	Selection of a signal-processing tool to diagnose combined defects: gear-bearing in rotating machinery
Abstract	The present work aims to analysis the performance of various methods used for diagnostic of double defects in rotating machine and to choose the suitable technique for accurate detection of this complex damage. For this purpose, a test bench which contains almost mechanical parts of a real machine (axes of rotations, gears, bearings, etc.), was realized. However, a double fault in both gear and bearing were performed in order to highlight one of the most difficult defects that can be diagnosed in the rotary machines. The collected resulting signals are analysed using various vibrational techniques (temporal, frequency, cepstral, envelope, scalar and wavelet indicators. The related results show a good indication about existence of the imbalance and a slight contrast between different techniques is found. Furthermore, a helpful description of the defect shape and their time evolution without focus on defect nature is obtained.
Keywords	Rotating machine, bearing, gear, signal processing, defects, vibration diagnosis.

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Title	CFD analysis of the turbulence model effect around a manikin
Abstract	This paper deals to presents the heat transfer around a thermal manikin inside a cabin prototype under the Tunisian climatic. The numerical simulations are carried out with ANSYS Fluent 16.2 that the turbulent models are based on the resolution of the Navier Stokes equations. The comparison between the four models results demonstrate that the SST k- model is the suitable model.
Keywords	CFD, turbulent model, ventilation, thermal manikin.

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Title	Sliding Mode Control and Discontinuous PWM for Minimum Switching Losses in Inverter Grid-Connected PV System
Abstract	This paper proposes a novel control of a direct grid-connected photovoltaic (PV) system using solely a three-phase inverter. Considering the large amount of energy transmitted to the network, we use the so-called discontinuous pulse width modulation (DPWM) technique for driving the inverter in closed loop, which reduces the number of commutations by about 33 %, resulting in an important decrease of the switching losses. The operation of the PV source at the maximum power point (MPP) and the control of the reactive energy injected into the network are performed using a designed robust sliding mode controller (SMC). The performances of the proposed system are evaluated through some simulation results, which highlight the effectiveness of the proposed SMC to achieve good control of the grid connected PV system. Additionally, the generalized discontinuous pulse width modulation strategy implemented in closed loop, opens a new approach to the reduction of the switching losses in the PV inverter and may apply in other converters topologies for renewable energy systems.
Keywords	Discontinuous PWM, photovoltaic system, sliding mode control, switching losses, DC-AC converter.

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Title	Etude Numérique Bidimensionnelle du Contrôle Passif dans un Compresseur Axial avec Volet de Gurney
Abstract	Dans ce travail on a fait une étude numérique bidimensionnelle à l'aide du logiciel Ansys Fluent. Dans cette étude on s'intéresse à un type de contrôle passif qui est représenté par le Volet de Gurney. Le but de ce travail est d'étudier l'effet de cette technique sur le décollement autour d'un profile aérodynamique de type NACA 65009. L'étude se divise en deux parties essentielles. La première partie est une comparaison entre les résultats numériques obtenu et les résultats expérimentales. Alors que dans la deuxième partie on a étudié l'effet de la technique sur le décollement. Les résultats montrent un accord acceptable entre les résultats expérimentales et numériques. Aussi, ils montrent l'effet positif de la technique sur l'augmentation du coefficient de pression statique.
Keywords	Décollement, Ansys Fluent, Gambit, Turbulent, contrôle passif, Volet de Gurney, compresseur axial, URANS.

