مركز علوم المواد والنانوتكنولوجي

رؤية المركز:

تهدف رؤية المركز إلى إزدهار الأقتصاد المصري من خلال صناعات تطور وتستغل توافر الخامات الطبيعية والمخلفات الصناعية والزراعية بغرض تحسين مستوى المعيشة في مصر.

رسالة المركز:

تنبثق رسالة المركز من رسالة جامعة اسيوط والتي تهدف إلى التركيز على البحوث التطبيقية المرتبطة بالمجالات الصناعية وخدمة المجتمع، وترتكز إستراتيجية المركز على تحديد وتوصيف المواد الخام الطبيعية وكذلك المخلفات الصناعية والزراعية لإيجاد الآليات والأطر الفاعلة لإستغلال هذه المواد الإستغلال الأمثل بحيث تؤثر تأثيراً ملحوظاً في تحسين الأوضاع الإجتماعية والإقتصادية في مصر.

أهداف المركز:

- تصنيف مصادر الموارد الطبيعية بطريقة منهجية في مصر وتشمل الخصائص وأهمية وكميات هذه المواد.
- تكوين فريق بحثي شاملاً للتخصصات البيئية وإقامة المعامل البحثية التي تخدم هذه التخصصات لفهم خواص وإستخدام هذه المواد.
- تبني المشروعات البحثية القادرة على الإستغلال الأمثل لهذه المصادر لدعم الإقتصاد المصري.
- تحديد مدى القيمة المضافة من هذه المواد عن طريق التحليل لهذه المشروعات ودراسة الجدوى.
- تقديم نموذج للمجتمع الدولي من خلال دراسة الجدوى الكاملة للموارد الطبيعية المتوافرة في مصر.
- إعداد كوادر متخصصة في مجال تكنولوجيا النانو من خلال تعيين معيدين من قسمي الكيمياء والفيزياء لحساب المركز، تكون قادرة علي إستخدام الطرق المبتكرة في تحضير المواد النانومترية المهمة في المجالات الصناعية والطبية.
- تطبيق الطرق الجديدة لنمو وتوصيف المركبات ذات الابعاد الدقيقة وتطبيقاتها المباشرة المؤثرة في مجتمعنا.
- يقوم المركز بدورة التعليمي والتدريبي للخريجين لإعداد كوادر قادرة علي استمرار دور المركز في المستقبل.

مركزعلوم المواد والنانوتكنولوجي

Materials Science and Nanotechnology Center

Vision:

The vision of the center aims at the prosperity of the Egyptian economy through industries that develop and exploit the availability of natural raw materials, industrial and agricultural waste in order to improve the standard of living in Egypt.

Mission:

The center's mission stems from the mission of Assiut University, which aims to focus on applied research related to industrial fields and community service. The center's strategy is based on identifying and characterizing natural raw materials as well as industrial and agricultural wastes to create effective mechanisms and frameworks for the optimal utilization of these materials so that they have a noticeable effect on improving social conditions and the economy in Egypt.

Goals:

- Classifying the sources of natural resources in a systematic way in Egypt to provide a comprehensive characterizing of the properties, importance and quantities of these materials.
- Forming a comprehensive research team for environmental disciplines and establishing research laboratories that serve these specialties to understand the properties and use of these materials.
- Adopting research projects capable of optimal utilization of these resources to support the Egyptian economy.
- Determining the extent of the added value of these materials through analysis of these projects and a feasibility study.
- Providing a model for the international community by studying the full viability of the natural resources available in Egypt.
- Preparing specialized teams in the field of nanotechnology by employing administrators from the chemistry and physics departments at the center able to introduce new methods for preparing important nanomaterials and their utilization in the fields of advanced industry and medicine.
- Addressing novel methods for growing and characterizing low dimensional structures ranging from quantum wells to wires and dots, and its application of direct impact on our society.
- Focusing on educational and training issues for graduate students to prepare a new generation of collaborative spirits for future extension of the center.

كلمة مدير المركز

بدأت فكرة مركز علوم المواد والنانو تكنولوجي مواكبة مع التطور التكنولوجي المتسارع من خلال مشروع تطوير كلية العلوم وصولاً إلي الاعتماد من الهيئة القومية للجودة والأعتماد.

ولقد كان الهدف من انشاء المركز هو الإرتقاء بمخرجات البحث العلمي في كلية العلوم عن طريق دمج التخصصات البينية وتكاملها في مجال علوم المواد وتطبيقها في المجالات الصناعية والطبية والصيدلية وغيرها لتحقيق خطة جامعة أسيوط المنبثقة من خطة الدولة 2030م .

وكان من أهم تطلعات المركز هو إعداد كوادر من شباب أعضاء هيئة التدريس كنواة للنهوض بمخرجات البحث العلمي الهادف المنوط بها المركز.ولتحقيق هذا الهدف تم تكليف عدد (4) معيدين من قسمي الكيمياء والفيزياء سافروا جميعاً للحصول علي الدكتوراه في مجال علوم المواد والنانو تكنولوجي عاد منهم واحد بعد حصوله علي الدكتوراه من اليابان وسوف يعود الباقون قريباً . كما تم تزويد المركز ببعض الأجهزة العلمية ولكن ما زال ينقص الكثير من الأجهزة لتعظيم جودة البحوث المنتجة من المركز. وللمركز دور مهم في القيام بتحليل العينات للباحثين من أقسام الكلية ومن خارجها بواسطة الأجهزة المتاحة بأسعار مخفضة . ولكي يحقق المركز أهدافه المرجوة يحتاج إلي مزيد من الدعم الموجه لشراء الأجهزة العلمية من قبل الجامعة وتوطين تخصصات بعينها تضيف إلي ما تتطلع إليه جامعة أسيوط من تميز في البحث العلمي التطبيقي.

أ.د/ عبد العزيز أحمد سعيد

مدير المركز

مواعيد العمل بالمركز:

من الثامنة صباحاً حتى الثانية ظهراً

1- آليات التعامل مع العينة منذ وصولها:

1- سؤال الباحث (طالب الخدمة) عن الظروف المناسبة لعمل التحاليل لهذه العينة مكوناتها والعناصر الكيميائية التي تحتويها ودرجة حرار الانصهار لمكوناتها.
2- يتم إدراج العينة طبقاً للجدول الزمني المعلن للجهاز.
3- يتم تجهز العينة للموائمة حسب الجهاز المطلوب تحليلها من خلاله.
4- يتم تحديد مدى درجات الحرارة لبداية ونهاية التحليل فى الأجهزة التي تتطلب تغيير درجات الحرارة أثناء التحليل.
5- يتم تسليم النتائج مطبوعة في صورة رسم بياني وعلى قرص مدمج وأيضا يتم إرسالها بواسطة الـ E-mail الخاص بالباحث.

2- آليات التعامل مع الشكاوي:

يتم إتباع الآليات واللوائح والأنظمة المعمول بها داخل الجامعة في حال وجود شكوي مقدمة من أحد طالبي الخدمة والعمل علي حلها وعدم تكرار الخطأ أو الخلل المنصوص عليه في الشكوي.

3- آليات التطوير:

- يتم إختيار موديلات الأجهزة بعناية بحيث تكون قابلة للتطوير المستمر.
- نسعى لتطوير جهاز الـ DSC للقياسات الحرارية بإضافة قطعة لتحليل العينات في درجات حرارة أقل من درجة حرارة الغرفة بإستخدام النيتروجين السائل.
- نسعى لتطوير جهاز الـ VSM لقياس الخواص المغناطيسية بإضافة وحدة لتغير درجات الحرارة للوصول إلى درجة حرارة كوري للعينات المختلفة.

