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# Ahmed Mohamed El-Toni

**Civil Status**

**Marital Status**: Married
**Nationality**: Egyptian
**Date of birth**:16/ 5/ 1974
**Birth place**: Giza, Egypt

**Researcher information**

**ORCID No.**: 0000-0002-3667-8812
**Google scholar**: Ahmed Mohamed El-Toni
**Web of science researcher Id**: D-1594-2015
**Scopus Id**: 6507944159

## Education

| | | |
|---|---|---|
| Ph.D. in inorganic chemistry | Faculty of engineering, **Tohoku University, Sendai, Japan**<br>*Thesis title "Performance improvement of UV-rays absorbents by nano-silica shell coating*" | Sep. 2006 |
| M.Sc. in inorganic chemistry | Faculty of science**, Ain Shams University, Cairo, Egypt**<br>*Thesis title "Preparation of pure barium salts from Egyptian barite ore"* | Jan. 2002 |
| B.Sc. in chemistry | Faculty of science, **Cairo University, Cairo, Egypt** | May 1996 |

## Professional experience

| | | |
|---|---|---|
| **Professor** | King Abdullah institute for Nano-technology, King Saud University, Saudi Arabia | April 2023-till present |
| **Associate professor** | King Abdullah institute for Nano-technology, King Saud University, Saudi Arabia | April 2015-April 2023 |
| **Assistant professor** | King Abdullah institute for Nano-technology, King Saud University, Saudi Arabia | May 2008-April 2015 |
| **Post-doctoral researcher** | Functional Assembly Technology group, Advanced, Manufacturing Research Institute, National Institute of Advanced Industrial Science and Technology (AIST), Nagoya, Japan | Oct. 2006-Sep 2007 |
| **Ph.D student** | Laboratory of inorganic reactions, Institute of Multidisciplinary Research for Advanced Materials, Faculty of engineering, Tohoku University, Sendai, Japan | Oct. 2003 –Sep. 2006 |
| **Lecturer assistant** | Hydrometallurgy laboratory, Extractive metallurgy division, CMRDI, Cairo, Egypt | Jan.2002 – Sep. 2003 |
| **Researcher assistant** | Hydrometallurgy laboratory, Extractive metallurgy division, CMRDI, Cairo, Egypt | Sep. 1997- Dec. 2001 |

## Scholarships

| | | |
|---|---|---|
| Post-doctoral fellowship | National Institute of Advanced Industrial Science and Technology | Oct. 2006-Sep. 2007 |
| Ph.D Monbukagakusho Scholarship | Ministry of Education, Culture and Agricultural Science, Japan | Oct. 2003-Sep. 2006 |

## Research experience

- Synthesis and characterizations of layered materials
- Intercalation of organic molecules into layered inorganic materials
- Synthesis of inorganic UV-shielding nanoparticles
- Surface coating of nanoparticles and development of core/shell structures
- Morphological and particles size control of inorganic materials
- Surface coating of ceramics substrate
- Sealing of fuel cell by different coating and patterning techniques
- Synthesis and characterizations of mesoporous and nanocomposite materials
- Multifunctional core-shell & mesoporous nanomaterials for application in:
    - *Biomedical applications: drug controlled and stimulated release and enzyme immobilization*
    - *Environmental applications*
    - *Catalysis*

## Skills

I have ability to conduct sample preparation and sample measurements and results analysis using the

following instruments.

- Powder X ray diffraction.
- Electron dispersive energy ( EDX)
- Infrared Spectroscopy (FTIR)
- Nanoparticles morphology (TEM, SEM)
- Nanoparticles surface properties (surface area and porosity)
- Photochemical properties (UV-visible spectroscopy)
- Thermal properties (TG, DTA)
- X-ray photoelectron spectroscopy (XPS)(only sample preparation and results analysis)
- Materials, ceramics coating and pattering techniques (Spin coating, Ink-jet printing, Dip coating, Screen printing)

## Academic Reviewing

- Journal materials chemistry A
- Journal materials chemistry B
- RSC advances
- Chemical communications
- Physical Chemistry A
- Journal of colloid and interface science
- Journal of solid-state chemistry
- Journal of the American Ceramic society
- Chemical Engineering Journal

## Research projects

***Funded projects from national plan for science and technology (NPST***):

1- Synthesis of core-shell mesoporous architectures based on anionic surfactants for drug control release and stimulated drug delivery, **10-NAN1035-02.** National plan for science and technology (**principal investigator**).

2- Development of temperature sensitive polymer-gold nanoparticles hybrid materials for biomedical application, **10-NAN1008-02.** National plan for science and technology. (**co-investigator**).

3- The use of venoms derived from snakes in Saudi Arabia and Nanotechnology as a new therapeutic method to induce chemotaxis and growth arrest of Breast cancer, Prostate cancer and Multiple Myeloma, **10-BIO969-02**, National plan for science and technology, (**co-investigator**).