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Title	تعليمية المعرفة التكنولوجية باللغة الأم ودورها في التنمية الصناعية المستدامة
Abstract	تعتبر مسألة اللغة من أكثر القضايا جدلية في شأن التعليم في الدول النامية ، ذلك أنّه وبعيدا عن مسألة الهوية والثقافة فإن سؤالا محرجا ملحا يطرح أثناء التفكير في اختيار اللغة التي يجب أن يتعلم بها ، خاصة في المرحلة المتقدمة من التعليم واقصد بها المرحلة الجامعية . ففي الوقت الذي يرى فيه البعض مثلا في الجزائر أن التعليم باللغة الفرنسية أو الانجليزية هو الأنسب كون اللغتان لغتي التكنولوجيا بما يقدمهما أهلهما ، يرى البعض الآخر أن من أكثر أسباب عدم تمكن طلبتنا في الجامعة من التحصيل المعرفي خاصة في مجال العلوم يعود إلى العجز اللغوي في هاتين اللغتين ، كما أنّ الكثير من الدراسات والتجارب أيضا تشير إلى أن الطلبة الذين يتعلمون بلغتهم الأم هو الأقدر على اكتساب المعرفة التكنولوجية وأكثرهم استيعابا لها . أضف إلى أن الإحصاءات تشير إلى أن حركة الترجمة هي أكثر نشاطا في الدول الأكثر إنتاجا للمعرفة والتكنولوجيا ، وكذلك كانت الترجمة في البلاد الإسلامية والعربية من قبل حينما كانت تحوز الريادة علميا . لذا تأتي هذه الورقة البحثية لتنقب في هذه الإشكالية، التي يختصر هذا السؤال المركزي الآتي: ما أثر التعليم باللغة الأم في التمكن المعرفي التكنولوجي لطلبة الجامعة الجزائرية ؟ وما أثر ذلك على التنمية الصناعية المستدامة مادام أن الأمرين يأخذان برقاب بعض ؟ كما نبحث في أثر العجز اللغوي عند طلبتنا في اللغات الأجنبية على تعليمية المعرفة التكنولوجية ، ونبحث في الحلول الممكنة لذلك . وعليه سنقوم لأجل الوصول إلى تحقيق غاية هذا بالنظر في تجارب الدول التي استخدمت لغتها الأم في التعليم كسوريا وقطر والإمارات، ونبحث في أثر الترجمة ودورها في تفعيل هذا الأمر ومساندته و سنتخذ طلبة كليات التكنولوجيا والعلوم الدقيقة و البيولوجيا عندنا في جامعة الوادي عينة لذلك
Keywords	تعليمية - تكنولوجيا - اللغة الأم - الترجمة

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Title	Numerical Simulation of Heat Source's Cooling by a Metal Foam Block in Forced Convection Environment
Abstract	In the present study, a CFD simulation of forced convection in a rectangular block of aluminum foam is investigated. A two energy equations model with the Brinkman-Forchheimer extended Darcy model is considered. The governing equations are solved using COMSOL, a multiphysics finite-element solver. Three types of aluminum foam 10-, 20-, 40- pore per inch are studied. A parametric study for the range of Re = 1000–10000 is carried out to examine the thermal (Nux) and the fluid flow (Δp and U) behaviors of the aluminum foams. It is found that the plug flow conditions are prevalence for the aluminum foams. The 10-pore per inch aluminum foam has a better heat transfer performance with a smaller pressure drop, followed by the 20-, and then by the 40- pore per inch. The validation of the simulation results is made against experimental data from the literature and showed a perfect agreement.
Keywords	Aluminum foam; Cooling; Darcy–Brinkman–Forchheimer model; Forced convection

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Title	reduction of greenhouse gases in the cement industry
Abstract	Le présent travail est une étude de diagnostic sur les paramètres de pollution engendrés par la cimenterie, on s'articule sur la méthode de fabrication couramment utilisée en Algérie : La voie sèche, afin de modéliser le système de production et faire une simulation sous un environnement orienté objet.
Keywords	170

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Title	Modes of shape and fatigue study of different structures for piston of a diesel engine
Abstract	Abstract Cette étude concerne le comportement dynamique d'un piston de moteur diesel Deutz F8l413. L'objectif est de simuler par la méthode des éléments finis étendue (XFEM), le comportement d'un piston de matériaux différents sous une charge thermique. Cette étude a été réalisée pour évaluer les charges thermiques et la pression de fin de compression appliquées et évaluées par une simulation numérique des fréquences et des modes propres et calculer les contraintes agissant sur la structure pour différents modes. L'étude du comportement transitoire a permis de déterminer les réponses vibratoires dues au déséquilibre et aux différents modes d'excitation La conclusion dégagée à partir des résultats laisse affirmer que les causes les plus probables de ses fissures précoces sont dues, beaucoup plus, à des mauvaises conditions d'utilisation du moteur
Keywords	piston, fissurations, contraintes mécanique, contrainte thermique, diesel. Méthode des éléments finis.