4- المتطلبات الفنية:

م	الإسم	المؤهلات	الخبرات	الدورات التدريبية
1	**محمد عبدالعال عبدالرحمن عبدالحميد**	دكتوراه فى الكيمياء الفيزيائية		
2	**أسامة عبدالحميد نصر عبدالجواد**	ماجستير فى الكيمياء العضوية		
3	**أحمد جمال الدين محمد أبوالسعود**	ماجستير فى الكيمياء		
4	**أحمد جلال عبدالرحيم رشوان**	ماجستير فى الفيزياء		
5	**نعمه محمد صفوت عبدالعظيم (في إجازة)**	دكتوراه في الفيزياء		1- تدريب شركة ميسلو علي اجهزة التحليل الحراري DSC 2- تدريب شركة ميسلو علي أجهزة Gas Chromatography 3- تدريب شركة lakesure الامريكية علي أجهزة القياسات المغناطيسية علي يد مهندس أمريكي من داخل الشركة
6	**لمياء جلال أمين جلال (في إجازة)**	ماجستير فى الفيزياء		1- تدريب شركة ميسلو علي اجهزة التحليل الحراري 2- تدريب شركة ميسلو علي أجهزة Gas Chromatography 3- تدريب شركة lakesure الامريكية علي أجهزة القياسات المغناطيسية علي يد مهندس

				أمريكي من داخل الشركة
6	**هيام احمد حسن الصقطي**	ماجستير فى الفيزياء (مسجلة لدرجة الدكتوراة)	1. International Congress on Materials and Renewable Energy (MRE 2014) in conjunction with Nanomaterials Symposia to be held in the Hong Kong University of Science and Technology (HKUST) during 8-10 August 2014. (oral presentation). 2. "International science conference of young researchers" April 2014, Assiut, Egypt. "Effect of Calcination Temperature On The Structure, Surface Properties And Catalytic Activity Of Mn0.4Cu0.6Fe2O 4Nanoparticles " M. H. MAHMOUD, H. AHMED, R. GABR & M. M. HAFIZ (oral presentation). 3. "science conference of young researchers" April 2011, Assiut, Egypt. "Physical and chemical preparation studies of copper	-1 دورة اللغة الانجليزية ELPT -2 دورة اللغة الألمانية -3 تدريب شركة ميسلو علي اجهزة التحليل الحراري -4 تدريب شركة ميسلو علي أجهزة Gas Chromatography -5 تدريب شركة lakesure الامريكية علي أجهزة القياسات المغناطيسية علي يد مهندس أمريكي من داخل الشركة -6 ورشة عمل مصرية يابانية مشتركة للاطلاع علي كل ما هو جديد في عالم النانو تكنولوجي -7 مشاركات مستمرة في مؤتمر شباب الباحثين الدولي لاربع سنوات علي التوالي

			manganese nano-sized catalyst. M. A. Gaffer ,R. M. Gabr and H. A. Hassan (poster presentation). 4. "International science conference of young researchers" March2019, Hurghada, Egypt. Synthesis, Characterization, Electrical and magnetic properties of ZnFe2O4 prepared by co-precipitation assisted with sonication method" A. A. said, A. Abu Sehly, A. Z. Mahmoud, M. N. Goda, H. A. Hassan. - العمل بمركز علوم المواد والنانو منذ 2011 وحتى الأن على جهاز VSM - العمل كمدرس مادة بقسم الفيزياء من 2007 إلى 2011	
8	**أسماء السيد أحمد مرسي**	ماجستير فى الفيزياء	- العمل بمركز علوم المواد والنانو منذ 2010 وحتى الأن على الأجهزة التالية -Gas Chromatography -Spectroflurometer -Specrtophotometer -Microwave -Solar Simulator - Ball milling - المشاركة في مشروع تطوير كلية العلوم الممول من وزارة التعليم العالي - مشروع تمويل	1- تدريب شركة ميسلو علي اجهزة التحليل الحراري 2- تدريب شركة ميسلو علي أجهزة Gas Chromatography 3- تدريب شركة lakesure الامريكية علي

			تطوير الجامعات (2008 – 2010). - العمل بقسم الكيمياء – كلية العلوم من2006 إلى 2010على جهاز GC المشاركة . - المشاركة في مشروع تعزيز وتطوير برنامج تدريس الكيمياء العضوية الممول من صندوق مشروع تعزيز التعليم العالي والاتحاد الأوروبي (2006-2008)	أجهزة القياسات المغناطيسية علي يد مهندس أمريكي من داخل الشركة 4- ورشة عمل مصرية يابانية مشتركة للاطلاع علي كل ما هو جديد في عالم النانو تكنولوجي 5- المشاركة في مؤتمر شباب الباحثين الدولي سنة 2014 6- دورة تدريبية في إدارة السلامة والصحة المهنية (OSHA) 2011 7- دورة تدريبية في علوم الموادالنانو (Nano Material -Science) وحدة التعليم المستمر بالكلية بالإشتراك مع شركة نانوتك للأبحاث الفوتوضوئية 2011. 8- شهادة ICDL معتمدة من اليونسكو.
9	**شيرين طلعت عبدالحفيظ**	بكالوريوس علوم وتربية (فيزياء وكيمياء)	- العمل بمركز علوم المواد والنانو منذ 2016	

			وحتى الأن على جهاز DSC	
10-	**شيماء أحمد رمضان**	بكالوريوس علوم (كيمياء)	- العمل بمركز علوم المواد والنانو منذ 2019 وحتى الأن على جهاز Solar Simulator - العمل بكلية الصيدلة من 2017إلى 2018 على أجهزة - HPLC - DSC - Atomic absorption	

- **ثانيا الأجهزة:**
  - **الصيانة:** هناك عقود صيانة سارية لبعض الأجهزة.
  - **المعايرة:** تتم معايرة الأجهزة بصفة دورية ومستمرة حسب متطلبات ومواصفات كل جهاز فهناك أجهزة تتم معايرتها كل شهر وأجهزة أخرى بصورة سنوية.
  - **الملائمة:** يتم توفير الظروف المناسبة لكل جهاز من حيث درجة حرارة الغرفة المناسبة، وجود تيار من غازات معينة، وجود ضغط هواء معين وما إلى ذلك من الظروف للوصول للبيئة المثالية لعمل الجهاز.

5- بيئة المعمل:

- **المساحة والتهوية:** المساحة مناسبة تماما لعمل الأجهزة والتهوية جيدة جدا.
- **معايير الأمان والوقاية:** متوفرة بصورة كبيرة ومنها
  - وجود طفايات حريق.
  - وجود مثبت للجهد الكهربي لحماية الأجهزة.
  - وجود إنذار لكل جهاز عند حدوث أي خلل.
  - وجود مفاتيح كهرباء آمنة لحماية المركز من الحريق الكهربي عند وجود زيادة حمل أو مشكلة في أي جهاز.

6- خدمة المجتمع:

- **الكلية والجامعة:** يتم تحليل عينات لبعض طالبي الخدمة من منتسبي كلية العلوم والكليات الأخرى داخل الجامعة من إعضاء هيئة التدريس والهيئة المعاونه بإسعار مخفضة.
- **المجتمع الخارجي:** يتم تحليل عينات لبعض طالبي الخدمة من خارج جامعة أسيوط وايضاً من خارج محافظة اسيوط.

7- ممارسات متميزة:

- يوجد بالمركز جهاز الـ VSM لقياس الخواص المغناطيسية والذي يعتبر الجهاز الوحيد من نوعه فى صعيد مصر ولذلك فهو يخدم قطاع عريض من الدارسين والباحثين في جامعات الصعيد.
- يتم إستقبال عدد من الوفود والزائرين الأجانب المتخصصين وذوي الخبرة للإستفادة من خبراتهم في التعامل مع الأجهزة المختلفة داخل المركز والإستعداد التام لدى جميع العاملين فى المركز لحضور ورش العمل والندوات العلمية المختلفة التي تعقد داخل الجامعة وخارجها.