4- Photothermally Triggered Drug Delivery from Core/shell Mesoporous Nanoparticles for Targeted Cancer Therapy, **12-NAN2544-02,** National plan for science and technology, (**principal investigator**).

5- Synthesis of multifunctional magnetic core-$TiO_2$/meso-$SiO_2$double shell for simultaneous heavy metal removal and organic pollutants decomposition, **14-WAT169-02**, National plan for science and technology, (**principal investigator**).

6- Hybridization of Pulsed Laser Deposition (PLD) with RF magnetron/effusion cell/e-beam system as platform to design smart polymer and metal-doped ZnO nanostructures for gas-sensing application, **IFKSU_P127**, Institutional Funding, DSR, King Saud University, (**team member**).

7- Synthesis of novel amino-rich mesoporous silica nanoparticles using anionic surfactant and double and triple co-structure directing agent systems for removal of radio-active and heavy metal cations" **Project ID: 3-17-01-001-0003**, National plan for science and technology, (**principal investigator**).

8- Preclinical Safety and Toxicity of Novel Anti-cancer TiO2 Based Nanoparticles, **DRI-KSU-863**, Deputyship for Research and Innovation, Ministry of Education, (**team member**).

9- Fabrication of magnetic activated carbon composites from solid waste and their environmental applications, 13-**ENV1186-02,** National plan for science and technology, (**team member**).

10- Submitted project to **Research Development and Innovation Authority (RDIA)** call as PI titled "Development of two dimensional (2D) sulfides/carbon-based nanostructure visible-light photocatalyst foams for waste water treatment". (**principal investigator**).

***Funded Research group from Deanship of scientific research***:

1-Nanomaterials synthesis and characterization", **PI: Dr. Ahmed El-Toni**, KAIN, KSU.

## Supervision for M.Sc and Ph.D students

| No. | Student name | Degree | Student ID | Department | Status |
|---|---|---|---|---|---|
| 1 | Abdulrahman Mohamed Alamary | M.Sc. | 431106342 | Physics | Graduated 2016 |
| 2 | Tahany Ahmed Al-mosa | Ph.D | 431203701 | Physics | - |
| 3 | Hoda Saad Al-nafaaiy | M.Sc. | 432203211 | Physics | Graduated 2018 |
| 4 | Hussein Elsayed Elafifi | M.Sc. | 431106386 | Physics | Graduated 2017 |
| 5 | Fahad Hussain Albaqami | M.Sc. | 431106802 | Physics | Graduated 2017 |
| 6 | Abdulrhman Saleh AlAwadi | Ph.D | 434107818 | Chem. Eng. | Graduated 2019 |
| 8 | Bander ben Saud Aldahim | Ph.D | 435107796 | Fine arts | Graduated 2019 |
| 8 | Abdulaziz Hamed Alrehaili | M.Sc. | 436107406 | Chemistry | Graduated 2021 |
| 9 | Alanoud Mohamed Altalal | Ph.D | 438203786 | Pharmaceutics | Graduated 2023 |
| 10 | Kholood Khalid AL-Huthali | M.Sc. | 444203379 | Dentist | Running |

## Awards and recognitions

- **Listed in Stanford university list for Top 2% scientist most cited worldwide for 2023 by Stanford University and Elsevier.**
- **Listed in Stanford university list for Top 2% scientist most cited worldwide for 2022 by Stanford University and Elsevier.**
- **Listed in Stanford university list for Top 2% scientist most cited worldwide for 2021 by Stanford University and Elsevier.**
- **2014 ALMARAI prize for scientific innovation**

  (National Award organized by King Abdulaziz City for Science and Technology (KACST), Kingdom of Saudi Arabia)
  ***AWARDED PAPER: Simple and facile synthesis of amino functionalized hollow core–mesoporous shell silica spheres using anionic surfactant for Pb(II), Cd(II), and Zn(II) adsorption and recovery,*** **Ahmed Mohamed El-Toni**, Mohamed A. Habila, Mohamed Abbas Ibrahim, Joselito Puzon Labis, Zeid A. Alothman, Chemical Engineering Journal, Volume 251, 1 September 2014, Pages 441–451, (IF: 4.181).
- **Receiving recognition from Saudi chemical society** for contributing a lecture with title "silica based nanostructures and their biomedical applications" to the society workshop 18/4/2017.
- **Receiving recognition from Saudi chemical society** for contributing a lecture on the world health day with titles "Core-shell nanostrucures: shell formation, functionalization for targeted application" on 24 April 2018.

## Reviewer for research projects

- Reviewing two large-grant proposals for King Abdulaziz City for Science and Technology (KACST).
- Reviewing five small-grant proposals for King Abdulaziz City for Science and Technology (KACST).
- Reviewing more than 15 research proposal from Deanship of scientific research, King Abdulaziz University.