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Title	Evolution des caractéristiques mécaniques et la résistance à l'usure d'une fonte ausferritique par modification de la microstructure
Abstract	L'objectif de la présente recherche est d'étudier la corrélation entre la microstructure et les propriétés mécaniques, la résistance à l'usure de la fonte ADI faiblement alliée. Les principaux facteurs influent les propriétés mécaniques de l'ADI sont la structure de la matrice, l'existence et la distribution de carbures et de la martensite dans la microstructure, la morphologie de graphite et les défauts de fonderie. Ces propriétés microstructurales et mécaniques après coulée sont dépendentes de la composition chimique et les paramètres exacts des étapes du processus de production (procédé de fusion et surtout la technologie de traitement thermique). L'effet des éléments d'alliage sur la formation de la microstructure et les propriétés mécaniques de l'ADI a été étudié afin d'améliorer ces propriétés pour la fabrication de pièces de tracteurs agricoles Des meilleures propriétés mécaniques telles que la microdureté, la dureté, la limite élastique, l'allongement, la résistance à la traction, la résilience et la résistance à l'usure ont été trouvés après des diverses caractérisations structurales et mécaniques sur la base des éléments d'alliage ajouté à la fonte de base tels que Mn, Ni, Mo et V.
Keywords	Fonte GS, Fonte ADI, Traitement bainitique, Ferrite bainitique, Ausferrite

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Title	Experimental Evaluation of Indirect Solar CookingUnit Integrated with Thermal System
Abstract	The future will depend on solar cooking as it is a renewable energy source and ECO friendly. The integrated thermal system is designed to generate thermal energy and store heat simultaneously. Flat-plate collector, thermal energy storage tank, cooking unit, heat transfer fluid, PCM, gear pump and a metal plate comprises the experimental setup. Glazing is used along with the integrated thermal system in order collect more heat from the sun to the system. The heat energy stored is used for cooking both morning and late evening by circulating the HTF in Double Walled Tava. The result shows that the use of thermal integrated system gives better efficiency when compared with the regular systems.
Keywords	Experimental Flat-plate collector Heat storage tank PCM Glazing Indirect Solar cooking

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Title	Numerical Study of Fuel Behavior (H2-C3H8) in Non-Premixed Combustion
Abstract	This In this study, we have numerically studied the behavior of non-premixed turbulent combustion Hydrogen- Propane/Air, generated by a cylindrical burner. Numerical simulations were performed using the commercial CFD code "FLUENT". Mathematical methods were used to solve the Navier-Stokes equations governing the phenomenon flow. The characteristic parameters of the flow were calculated such as the axial velocity, the temperature and the mass fraction of carbon monoxide CO. In addition, the previously considered parameters are used in the study of combustion behavior. The main objective of this work is to study the behavior of these parameters following the change of H2-C3H8 fuels in the air. The results obtained show that fuel variation influences studied the parameters. Hydrogen is a clean fuel with no CO emissions in the environment. Besides this fact, the hydrogen gas velocity in the flame is significantly higher by comparing it to the propane gas velocity.
Keywords	CFD Simulation, Fuel Hydrogen, Fuel Propane, Non-Premixed Combustion, Carbon Monoxide CO

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Title	Experimental study of solar chimney power plant
Abstract	Solar chimney power plants are passive thermal systems that use greenhouse effect to produce electricity from the solar radiations. The performance of these devices vary from one climate to another. Indeed, the building site of the SCPP is a special parameter for its total effectiveness. The aim of this work was to present an experimental investigation of a solar chimney prototype under the climatic conditions of Sfax, Tunisia. In fact, Sfax is characterized by its arid and sunny climate. The impact of the climatic conditions of Sfax city on the aero-thermal characteristics of the considered prototype is carried out. The present outcomes show that the solar chimney power plant is an applicable device in Tunisian region Sfax.
Keywords	Renewable energy, Solar radiation, Chimney, Airflow

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Title	CFD study of the turbulence model effect inside a cabin prototype
Abstract	This paper has conducted in a numerical simulation with Ansys Fluent 17.0. Four turbulence models were compared to evaluate the aerodynamic structure inside a cabin prototype. This work proved that the turbulence model has a direct effect on the aerodynamic structure. The choice of the suitable turbulence model is based on an experimental study.
Keywords	turbulence model effect, CFD, cabin prototype, indoor environment.