المنتسبون لمركز علوم المواد
والنانو تكنولوجي من السادة أعضاء هيئة التدريس والهيئة المعاونه

م	الإسم	التخصص	الوظيفة
1	أ.د. عبدالعزيز أحمد سعيد	أستاذ الكيمياء الفيزيائية	مدير المركز
2	أ.د. عصام فضل أبوزيد موسي	أستاذ فيزياء علوم المواد	نائب مدير المركز
3	د. محمد عبدالعال عبدالرحمن عبدالحميد	كيمياء فيزيائية	مساعد نائب مدير المركز
4	السيد/ أسامة عبدالحميد نصر عبدالجواد	كيمياء غير عضوية	مدرس مساعد وعضو بعثة
5	السيد/ أحمد جمال الدين محمد أبوالسعود	كيمياء غير عضوية	مدرس مساعد وعضو بعثة
6	السيد/ أحمد جلال عبدالرحيم رشوان	فيزياء الجوامد التجريبية	مدرس مساعد وعضو بعثة
	الفنـــيون		
1	السيدة/ شيرين طلعت عبدالحفيظ	فيزياء -كيمياء	كيميائي اول
2	السيدة/ أسماء السيد أحمد مرسي	فيزياء الجوامد التجريبية	كيميائي ثان
3	السيدة/ هيام أحمد حسن	فيزياء الجوامد التجريبية	باحث شئون تعليم ثان
4	السيدة/ شيماء أحمد حمدان	كيمياء	مؤقتة

مدير المركز

أ.د/ عبد العزيز أحمد سعيد

الرسائل العلمية والبحوث التطبيقية لمنتسبي مركز علوم المواد والنانوتكنولوجي

1- د/ محمد عبدالعال عبدالرحمن عبدالحميد

عنوان رسالة الماجستير:-

"Conversion of methanol to dimethyl ether over modified nano γ-alumina catalysts"

الأبحاث المستخرجة من رسالة الماجستير:-

1. Effect of ZrO_2 on the catalytic performance of nano γ-Al_2O_3 in dehydration of methanol to dimethyl ether at relatively low temperature, Research on Chemical Intermediates 42 (2) (2016) 1537-1556.
2. Catalytic dehydration of methanol to dimethyl ether over nanosized WO_3/Al_2O_3 system under inert and oxidative atmosphere, Monatshefte für Chemie-Chemical Monthly 147 (9) (2016) 1507-1516.
3. The role of acid sites in the catalytic performance of tungsten oxide during the dehydration of isopropyl and methyl alcohols, Chem Mater Eng 4 (2) (2016) 17-25.

2- د/ أحمد جمال الدين محمد أبوالسعود

عنوان رسالة الماجستير:-

"Characterization and Catalytic Activity Studies on the Nanocrystalline Perovskite $La_{1-x}Cu_xMnO_3$ ($0 \le x \le 0.5$) Synthesized by Microwave-Induced Combustion Technique."

الأبحاث المستخرجة من رسالة الماجستير:- لا يوجد.

3-د/ أحمد جلال عبدالرحيم رشوان.

عنوان رسالة الماجستير:-

"Influence of Thermally induced Structural and Morphological Changes, and UV Irradiation on Photoluminescence and Optical Absorption Behavior of $Zn_xCd_{1-x}S$ Noncompounds."

الأبحاث المستخرجة من رسالة الماجستير:-

1. Size-dependent structural phase transitions and their correlation with photoluminescence and optical absorption behavior of annealed $Zn_{0.45}Cd_{0.55}S$ quantum dots, Materials Characterization 144 (2018) 247-263.
2. Excitation wavelength dependent photoluminescence emission behavior, UV induced photoluminescence enhancement and optical gap tuning of $Zn_{0.45}Cd_{0.55}S$ nanoparticles for optoelectronic applications, Optical Materials 77 (2018) 1-12.
3. Identification of trapping and recombination levels, structure, morphology, photoluminescence and optical absorption behavior of alloyed $Zn_xCd_{1-x}S$ quantum dots, Journal of Alloys and Compounds 722 (2017) 344-357.
4. Influence of thermally induced structural and morphological changes, and UV irradiation on photoluminescence and optical absorption behavior of CdS nanoparticles, Journal of Physics D: Applied Physics 49 (16) (2016) 165302.
5. Thermal annealing and UV irradiation effects on structure, morphology, photoluminescence and optical absorption spectra of EDTA-capped ZnS nanoparticles, Journal of Physics D: Applied Physics 49 (5) (2015) 055304.

4-د/ أسامة عبدالحميد نصر عبدالجواد.

عنوان رسالة الماجستير:-

"Photocatalysis of Selected Drugs Using TiO2-Based Nanomaterials"

الأبحاث المستخرجة من رسالة الماجستير:-

1. Photocatalytic degradation of paracetamol over magnetic flower-like TiO_2/Fe_2O_3 core-shell nanostructures, Journal of Photochemistry and Photobiology A: Chemistry, 347 (2017) 186-198.
2. Photocatalytic degradation of acetaminophen over Ag, Au and Pt loaded TiO_2 using solar light, Journal of Photochemistry and Photobiology A: Chemistry, 374 (2019) 185-193.

5-أ/ هيام أحمد حسن.

عنوان رسالة الماجستير:-

Physical and Chemical Properties' Studies of Copper-Manganeze Nano-Sized Catalyst

دراسات فيزيائية وكيميائية على مركبات اسبينال الحديد لكل من النحاس وازالمنيز النانومترية المستخدمة كمحفزات

الأبحاث المستخرجة من رسالة الماجستير:-

1. "STRUCTURAL AND ELECTRICAL STUDIES ON CU-MN NANOPARTICLES FERRITES" authored by "M. H. MAHMOUD, H. AHMED, R. GABR & M. M. HAFIZ" International Journal of Applied and Natural Sciences (IJANS); ISSN (Print): 2319-4014; ISSN (Online): 2319-4022; Vol-4, Issue-4, Jun -Jul-2015.
2. "Structural, electrical and surface area studies on Cu Nanoparticles ferrites" M. H. Mahmoud, H. Ahmed, R. Gabar, M. M. Hafiz" had been has been submitted at journals@inoe.ro, March 25, 2015.

6-أ/ أسماء السيد أحمد

عنوان رسالة الماجستير:-

Preparation, Characterization and Gas Sensing Application of CuO Nano-Materials.

تحضير ودراسة الخواص الفيزيائية لمادة أكسيد النحاس النانونية وتطبيقاتها في إستشعار الغازات

الأبحاث المستخرجة من رسالة الماجستير:

1- Influence of Ni Doping on CuO Nanoparticles Synthesized by Rapid Solid Reaction Method, A. E. A. Morsy, M. Rashad, N. M. Shallan and M. A. Abdel-Rahim, Micro and Nanosystems, 2019.

2- Synthesis and Characterization of CuO Nanocrystals, A. E. A. Morsy, M. Rashad, N. M. Shallan and M. A. Abdel-Rahim, International Conference for Young Researchers, 2014.

7-أ/ لمياء جلال أمين جلال

عنوان رسالة الماجستير:-

الأبحاث المستخرجة من رسالة الماجستير:

1. Nano-precipitating of nano-sized secondary phases for enhanced alloy hardening in an Al-Li-alloy (2090) **E. F. Abo Zeid**, A. Gaber, M.A. Gaffer and Lamiaa Galal, International Journal of Metallurgical & Materials Science and Engineering (IJMMSE), 3: 2 (2013) 69-82.
2. Study of the developed Nano- Scale precipitates in AF/C 489 Alloys by using DSC and SEM techniques, **E. F. Abo Zeid**, A. Gaber, M.A. Gaffer and Lamiaa Galal, International Journal of Applied Engineering Research and Development (IJAERD), 3:5(2013) 7-14.

Curriculum vitae

PERSONAL, INFORMATION

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EDUCATIONAL BACKGROUND AND DEGREE OBTAIND:

a- B.Sc. (Chemistry) Assiut University (1975)
b- M.Sc. (Physical Chemistry) Assiut University (1979).
c- Ph.D. (Physical Chemistry) Assiut University (1982).

PRESENT REASERCH AND ACTIVITY:

a- Nanomaterials
b- Heterogeneous Catalysis.
c- Solid State Chemistry.
d- Surface Chemistry.
e- Thermal Analysis.