## Committees

Member in the following committees at King Abdullah Institute for nanotechnology:

- **Lab and equipment committee**
- **Publication relation and media committee**
- **Scientific committee**

## Society services through lectures and training activities

- Delivering a lecture for nanoclub students from King Saud University along with labs tour on 16 Oct. 2024.
- Delivering a lecture for nanoclub female students from King Saud University along with labs tour on 18 May 2023.
- Delivering a lecture for nanoclub female students from King Saud University along with labs tour on 18 May 2023.
- Delivering lecture and KAIN labs tour for female students from Princess Nora University with providing Lab tour within KIAN labs and introduction about Nanotechnology 6 Feb. 2023.
- Providing introductory lecture on nanotechnology along with KAIN labs tour for 20 students from female section of AlRowad high school on 26/12/2022.
- Providing scientific and laboratory supervision for two students from Mawhiba research enrichment program for three weeks from 28/7/2022 to 18/8/2022, research subject was synthesis of nanomaterials with tunable properties for environmental applications.
- Providing scientific lectures for 13 students from Mawhiba research enrichment program on 26/7/2022.
- Providing introductory lecture on nanotechnology along with KAIN labs tour for 12 students from female section of physics department at King Saud University on 20/10/2021.

- Providing the introductory lecture on nanotechnology along with KAIN labs tour for Visit of 5 students from female section of physics department Princess Nourah bint Abdulrahman University on 26/10/2021.
- Providing the introductory lecture on nanotechnology along with KAIN labs tour for Visit of 12 students from female section of Princes Sultan University on 15/12/2021.
- Providing the introductory lecture on nanotechnology along with KAIN labs tour for talented female from King Saud University on 23 Jan. 2019.
- Providing the introductory lecture on nanotechnology along with KAIN labs tour for students from Dar Alaloum School on 23 Jan. 2019.
- Starting the second term of the training of under-graduate students on Nanomaterials synthesis, characterization and various applications which was approved for the rectorate of academic and educational affairs.
- Providing the introductory lecture on nanotechnology along with KAIN labs tour in for 25 talented female students from King Saud University on 27 Feb. 2019.
- Providing the introductory lecture on nanotechnology along with KAIN labs tour in for 10 male high-school students from Alrowad Schools on 20 Feb. 2019.
- Providing the introductory lecture on nanotechnology along with KAIN labs tour in for 27 female high-school students from Ibn-Kaldoun Schools on 7 Feb. 2019.
- Providing the introductory lecture on nanotechnology along with KAIN labs tour in for 17 male secondary-school students from Dar-Uloom Schools on 7 Feb. 2019.
- Providing the introductory lecture on nanotechnology along with KAIN labs tour in for female from Prince Sattam University on 27 Nov. 2018.
- Delivering a lecture for nanoclub members and undergraduate students (100 students) on 2 Nov. 2017 entitled “introduction to nanotechnology”.
- Delivering two lectures for nanoclub members at KSU with title “nanotechnology and its environmental applications” on 29/3/2017 and 19/4/2017.
- Arranging and delivering lecture and KAIN labs tour for al-kharj high school (high school male students (20 students) as well as for 15 female students from Physics department, KSU on nanotechnology. Dec. 2016
- Arranging and delivering lecture and KAIN labs tour for talented and distinguished female students’ program in KSU on 4/1/2017.
- Arranging and delivering lecture and KAIN labs tour for the female students at Princess Nora University with providing Lab tour within KIAN labs and introduction about Nanotechnology 27/3/2017.
- Arranging and delivering lecture and KAIN labs tour for school No. 154 (high school female students (20 students) on nanotechnology on Nov. 2016.
- Arranging and delivering lecture and KAIN labs tour for al-kharj high school (high school male students (20 students) as well as for 15 female students from Physics department, KSU on nanotechnology on Dec. 2016.
- Delivering a lecture entitled introduction to nanotechnology that was organized by KAIN NANO-CLUB on 16/11/2015.
- Delivering the lecture and Lab. tour for kingdom school students Dec. 2015.
- Delivering the lecture and Lab. tour for female students from physics department Dec. 2015.
- Providing training for 20 female students from Princess Noura university female students on Nanomaterials synthesis techniques and their characterization on 30/1/2014
- Providing training for 20 female students from Princess Noura university female students on Nanomaterials synthesis techniques and their characterization on 20/2/2014.