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Title	Modular Multi-level Converter Based HVDC Systems Integrating Offshore Wind Farm
Abstract	This last decade, VSC-HVDC based on Modular Multilevel Converter (MMC) has earned a considerable attention, leading to intensive technical and operational enhancements which made the MMC an attractive solution to achieve efficient renewable energy harvesting mainly for Offshore Wind Farms (OWF). The present paper discusses the state of art of modulation strategies, and mathematical modeling techniques that are best suited to simulate large HVDC systems including the OWF which rise the challenge for computing capacity. Moreover, a test system is proposed to demonstrate the performance of the chosen techniques under convenient scenarios. Overall, this work will provide a complementary guide and a shortcut to pertinent literature touching this research field.
Keywords	MMC, HVDC, VSC, wind farm, control.

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Title	Structural and optical properties of PbS thin films deposited by chemical bath
Abstract	PbS thin films were prepared for different deposition times ranging from 30 to 90 min and different lead nitrate molar concentrations (0.01, 0.05, 0.075 and 0.1) mol/l at a bath temperature of 55 oC, using thiourea as source of S2- ions and TEA as complexing agent. For different deposition times the films grow preferentially along (200) direction. With increase in deposition time, and at fixed molar concentration the transmittance remained less than 30% and the values of the optical band gap decreases from 1.8 to 1.6 ev, while the crystallite size increases from 21.9 to 27.8 nm. For various molar concentrations of lead nitrate and with time deposition equal to 60 min, it was observed that the films grow preferentially along (111) or (200) directions depending on the molar concentration. The energy band gap decreases from 1.58 to 1.37 ev and the crystallite sizes increases from 28.0 to 32.6 nm with increasing the concentration of lead nitrate.
Keywords	Thin films, Chemical bath deposition, x-raydiffraction, Optical properties

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Title	CFD Simulation Study of Banki Mitchell micro hydro-turbine
Abstract	Banki Mitchell turbine is a cross flow hydro-turbine, which converts the potential energy of the waterfall into mechanical energy, in order to generate electricity. In this paper a computational fluid dynamic (CFD) simulation was carried out as an important tool for performance study of the turbine. The steady-state governing equations were solved using the commercial software Ansys CFX 17.0. The efficiency analysis was performed base on different mesh sizes. The present study confirms that simulation with 100000 cells provides the best agreement with experimental validation.
Keywords	CFD, Banki Mitchell, micro, hydro-turbine, efficiency.

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Title	Réalisation d'un prototype de dépôt des couches minces (système d'évaporation métalliques)
Abstract	L'objectif principal de ce travail est la réalisation d'un système de dépôt de couches minces métalliques par évaporation. Nous avons respecté les étapes de réalisation et ceci à partir de la phase de conception jusqu'à le choix des pièces utilisées et leurs assemblages et enfin la mise en marche de l'appareil réalisée. Pour notre cas, on a testé l'évaporation d'un morceau d'aluminium pur et qui a donné une couche mince.
Keywords	Evaporation, couches minces, appareil, aluminium

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Title	Influence of the fractional derivative on Bose-Einstein condensation
Abstract	Using the fractional derivative theory we study non-interactive boson systems described by a Hamiltonian which contains non-integer order derivative. We have derived the eigenvalues of the fractional Hamiltonian for a free particle in a box (L1;L2;L3). It turns out that the found eigenvalues are those found using the Riesz definition of the fractional derivative. We use this energy spectrum to study the influence of the fractional derivative on Bose-Einstein condensation. We find that the non-interactive boson systems which have fractional Hamiltonian can condensate in 3D and also in 2D on contract to the standard model where the free bosons condensate only in the 3D.
Keywords	fractional Hamiltonian; fractional derivative; Bose-Einstein condensation; non-interactive boson systems

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Title	Contribution des énergies renouvelables à la réduction de l'empreinte carbone de la zone industrielle de Oued-Aissi de Tizi Ouzou
Abstract	Au début de XXème siècle et avec l'avènement de la révolution industrielle, l'être humain a amélioré son quotidien en diversifiant ses activités dans plusieurs domaines. Cette amélioration a été suivie par une forte consommation d'énergie qui a ensuite provoqué une réelle dégradation de l'état de notre planète. Une production planétaire de déchets représente 4,3 milliard de tonnes de déchets industriels non dangereux et 5,10 millions de tonnes des déchets dangereux. Le changement climatique semble être une réalité. En effet, l'empreinte carbone (c'est-à-dire la surface nécessaire pour absorber et conserver les gaz à effet de serre liés aux activités humaines) a plus que doublé. Chaque année, prés de 36 milliards de tonnes de CO2 sont émises dans l'atmosphère. Le meilleur moyen de réduire les dégâts que subit notre planète et d'améliorer notre quotidien est de prendre des mesures urgentes pour développer les énergies renouvelables surtout dans notre pays qui vit actuellement une crise nationale dans la gestion des déchets . Cette étude s'inscrit dans le cadre de la protection de l'environnement et porte sur la contribution des énergies renouvelables à la réduction de l'empreinte carbone de la zone industrielle Oued-Aissi de la wilaya de Tizi Ouzou.
Keywords	empreinte carbone, énergies renouvelables, CO2