POST DOCTRAL TRAINING :

-UNESCO fellowship at Tokyo Institute of Technology (1985-1986).

Visits :

1- Visiting Professor at Technology of Chemistry Institute, Academy of Science of Czech Republic, and J. Heyrovsty Institue of Physical Chemistry, October (20-31, 2003).
2- Invited Professor at Tuskegee University , Alamba, USA, January 2008 (Two weeks).
3- Invited Professor at Tuskegee University , Alamba, USA, July-Augest 2008 (Two weeks).
4- Invited Professor at Tuskegee University , Alamba, USA, July 2009 (Two weeks).
5- Tiabah University, Almadina Al-Munawarah, Saudi Arabia, March, 2009.
6- Elyrmouk University, Elyrmouk, Jurdan (2001).
7- Visiting Professor at Friedrich-Schiller University, Jena, Germany, (One Month, Summer 2015).
8- Visiting Professor at Friedrich-Schiller University, Jena, Germany, (One Month, Summer 2017).

CONFERENCE ATENDED :

About 50 national and international conferences and meetings in the same area of interest.

PUBLICATIONS:

113 Published Scientific Papers in Different Areas Such as Heterogeneous Catalysis, Surface and Solid State Chemistry, Nanomaterials and Thermal Analysis, (Attached).

LEADERSHIP RESPONSIBILITY /ACTIVITIES:

- Dean of Faculty of Science, Assiut University, Assiut Egypt. (12/2009 – 7/2011).
- Dean of Sugar Technology Research Institute, Assiut University (1/8/2006- 12/2009).
- Vice-Dean of Sugar Technology Research Institute, Assiut University (1/2/2003-31/7/2006).
- Supervisor of Chemistry section, Sugar Technology Research Institute, Assiut University. (3/9/2001-31/1/2003).
- Member of non-organic chemistry committee for promotion of Assistant professors and professors (2014-2017).
- Member – Committee for Graduate Studies and Scientific Research at Assiut University (2003-2006).
- Member – Committee for Environmental Affairs and Community Development at Assiut University (2006-2006).
- Member – Board of Projects Unit at Assiut University (2004-2006).
- Director of Material Science and Nanotechnology Center, Faculty of Science, Assiut University (2011- now).

- Director of discard of scientific instrumentation and training center, Assiut University (2006-now)

PROJECTS

1. **Principal investigator**, (Sugar 39) Synthesis of an active and selective catalyst able to replace the strong sulfuric acid in production of ethyl and butyl acetates.
2. **Principal investigator**, Removal of the deposited materials from the unites of molasses factory, (ESIIC,2004).
3. **Principle investigator**, Technicians Training and Instruments Maintenance. HEEPF, (2004-2006).
4. **Principle investigator**, Development of marketable oil and organic waste absorbing products from indigenous sugar cane waste (Bagasse) (funded by STDF, Egypt 2014, Project ID: 479). (2009-2015).
5. **Principle investigator**, Utilization of Natural Egyptian Clays Instead of Sulfuric Acid in Manufacturing of Esters (funded by STDF, Egypt 2014, Project ID: 3009).
6. **Principle investigator**, Utilization of black shales as an alternative fuel in cement industry (Funded by Assiut Cement Company, CEMEX, Egypt 2013).
7. **Principal Investigator**, Utilization of basaltic dust as a pozzolanic materia in cement industry (Assiut Cement Company, CEMEX, 2018).
8. **Co-Principal Investigator**, Center for proficiency testing laboratories project. (Funded by Administration projects unit, Ministry of Higher Education, LP6-033-ASSU).
9. **Investigator**, (Sugar 28), Extraction of lignin and use it in the synthesis of some Materials can be used for the improvement of cement Properties.
10. **Investigator**, (Sugar 49) Synthesis of ethyl and butyl acetates by electrolysis.
11. **Investigator,** Developing and Restructuring the curricula and the study plans of the graduate studies of the sugar technology Research Institute.
    HEEPF, (2004-2006).

12. **Investigator,** Synthesis and characterization of the useful production from Bagasse

    Co-operation with Tuskegee University, USA, NSF, (2007).

13. **Director** Quality Assurance and Accreditation Project 2 (QAAP2) in Sugar Technology Research Institute, Assiut University (2008-2009).
14. **Director,** Development of Faculty of Science project for accreditation. HEEPF, (2008-2011).

Patents

1- Patent on Utilization of Egyptian Natural Clays as Industrial Catalysts, No: 26944, January 2015, Academy of Scientific Research and Technology.

Prizes

1. Assiut University Appreciation Award in basic sciences (2019-2020)
2. The best research work in Chemistry, Faculty of Science, (2020).
3. The highest impact factor prize in Chemistry, Faculty of Science, (2016).
4. The best research work in Chemistry, Faculty of Science, (2015).
5. The best research work in Chemistry, Faculty of Science, (2004).
6. Prize of Assiut University of the scientific excellence in basic science (Chemistry), (1998).
7. The best research work in Chemistry, Faculty of Science, (1998).
8. The best research work in Chemistry, Faculty of Science, (1994).

List of Scientific Publications

Presented by

Prof. Abd El-Aziz Ahmed Said

1) Sintering Studies on $Mg(OH)_2$, K.M. Abd El-Salaam, R.M. Gabr and **A. A. Said,** Surface Technology, 9(1979) 427.

2) Surface Characterization Studies on the Thermal Products of Magnesia, K.M. Abd El-Salaam, R.M. Gabr and **A. A. Said**, Bull. Fac. Sci., Assiut Univ. 8 (1979) 11.

3) Electrical Studies on V_2O_5 Catalysts Doped and mixed with Foreign Ions, K.M. Abd El-salaam and **A. A. Said**, Surface Technology, 17(1982) 199.

4) The Effect of Doping with Foreign Ions on the Texture Change of V_2O_5, K.M. Abd El-Salaam and **A. A. Said**, Surface Technology, 18 (1983) 13.

5) Catalytic Decomposition of 2-Propanol Over Pure Vanadium Oxid Catalyst, K.M. Abd El-Salaam and **A. A. Said**, Oxidation Communication 5, (3-4) (1983) 291.

6) Physical Adsorption Studies on mixed Vanadium Oxide Catalysts, K.M. Abd El-Salaam, E.A. Hassan and **A. A. Said**, Adsorption Science & Technology, 1 (1984) 169.

7) Additive Effect on the Catalytic Decomposition of 2-Propanol over V_2O_5 Catalysts. K.M. Abd- El-Salaam, E.A. Hassan and **A. A. Said**, Surface Technology, 21 (1984) 327.

8) Influence of Foreign Oxides Added to Unsupported V_2O_5 Catalyst on its Electronic Properties During the Thermal Decomposition of 2-Propanol, K.M. Abd El-Salaam E.A. Hassan and **A. A. Said**, 9th Canadian Symposium on Catalysis Proceedings, Quebec, Canada 411-417 (1984).

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10) Effect of Oxide Additives on the Thermal Decomposition of $KClO_4$, **A. A. Said**, E.A. Hassan and K.M. Abd El-Salaam, Surface Technology, 20 (1983) 131.

11) Electrical Conductivity and Thermogravimetric Studies of the Thermal decomposition of Doped Cobalt Carbonate, **A. A. Said**, E.A. Hassan and K.M. Abd El-Salaam, Surface Technology, 20 (1983) 123.

12) Influence of Additives to Chromium Oxide Catalysts for Thermal Decomposition of $KClO_4$, E.A. Hassan, **A.A Said**, and K.M. Abd El-Salaam, Surface Technology, 21 (1984) 117.

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14) Action of Chromium Oxide as a Catalyst in the Course of $KMnO_4$ Decomposition, E.A. Hassan, **A. A. Said**, and K.M. Abd El-Salaam, Thermochimica Acta, 91 (1985) 9.

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30) Dehydration-Dehydrogenation of Isopropyl Alcohol on Pure V_2O_5 and Doped with Alkali Metal Oxides, **A.A. Said**, E.A. Hassan and K.M. Abd El-Salaam, J. Ind. Chem. Soc., 67 (1990) 734.

31) Preparation and Infrared and Thermal Studies Of [UO_2(Salen)(DMF)], H. Almadfa, **A.A. Said**, and E.M. Nour, Bull. Soc. Chim. Fr., 128 (1991) 137.

32) Thermal Decomposition of Ammonium Metavanadate Doped with Fe, Co and Ni Hydroxides, **A.A. Said**, J. Thermal. Anal., 37 (1991) 849.

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41) Catalytic Decomposition of Isopropyl Alcohol on Pure MoO_3 and Doped with Alkali Metal Oxides, **A.A. Said**, International J. Chem., 2 (1992) 47.

42) Role of the Structure and Electronic Properties of Fe_2O_3-MoO_3 Catalyst on the Dehydration of Isopropyl Alcohol, **A.A. Said**, Bull. Chem. Soc. Japan., 65 (1992) 3450.

43) Alginate Polyeletrolyte Ionotropic Gels-XVI. Kinetics and Chemical Equilibria Studies for Hetergeneous Ion Exchange of Polyvalent Metal Ions in Alginate Gel Complexes, S.A. El-Shatouty, R.M. Hassan and **A.A. Said**, High Perform. Poly., 4 (1992) 173.

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51) Thermal Decomposition of $Me_3SnO_2PCl_2$, $Me_2Sn(O_2PCl_2)_2$ and $Ph_3SnO_2PCl_2$, A.F. Shihada, **A.A. Said**, and R. Al-Qasmi, J. Thermal Anal., 42 (1994) 313.

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53) Structural Changes and Surface Properties of $Co_xFe_{3-x}O_4$ Spinels, **A.A. Said**, E.A. Hassan, A.M. El-Awad, K.M. Abd El-Salaam and M.M.M. Abd El-Wahab. J. Chem. Tech. Blotechnol., 59(1994)161.

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55) Structure and Electronic Effects of Cobalt-Ferrites, $Co_xFe_{x-3}O_4$ on the Catalytic Decomposition of Isopropyl Alcohol, K.M. Abd El-Salaam, **A.A. Said**, A.M. El-Awad, E.A. Hassan and M.M.M. Abd El-Wahab, Collect. Czech. Chem. Commun,. 59(1994)1939.

56) Influence of the Formation of Aluminum Spinel, $AlVO_4$, on the Catalytic Activity of V_2O_5 Supported on γ-Alumina, M.M.M. Abd El-Wahab and **A.A. Said**, Callect. Czech. Chem. Commun, 59(1994)1983.

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58) Oxidative Dehydrogenation of Ethanol Over Vanadium Pentoxide Supported on Magnesia, **A.A. Said**, and M.M.M. Abd El-Wahab. J. Chem. Tech. Biotechnol., 63 (1995) 78.

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International Symposium on Sugar& Integrated Industries Present & Future, December 17 th – 19th. 1996 Luxor, Egypt.

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87) "A new approach on the catalytic synthesis of n-butyl acetate over Egyptian natural clay", The Seventh Tokyo Conference on Advanced Catalytic Science and Technology (*TOCAT7*), **A.A. Said**, A. A. M. Aly, M. M. Abd El-Wahab, A. A. Abd El-Hafez , M. N. Goda,, 1-6, June 2014, short communication.

88) The catalytic performance of sulfated zirconia in the dehydration of methanol to dimethyl ether, **A.A. Said**, M.M. Abd El-Wahab, M. Abd El-Aal, J. Mol. Catal. A: Chem. 394 (2014) 40-47.

89) Utilization of lime-mud as a filler in paper making, **A.A. Said**, Aref A. M. Aly, Adel Abd EL Hameed Ahmed, Hazem S. Ahmed, Assiut University Journal of Chemistry(AUJC) 43(2014) 41-46.

90) Facile modification of sugarcane bagasse by applying different additives to be used as an efficient sorbent for oil removal from polluted water, **A.A. Said**, A. A. M. Aly, M. M. Abd El-Wahab, A. A. Abd El-Hafez and V. H. Morcos, Assiut University Journal of Chemistry(AUJC) 43(2014) 33-40.

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92) New approach on the utilization of Egyptian natural clays as efficient and ecofriendly catalysts for production of ethyl and butyl acetates, **A.A. Said,** M. M. M. Abd El-Wahab, A. A. M. Aly, M. Abd El-Aal, , International conference on: "World Economics for Sugar Industry towards Food and Energy in a Changed Economic Environment" conference proceeding 2015.

93) Application of economically acid modified sugarcane bagasse for removal of dyes from effluents of industrial wastewaters, A. A. M. Aly, **A.A. Said**, M. M. Abd El-Wahab, A. Abd El-Hafez, M. Abd El- Aal, , International conference on: "World Economics for Sugar Industry towards Food and Energy in a Changed Economic Environment" conference proceeding 2015.

94) Selective Oxidation of Methanol to Formaldehyde Over Active Molybdenum Oxide Supported on Hydroxyapatite Catalysts, **A.A. Said**, M.M. Abd El-Wahab, A. M. Alian, Catalysis Letters, 146 (2016) 82-90.

95) Structural; magnetic and catalytic properties of nanocrystalline $Cu_{0.5}Zn_{0.5}Fe_2O_4$ synthesized by microwave combustion and ball milling methods, M.H. Mahmoud, A.M. Hassan, **A.A. Said**, H.H. Hamdeh, J. Mol. Struct. 1114 (2016) 1-6.

96) The Effect of Cu Substitution on Structural, Magnetic and Catalytic Properties of $ZnFe_2O_4$ Synthesized by Microwave Combustion Method, M.H. Mahmoud, A.M. Hassan, **A.A. Said**, Int. J. New Horizons in Phys. 3 (2016) 29-33.

97) Selective synthesis of acetone from isopropyl alcohol over active and stable CuO–NiO nanocomposites at relatively low-temperature, **A.A. Said**, M.M. Abd El-Wahab, M. N. Goda, Egyptian J. Basic Appl. Sci. 3 (2016) 357-365.

98) Catalytic dehydration of methanol to dimethyl ether over nanosized WO_3/Al_2O_3 system under inert and oxidative atmosphere, **A.A. Said**, M.M. Abd El-Wahab, M. Abd El-Aal, Monatshefte für Chemie - Chemical Monthly 147 (2016) 1507-1516.

99) Synthesis and characterization of mesoporous Fe–Co mixed oxide nanocatalysts for low temperature CO oxidation, **A.A. Said**, M.M. Abd El-Wahab, S. A. Soliman, M. N. Goda Process, Saf. Environ. Protection 102 (2016) 370-384.

100) Effect of ZrO_2 on the catalytic performance of nano γ-Al_2O_3 in dehydration of methanol to dimethyl ether at relatively low temperature, **A.A. Said**, M.M. Abd El-Wahab, M. Abd El-Aal, Res.Chem. Intermediates 42 (2016) 1537-1556 .

101) Synthesis and characterization of pure and (Ce, Zr, Ag) doped mesoporous CuO-Fe_2O_3 as highly efficient and stable nanocatalysts for CO oxidation at low temperature, **A.A. Said**, M.M. Abd El-Wahab, M. N. Goda, Appl. Surf. Sci. 390 (2016) 649-665.

102) The Role of Acid Sites in the Catalytic Performance of Tungsten Oxide during the Dehydration of Isopropyl and Methyl Alcohols, **A. A. Said**, M.M. Abd El-Wahab, M. Abd El-Aal, Chem. Mater. Eng. 4(2) (2016) 17-25.

103) Porous $LaFeO_3$/Silica nanocomposites via sol-gel mixing involving citric acid, K. M. S. Khalil, W. A. Alhamdy, **A. A. Said,** A. A. El-Samahy, Colloids Surf. A: Physicochemical Eng. Aspects 506 (2016) 840-848.