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Title	A Simple Efficient Finite Element for the Sandwich and Laminated Composites Plates Analysis
Abstract	In this work, the theory of Reddy's third order shear deformation Kinematic and from the equivalent approach single layer are used in order to suggest a simple efficient finite element for the analysis of isotropic and composite laminated and sandwich plates. The proposed element is an isoparametric 2D quadrilateral C0 four-node with seven degrees of freedom (7DOF) per node, three translation, two rotations and two higher order rotational degrees. The selective numerical integration technique is presented for the formulation in order to improve the performance of model and to surmount the locking problem in thin plate case. Furthermore, the performance and reliability of the proposed model are investigated by comparing the author's results with those obtained using the three-dimensional elasticity theory, analytical solutions and other advanced finite element models.
Keywords	Third Order Shear Deformation Theory; Laminated Composite Plates; Finite Element; Bending Behavior;

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Title	Influence of Air Microcavities on Electrical Field Distribution, Electromechanical Pressure and Dielectric Losses in High Voltage Cable Insulation
Abstract	The origin of electrical discharges in high voltage cables insulation probably can be attributed to many causes such as: overvoltage and the presence of impurities which have been introduced into the insulation during the manufacturing step. These impurities may lead to electrical field increasing thus to the formation of partial discharges. The purpose of this work is to determine the effect comes from cavities presented in Cross-linked Polyethylene (XLPE) on the electrical field, temperature and electromechanical pressure distribution into and around the cavity. The calculation of these constraints is performed by the resolution of LAPLACE equation using Finite Difference Method (FDM).
Keywords	Electrical discharges, Crosslinked Polyethylene (XLPE), Finite Difference Method (FDM), Air Microcavities.

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Title	Robust Tracking Control for DFIG in Wind Power Generation Systems Based Artificial Fuzzy Logic Technique
Abstract	This paper deals with the Artificial Fuzzy Logic (AFL) power control strategy is introduced. This later is used to control the power flowing between the stator of the DFIG and the power network. The suggested AFL controller was tested and compared with one other suggested technique, Proportional-Integral (PI) controller. The simulation was carried out by means of computational simulations in Matlab/Simulink Software. The obtained results show that the suggested controller exhibits better behaviour in terms of settling time, overshoot, robustness with respect to machine parameters variation, and good tracking references.
Keywords	Doubly Fed Induction Machine, Wind turbine, Vector Control, Artificial Fuzzy Logic, Proportional- Integral.

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Title	Optimal design of multiple disc clutch brake using hybrid meta-heuristic algorithm
Abstract	In mechanical design, metaheuristic algorithm were used to find optimal design of mechanical element but in some case this methods cannot reach the optimal solution so engineer tries to surpass those limitation by developing new algorithm or modified the older one by making combination between the metaheuristic algorithm that are already exist. This process is called hybridization. Nowadays, Hybrid algorithms play a prominent role to solve real-life optimization problem and applications in the industry. In this work, we proposed a new hybrid algorithm combine two metaheuristic algorithm: the differential evolution and particle swarm optimization algorithms. The algorithm was tested on well knowing mechanical design problem and the results are compared to other optimization algorithm from literature.
Keywords	differential evolution, particle swarm, Hybridization, Multiple disc clutch brake, meta-heuristic

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Title	Use of a new technique of nano-fluids to increase the solar still productivity
Abstract	Potable water is essential to life. The supply of fresh water is becoming an increasingly important issue in many areas of the world especially. In remote and arid areas in Algeria. Among the non-conventional methods to desalinate brackish water or seawater, is solar distillation. The present study aims to improve the solar still performance, and to increase its yield. In this paper a new kind of technology, Nano particles(ZnO) different weight (10, 20, 30 and 40g) were added to the basin solar still and optimal depths water 1cm .to augmentation heat transfer and the productivity. The distillation performance experimentation has been conducted at the in Ouargla University, The conventional still yields 288 ml/m2and the test still with added 40 g Zinc Oxide produces 325 ml/m2 in a day. The still with Zinc Oxide (ZnO) has 13.02 % higher production compared with conventional still.
Keywords	Solar still, Nanoparticle, brackish water, fresh water. solar distillation