104) Direct dehydrogenation of methanol to anhydrous formaldehyde over $Ag_2O/γ$-Al_2O_3 nanocatalysts at relatively low temperature, **A. A. Said**, M. Abd El-Aal, Res. Chem. Intermediates 43 (2017) 3205–3217.

105) The role of Brønsted acid sites strength on the catalytic performance of phosphotungestic supported on nano γ-alumina catalysts for dehydration of ethanol to diethyl ether, **A. A. Said**, M.M. Abd El-Wahab, Marwa M. Abdelhak, Reaction Kinetics, Mechanisms and Catalysis 122 (2017) 433-449.

106) Modified sugarcane bagasse with tartaric acid for removal of diazonium blue from aqueous solutions, **A. A. Said**, Aref M. A. Aly, M. N. Goda, M. Abd El-Aal, M. Abdelazim, J. polymer Environ. 26 (2018) 2424-2433.

107) Effect of different metal sulfate precursors on structural and catalytic performance of zirconia in dehydration of methanol to dimethyl ether. **A. A. Said,** M. Abd El-Aal. J Fuel Chem Technol 46 (2018) 67-74.

108) Superior catalytic performance of $CaMoO_4$ catalyst in direct dehydrogenation of methanol into anhydrous formaldehyde, **A. A. Said**, M. N. Goda, Chem. Phys. Lett.703 (2018) 44-51.

109) Development and utilization of lime-mud waste as filler for production of green paper, **A. A. Said**, Aref M. A. Aly, Hazem S. Ahmed, Environmental Progress & Sustainable Energy 38 (2019) e13022.

110) Synthesis, characterization and catalytic activity of nanocrystalline $Ce_2(MoO_4)_3/SiO_2$ as a novel catalyst for the selective production of anhydrous formaldehyde from methanol, **A. A. Said,** M. N. Goda Catal. Lett.149 (2019) 419-430.

111) Characterization and catalytic performance of Basaltic dust as an efficient catalyst towards the liquid-phase esterification of acetic acid with n-butanol**, A. A. Said**, M. Th. Heikal, M. N. Goda, Chin. J. Chem. Soc. 66 (2019) 725-733.

112) Study on photogeneration of hydrogen peroxide over Ag/TiO_2 catalysts in water**, A. A. Said**, R. M. Gabr, A. El-Nagar, Egyptian Sugar J. 11 (2019) xx-xx.

113) Zirconium Oxide Sulfate-Carbon ($ZrOSO_4$@C) Derived from Carbonized UiO-66 for Selective Production of Dimethyl Ether, M. N. Goda, H. N. Abd El-hamid, **A. A. Said**. ACS Applied Materials & Interfaces 12 (2019) 646-653

114) Green synthesis of bio-ethyl acetate over Egyptian acidic natural red clay as a highly active, selective and eco-friendly catalyst, **A. A. Said,** M. N. Goda, Chin. J. Chem. Soc. 67 (2020) 567-577.

115) Direct formation of $LaFeO_3$/MCM−41 nanocomposite catalysts and their catalytic reactivity for conversion of isopropanol, Kamal M. S. Khalil, Walaa A. AlHamady, **A. A. Said**, Materials Chemistry and Physics 254 (2020) 123412

116) The catalytic performance of ultrasonically prepared $Cu_xCo_{3-x}O_4$ catalysts towards CO oxidation at relatively low temperature, M. N. Goda, **A. A. Said**, M. Abd El-Aal, Molecular Catalysis 494 (2020) 111121.

117) Selective dehydrogenation of isopropanol on carbonized metal–organic frameworks, H. N. Abd Elhamid, M. N. Goda, **A. A. Said**. Nanostructures &Nano-Objects 24 (2020) 100605.

118) Promotional Effect of B_2O_3, WO_3 and ZrO_2 on the Structural, Textural and Catalytic Properties of $FePO_4$ Catalyst Towards the Selective Dehydration of Methanol into

Dimethyl Ether, **A. A. Said**, M. N. Goda, M. A. Kassem, Catalysis Letters 150 (2020) 1714-1728.

119) Adsorptive Remediation of Congo Red Dye in Aqueous Solutions Using Acid Pretreated Sugarcane Bagasse**, A. A. Said**, AAM Aly, MN Goda, M Abd El-Aal, M Abdelazim, Journal of Polymers and the Environment 28 (2020) 1129-1137.

120) Superior Competitive Adsorption Capacity of Natural Bentonite in the Efficient Removal of Basic Dyes from Aqueous Solutions, **A. A. Said**, M. N. Goda, ChemistrySelect Accepted Manuscript (2021)

121) Production of dimethyl ether over ZnO@C-derived from metal-organic frameworks, M. N. Goda, **A. A. Said**, H. N. Abd El-hamid Catalysis Today Under review (2021)

Curriculum vitae

PERSONAL DATA

Name: Essam Fadl Abo Zeid Moussa
Date of Birth: 3 May 1975.
Place of Birth: Tamia, El Fayoum, Egypt.
Social State: Married.
Address: Physics Department, Faculty of Science, Assiut University, Assiut 71516, Egypt.
Title: Professor of physics of materials science
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Language Ability: Arabic and English

QUALIFICATIONS:

- B.Sc. in Physics, (very good) June 1996, Faculty of Science, Assiut University, Egypt.
- M.Sc. in solid state physics, Faculty of Science, Assiut University (2001), Egypt. Thesis Topic: "*Study of Electrical and Thermophysical properties of Some Basalt and Granite Rock Samples*".
- Ph.D. in solid state physics, Faculty of Science, Assiut University (2007), Egypt. Thesis Topic: "*Investigation of the Effect of Addition of Si and Cu on the Precipitation Sequence in Al-Mg-Si Alloy*".

EMPLOYMENT RECORD:

- Oct. 1996-Demonstrator, at Physics Department, Faculty of Science, Assiut University.
- Dec. 2001-Assistant lecturer, at Physics Department, Faculty of Science, Assiut University.
- Jan. 2007-Lecturer, at Physics Department, Faculty of science, Assiut University.
- Sept.2008-March.2009, post-doctoral fellowship research Pusan National university South Korea.
- Sept.2009- decemb.2012, Lecturer at Physics Department, Faculty of science &Arts El-Baha University.
- Feb. 2013-Associate professor, at Physics Department, Faculty of science &Arts El-Baha University.
- Feb. 2013-Associate professor, at Physics Department, Faculty of Science, Assiut University.
- Nov. 2020-Professor of Physics of Materials Science, at Physics Department, Faculty of Science, Assiut University.

RESEARCH INTEREST:

- Mechanisms of nanostructure and texture evolution during solidification.
- Solid-state phase transformation and deformation & annealing with particular emphasis on the light metals and their composites aluminum, magnesium and silicon alloys and its automotive applications.
- Investigation of oxygen reduction reaction (ORR) and catalytic activity (CV) of Pd –M (transition metals) alloys for proton exchange membrane fuel cells (PEMFC) and direct methanol fuel cell (DMFC) applications.
- Characterization of metal oxides nanoparticles for its industrial applications in photo catalysis and biological sensors.

TRAINING WORKSHOPS:

Attended several international conferences and workshops on material science and its application those are:

1. Workshop in electron microscopy (Techniques & Interpretations). (Electron microscopy unit, Assiut University, Egypt, 26-31 March 2005).
2. The First Annual Conference for Young Scientists (Basic Science & Technology) (Assiut, Faculty of Science, Assiut University, Egypt, May 5, 2007).
3. The Second Annual Conference for Young Scientists (Basic Science &Technology) (Assiut, Faculty of Science, Assiut University, Egypt, Oct. 18, 2008).
4. The second Arab international conference in Physics and Materials Science (Physics Department, Faculty of Science, Alexandria University, Egypt, 27-29 October 2007).
5. Third international Conference Modern Trends In Physics Research (Physics Department, Faculty of Science, Cairo University, Egypt, 6-10 April, 2008).
6. Proposal Writing for International Workshop (Assiut, Assiut University, Egypt, 26-27 March 2008).
7. The International Conference for Nanotechnology Industries (King Abdullah Institute for Nanotechnology (KAIN), King Saud University, Riyadh, Saudi Arabia, 5-7 April 2009).
8. International Conference of Materials Science and Its Applications (ICMSA) 13-15 Feb. 2012 Taif University, Taif, Saudi Arabia.
9. The Third International Conference on New Horizons in Basic and Applied Science (ICNHBAS) 5-7Aug. Hurghada, 2017, http://www.nhbas.com.