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Title	Experimental Evaluation of Indirect Solar Cooking Unit Integrated with Thermal System
Abstract	The future will depend on solar cooking as it is a renewable energy source and ECO friendly. The integrated thermal system is designed to generate thermal energy and store heat simultaneously. Flat-plate collector, thermal energy storage tank, cooking unit, heat transfer fluid, PCM, gear pump and a metal plate comprises the experimental setup. Glazing is used along with the integrated thermal system in order collect more heat from the sun to the system. The heat energy stored is used for cooking both morning and late evening by circulating the HTF in Double Walled Tava. The result shows that the use of thermal integrated system gives better efficiency when compared with the regular systems.

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Title	Implementation of Perturb and Observe Based MPPT Algorithm for Photovoltaic System
Abstract	This paper presents the implementation of perturb and observe (P&O) maximum power point tracking (MPPT) for a photovoltaic system which consists of PV panel, DC-DC Boost converter controlled by an Arduino microcontroller based unit and resistive load. The proposed system has high efficiency, lower cost and can be easily modified to handle more energy sources. The experimental results indicate that the use of the considered MPPT control increases the PV output power; hence increases the overall PV system efficiency

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Title	Influence des Flux Cellulosique et Basique sur la Composition Chimique, la Microstructure, les Inclusions et la Micro-dureté des Soudures SMAW d'un acier X42
Abstract	L'objectif de ce travail consiste à l'étude d'effet des flux cellulosique et basique sur la composition chimique, la microstructure, la formation des inclusions et la micro dureté des soudures SMAW de l'acier X42. La composition chimique commercialisée des flux utilisés est: E6010, E8010-P1 et E8018-G, avec des électrodes à faible teneur en carbone. Les conditions de soudure ne sont pas constantes. La microstructure de la zone de fusion pour chaque flux est principalement est constituée de ferrite aciculaire. On constate que le manganèse augmente respectivement dans les zones de fusion (C, B et A). La variation de concentration massique du manganèse est homogène à travers les trois points avec tous les flux utilisés. Les inclusions non métalliques observées sont de deux types : blanches et noires et indépendamment du flux utilisé. La micro-dureté à valeurs décroissantes a été obtenue dans les zones de fusion (C, B et A).
Keywords	Acier X42, Flux cellulosique et basique, Soudage SMAW, Microstructure, Inclusion non métallique, Micro-dureté.

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Title	L'effet des noyaux des dattes sur le foie des rats empoisonner par CCL4
Abstract	L'effet des noyaux des dattes sur le foie des rats empoisonner par CCL4. GHANIA.A1, BELABIDI.R2, BAGHDADI.I2, DJAHRA Ali Boutelilis2 1- Université de Ghardaia – GHARDAIA . ALGERIE. 2- Université Echahid Hamma Lakhder - EL OUED . ALGERIE. Email : ahmedghania@gmail.com Résumé : L'objectif de notre étude d'évaluer l'activité des noyaux des dattes de trois différentes variétés (Deglet nour, Ghars et Mech Deglet) sur des rats empoisonner par le CCL4 et comparer par un lot des rats traité par la sylimarine. Les résultats de nos études données que l'extrait hydrosoluble de la variété Ghars diminuer l'intoxication par CCL4 plus que la sylimarine et les autres variété des dattes qui testé, pour la bilirubine total (Gh = 2,98 mg/dL , DN =7,52 mg/dL , MD =5,18 mg/dL , SY=7,0 mg/dL , Normale = 1,68 mg/dL.) et pour le taux de TGO et TGP des rats le Ghars se le plus proche variété au sylimarine que les autres variétés (TGO ; Gh = 2027 UI/l, DN = 1242 UI/l, MD = 627 UI/l, SY=1593 UI/l, Normale = 128 UI/l.) (TGP ; Gh = 1178 UI/l, DN =706 UI/l, MD = 487 UI/l, SY=1019 UI/l, Normale = 63 UI/l.) Mots clés: Noyaux des dattes, détoxification, CCL4, Ghars, Deglet Nour, Mech Deglet