REVIEWER FOR INTERNATIONAL JOURNALS:

- Journal of Physics and Chemistry of Solids.
- Journal of Thermal Analysis and Calorimetry.
- Journal of Materials Chemistry and Physics.
-Applied Nanoscience.

- Journal of Nanoparticle Research.
-Materials Research Express.

2. List of Publications:

A – **From M.Sc. Thesis:**

1. Investigation of thermophysical properties of basalt samples in Egypt, M. S. Mostafa, A. Gaber, N. Afify and **E. F. Abo Zeid**. J. Of Thermal Analysis and Calorimetry, vol. 75, (2004)179-188.
2. Electrical resistivity of some Basalt and Granite Samples from Egypt, M. S. Mostafa, N. Afify, A. Gaber and **E. F. Abo Zeid**, Egyptian J. of Solids. vol. 26, no. 1(2003)25-32.

B – **From Ph.D. Thesis**

3. Investigation of the developed precipitates in Al-1.1%Mg2Si balanced alloy by DSC and SEM techniques, A. Gaber, M. A. Gaffar, M. S. Mostafa and **E. F. Abo Zeid**, J. Materials Science and Technology, 22: 12 (2006) 1483-1488.
4. Precipitation kinetics of Al-1.12 Mg2Si-0.35 Si and Al-1.07 Mg2Si-0.33 Cu alloys, A. Gaber, M. A. Gaffar, M. S. Mostafa and **E. F. Abo Zeid**, J. Alloys and Compounds, 429 (2006)167-175.
5. The Effect of Cu Addition on the Thermo-electric Power and Electrical resistivity in Al-Mg-Si Balanced Alloy, Correlation Study, M. A. Gaffar, A. Gaber, M. S. Mostafa and **E. F. Abo Zeid,** Journal of Materials Science and Engineering A, 465 (2007)274-282.

C – **After appointment as Lecturer:**

6. Investigation of the developed precipitates in AlMgSiCu alloys with and without excess Si, **E. F. Abo Zeid** and Young Tae-Kim, Materials Science and Technology, 26:4 (2010)440-444.
7. Temperature dependence of morphology and oxygen reduction reaction ORR activity for carbon-supported Pd-Co nanoalloy electrtocatalysts, **E. F. Abo Zeid**, Dae-Suk Kim, Hee Soo Lee and Yong-Tae Kim, J. Applied electrochemistry, 40:11 (2010)1917-1923.
8. Additive treatment effect of TiO2 as supports for Pt-based electrocatalysts on Oxygen reduction reaction activity, Dae-Suk Kim, **E. F. Abo Zeid** and Yong-Tae Kim, Electrochimica Acta 55 (2010) 3628–3633.
9. Fine Structure Effect of PdCo electrocatalyst for Oxygen Reduction Reaction Activity: Based on X-ray Absorption Spectroscopy Studies with Synchrotron Beam, Dae-Suk Kim, Tae-Jun Kim, Jun-Hyuk Kim, **E. F. Abo Zeid** and Yong-Tae Kim, Journal of Electrochemical Science and Technology, 1: 1(2010) 31-38.
10. Investigation of nano- scale precipitates developed in Al-Mg2Si+0. 34%Cu+0.21% Cr alloy, **E. F. Abo Zeid** and A. Gaber, Materials Science and Technology, 27:2 (2011)487-493.
11. Mechanical Properties and Precipitation Behavior as a Function of Heat Treatment of Al–4.4Cu–1.5Mg-0.6Mn-0.25Si (WT %) Alloy, **E. F. Abo Zeid** and A. Gaber, International

Journal of Metallurgical & Materials Science and Engineering (IJMMSE), 2: 4 (2012) 11-20.

12. Nano-precipitating of nano-sized secondary phases for enhanced alloy hardening in an Al-Li-alloy (2090) **E. F. Abo Zeid**, A. Gaber, M.A. Gaffer and Lamiaa Galal, International Journal of Metallurgical & Materials Science and Engineering (IJMMSE), 3: 2 (2013) 69-82.

D – After appointment as Associate Professor (work to be evaluated):

13. Kinetics and mechanism of morphology and oxygen reduction reaction at PdCo electrocatalysts synthesized on XC72, **E. F. Abo Zeid** and Yong-Tae Kim, International Journal of Nanotechnology and Application (IJNA) 3:4(2013)31-38.
14. Study of the developed Nano- Scale precipitates in AF/C 489 Alloys by using DSC and SEM techniques, **E. F. Abo Zeid**, A. Gaber, M.A. Gaffer and Lamiaa Galal, International Journal of Applied Engineering Research and Development (IJAERD), 3:5(2013) 7-14.
15. New Polymer Syntheses Part: 55#. Novel Conducting Arylidene Polymers and Copolymers Based on Methyl- Cyclohexanone Moiety, K.I. Aly, N.S. Al-Muaikel, M.A. Hussein and **E.F. Abo Zeid**, Journal of Research Updates in Polymer Science, 3(2014) 97-107.
16. Effect of heat treatment on nanoparticle size and oxygen reduction reaction activity for carbon-supported Pd–Fe alloy electrocatalysts, **E. F. Abo Zeid** and Yong-Tae Kim, American journal of Nano Research and Applications, 3:4(2015) 71-77.
17. Correlative study of the thermoelectric power, electrical resistivity and different precipitates of Al-1.12 Mg2Si-0.35Si (at %) Alloy, **E. F. Abo Zeid**, M. A. Gaffar, A. Gaber and M. S. Mostafa, J. Thermal Anal. And Calorim. 122(2015) 1269-1277. DOI: 10.1007/s10973-015-4861-0
18. Spectroscopic Characterization, Thermal Behavior, Surface Activity and Docking Studies of Synthesized Orthohydroxyacetophenone Azine Ligand and its Complexes with Pd (II) and Mn (II) Ions, I.A. Ibrahem and **E. F. Abo Zeid**, International Journal of Sciences: Basic and Applied Research (IJSBAR) 26:3 (2016)191-206.
19. Preparation, characterization and electrocatalytic activity for oxygen reduction reaction in PEMFCs of bimetllic PdNi nanoalloy, **E. F. Abo Zeid** and I.A. Ibrahem, Mater Renew Sustain Energy, 6: (2017) 19, DOI: 10.1007/s40243-017-0103-7.
20. A novel heterometallic compound for design and study of electrical properties of silver nanoparticles-decorated lead compounds, A. M. Nassar, **E. F. Abo Zeid**, A. M. Elseman and N. F. Alotaibi, New J. Chem., 42 (2018)1387-1395, DOI: 10.1039/c7nj03682e.
21. The effect of CdO content on the crystal structure, surface morphology, optical properties and photocatalytic efficiency of p-NiO/n-CdO nanocomposite, **Essam F. Abo Zeid**, Ibrahem A. Ibrahem, and Walied A. A. Mohamed, Results in Physics 12 (2019) 562–570, https://doi.org/10.1016/j.rinp.2018.12.009.

22. Mechanical and electrochemical characteristics of solutionized AA 6061, AA6013 and AA 5086 aluminum alloys, **E. F. Abo Zeid,** Journal of Materials Research and Technology 8(2)(2019)1870-1877, https://doi.org/10.1016/j.jmrt.2018.12.014
23. Influence of aging temperature on precipitation kinetics, morphology and hardening behavior of Al-7475 alloy, **E. F. Abo Zeid,** Arabian Journal for Science and Engineering 44(7)(2019)6621-6629, DOI: 10.1007/s13369-019-03825-7.
24. Selective, efficient and complete precipitation of anionic dyes in aqueous solutions using Ag@PbCO3 nanocomposite, N. F. Alotaibi, A. M. Nassar, G. M. Alrwaili, T. A. Seaf Elnasr & **E. F. Abo Zeid,** Inorganic and nano-metal chemistry 49(11) (2019) 395–400, doi.org/10.1080/24701556.2019.1661463.
25. Mixed oxides CuO-NiO fabricated for selectivedetection of 2-Aminophenol by electrochemicalapproach, **E.F. Abo Zeid,** A.M. Nassar, M.A. Hussein, M.M. Alam, Abdullah M. Asiri, H.H. Hegazy, Mohammed M. Rahman, Journal of Materials Research and Technology 9(2)(2 0 2 0)1457–1467 doi.org/10.1016/j.jmrt.2019.11.071
26. Morphological and optical properties of thin film metal oxide based phosphate glasses for optoelectronic technology, E.F. Abo Zeid, A.A.A. Darwish, Y.B. Saddeek, M. Rashad, Optical Materials 99(2020)109541-109546, doi.org/10.1016/j.optmat.2019.
27. Study the influence of silver and cobalt on the photocatalytic activity of copper oxide nanoparticles for the degradation of methyl orange and real wastewater dyes, **E. F. Abo Zeid**, I. A. Ibrahem, Walied A. A. Mohamed and Atif Mossad Ali, Materials Research Express 7(2020) 026201-026218. https://doi.org/10.1088/2053-1591/ab7400.
28. Synthesize and thermal treatment of PdCr@carbon for efficient oxygen reduction electrocatalysis, Abdelazim M. Mebed, **E. F. Abo Zeid**, Alaa M. Abd-Elnaiem, submitted to publication in Journal of Inorganic and Organometallic Polymers and Materials (2021).

مركزعلوم المواد والنانوتكنولوجي

PERSONAL INFORMATION

MOHAMED ABDELAAL ABDELRHMAN ABDELHAMID

~~921-8046, Okuwamachi, Tairia, Kanazawa, Ishikawa prefecture, Japan, 42-19, 9-103~~Chemistry Department, Faculty of Science, Assiut University, Assiut, Egypt.

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Sex Male | Date of birth 11/11/1987| Nationality Egyptian

~~**JOB APPLIED**~~

~~Seeking for a postdoc fellowship position.~~

JOB APPLIED

Seeking for a postdoc fellowship position.

ACADEMIC QUALIFICATIONS

Oct. 2016 – Sept. 2019

PhD in Material Science and Technology
Graduate school of Natural Science, Kanazawa University, Japan.
Supervised by Professor Takafumi Seto
Data for submission June 2019.
Thesis Title: Aerosol-based synthesis of nanostructured materials for surface-enhanced Raman scattering
■ A thesis abstract is attached as an appendix.

Nov. 2010 – Feb. 2015

M. Sc. in Physical Chemistry (Catalysis).
Chemistry Department, Faculty of Science, Assiut University, Egypt.
Supervised by Professor Abd El-Aziz Ahmed Said
Data for submission January 2015.
Thesis Title: Conversion of methanol to dimethyl ether over modified nano alumina catalysts
■ A thesis abstract is attached as an appendix.

Oct. 2016- Oct. 2019

B. Sc. In Chemistry
Chemistry Department, Faculty of Science, Assiut University, Egypt.
Date of graduation June 2008.

ACADEMIC APPOINTMENTS

Feb. 2015 – till now

Assistant Lecturer
Chemistry Department, Faculty of Science, Assiut University, Egypt.

Oct. 2016 – Oct. 2019

Assistant Lecturer

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(on leave to study the PhD at Kanazawa University) Chemistry Department, Faculty of Science, Assiut University, Egypt.

Nov. 2010 - Feb. 2015 **Instructor**
Chemistry Department, Faculty of Science, Assiut University, Egypt.

FELLOWSHIPS AND AWARDS

Oct. 2016 **PhD Scholarship**
Awarded by Japanese Government (Monbukagakusho), Japan.

Oct. 2015 **The best research in Chemistry**
Awarded by Assiut University.

CURRENT RESEARCH INTERESTS

- Developing SERS substrate for detecting of biomolecules.
- Developing SERS substrate for monitoring environmental events.
- Synthesis of metal NPs for application in the catalytic reaction.
- Monitoring catalytic reactions and understanding the mechanism through SERS.

PROFESSIONAL AND RESEARCH EXPERIENCES

- Synthesis of metal and metal oxide nanoparticles by chemical and physical routes.
- Developing SERS substrate able to detect single dye and biomolecule.
- Good experience in catalysis.
- Good experience in SERS applications.
- Good experience in Raman techniques.
- Good experience in using characterization techniques such as GC, FTIR, TG/DSC, XRD, FE-~~SEM,~~SEM, XPS, ~~-~~HR-TEM.
- Good experience in synthesis of nanoparticles by Aerosol techniques such as laser ablation, spark discharge, and electrospray.

TEACHING EXPERIENCES

- Taught chemistry courses planned lessons and assignments, led discussion sections, graded papers and exams for the undergraduate students at the faculty of science, faculty of engineering, faculty of pharmacy, and faculty of veterinary, Assiut University, Egypt, (2010-2016).

PROFESSIONAL MEMBERSHIPS

- International technical committee member for the 5th International Conference on Low Carbon Asia (ICLCA 2019).
- Member in the American Association for Aerosol Research, USA, 2018.
- Member in the Society of Chemical Engineering, Japan, 2017.
- Member in Materials Research Society, USA, 2017.

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CONFERENCES

- Xth International Aerosol Conference (~~Iac~~IAC 2018) Saint Louis, Missouri, ~~Usa~~USA, Sept. 2-7, 2018.
5. Chemical Engineering Association Kansai Branch / China Shikoku Branch Joint, Kanazawa Meeting, 2017.
- 2017 MRS Fall Meeting & Exhibit, Boston, Massachusetts, USA, Nov. 26 – Dec. 1, 2017.
- Nanotechnology and Nanomaterials for Sustainable development, Luxor, Egypt, 2016.
- The 1st International Conference on Nanotechnology and its applications, Qena-Luxor, Egypt, 25-28 Feb. 2014.
- The 3rd conference for Young Researchers, Basic Science & Technology, Assiut, Egypt, 19-20 April 2011.

PROJECTS SHARE

Active member at the following projects:

- Development of marketable oil and organic waste absorbing products from indigenous sugar cane waste (Bagasse) (funded by STDF, Egypt, Project ID: 479) (Finished).
- Utilization of Natural Egyptian Clays Instead of Sulfuric Acid in Manufacturing of Esters (funded by STDF, Egypt, Project ID: 3009) (Finished).

PUBLICATIONS

- M. N. Goda, A. A. Said, **M. Abd El-Aal**, The catalytic performance of ultrasonically prepared $Cu_xCo_{3-x}O_4$ catalysts towards CO oxidation at relatively low temperature, Molecular Catalysis 494 (2020) 111121.
- **M. Abd El-Aal**, T. Seto, A. Matsuki, The effects of operating parameters on the morphology, and the SERS of Cu NPs prepared by spark discharge deposition, Applied Physics A (2020)126:7.
- **M. Abd El-Aal**, T. Seto, Surface-enhanced Raman scattering and catalytic activity studies over nanostructured Au–Pd alloy films prepared by DC magnetron sputtering, Research on Chemical Intermediates, 46(7) (2020) 3741-3756.
- A. A. Said, A.A. M. Aly, M. N Goda, **M. Abd El-Aal**, M. Abdelazim, Adsorptive Remediation of Congo Red Dye in Aqueous Solutions Using Acid Pretreated Sugarcane Bagasse, Journal of Polymers and the Environment, 28 (2020) 1129–1137.
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