## Publications (152 ISI publications, H-index: 44)


1. Direct coating for layered double hydroxide/4,4`-diaminostilbene-2,2`-disulfonic acid nanocomposite with silica by seeded polymerization technique, Ahmed Mohamed El-Toni, Shu Yin, Tsugio Sato, Journal of Solid State Chemistry 177, 3197-3201, 2004.
2. Depression of deintercalation of 4-hydroxy-3-methoxybenzoic acid from Zn2Al layered double hydroxide by direct coating with silica, Ahmed Mohamed El-Toni, Shu Yin, Tsugio Sato, Materials Letters, 58, 3149-3152, 2004. Silica coating of Zn2Al/4-hydroxy-3-methoxybenzoic acid nanocomposites via seeded polymerization technique, Ahmed Mohamed El-Toni, Shu Yin, Tsugio Sato, Materials Chemistry & Physics, 89/1, 154-158, 2005.
3. Coating and photochemical properties of calcia-doped ceria with amorphous silica by seeded polymerization technique, Ahmed Mohamed El-Toni, Shu Yin, Yuichiro Hayasaka, Tsugio Sato, Journal of Materials Chemistry, 15, 1293 - 1297, 2005.
4. Coating of calcia-doped ceria with amorphous silica shell by seeded polymerization technique, Ahmed Mohamed El-Toni, Shu Yin, Shinryo Yabe, Tsugio Sato, Materials Research Bulletin, 40, 1059-1064, 2005.
5. Silica coating and photochemical properties of layered double hydroxide/4,4-diaminostilbene-2,2-disulfonic acid nanocomposite, Ahmed Mohamed El-Toni, Shu Yin, Tsugio Sato, Journal of Colloid and Interface science, 293, 449-454, 2006.
6. Synthesis and silica coating of calcia-doped ceria/mica nanocomposite by seeded polymerization technique, Ahmed Mohamed El-Toni, Shu Yin, Tsugio Sato, Applied Surface Science, 252, 5063-5070, 2006.
7. Particle size control of plate-like lepidocrocite related potassium lithium titanate through optimization of synthesis parameters, Ahmed Mohamed El-Toni, Shu Yin, Tsugio Sato, Materials Letters, 60, 185-189, 2006.

8. Dense silica coating of titania nanoparticles by seeded polymerization technique, Ahmed Mohamed El-Toni, Shu Yin, Tsugio Sato, Colloids and Surfaces A: Physicochemical and Engineering Aspects, 274, 229-233, 2006.
9. Synthesis and UV-shielding properties of silica-coated calcia-doped ceria nanoparticles via soft solution processes, Tusgio Sato, Ahmed Mohamed El-Toni, Shu Yin and Yuichiro Hayasaka, Journal of Electroceramics, 17, 9-14, 2006.
10. Control of silica shell thickness and microporosity of titania-silica core-shell type nanoparticles to depress the photocatalytic activity of titania, Ahmed Mohamed El-Toni, Shu Yin, Tsugio Sato, Journal of Colloid and Interface Science, 300, 123-130, 2006.
11. Enhancement of calcia doped ceria nanoparticles performance as UV shielding materials, Ahmed Mohamed El-Toni, Shu Yin, Tsugio Sato, Advances in Science and Technology, 45, 673-678, 2006.
12. Synthesis and photochmical properties of white calcia-doped ceria nanoparticles via soft solution processes, Tsugio Sato, Ahmed Mohamed El-Toni, Shu Yin, Ruixing Li, Hisao Hidaka, Advances in Science and Technology, 45, 685-690, 2006.
13. Synthesis and silica coating of calcia-doped ceria/plate-like titanate (K0.8Li0.27Ti1.73O4) nanocomposite by seeded polymerization technique, Ahmed Mohamed El-Toni, Shu Yin, Tsugio Sato, Materials Chemistry& Physics, 103, 345-350, 2007.
14. DNA Damage upon UV illumination in the presence of inorganic UV-shielding materials, Tsugio Sato, Ahmed Mohamed El-Toni, Shu Yin, Hisao Hidaka, Key Engineering Materials, 352, 293-296, 2007.
15. Development of the Stacked Micro SOFC Modules using New Approaches of Ceramic Processing Technology, Y.Fujishiro, M.Awano, T.Suzuki, T.Yamaguchi, K.Arihara, Y.Funahashi, S.Shimizu, A. M. El-Toni and S.Sakuragi, ECS transactions, vol 7, 497-501, 2007.
16. Synthesis and UV-shielding Property of Plate-like Potassium Lithium Titanate Coated with Calcia-doped Ceria Nanoparticles, Tsugio SATO, Ahmed Mohamed El-TONI, Shu YIN and Takayuki KUMEI , Journal of ceramic society of Japan, Vol. 115[10], 571-576, 2007.
17. UV Shielding Performance Enhancement of CaO Doped Ceria by coupling with plate-like K0.8Li0.27Ti1.73O4, Ahmed Mohamed El-Toni, Shu Yin, Tsugio Sato, Journal of Materials Science, Vol 43, 2411-2417, 2008.
18. Development of dense electrolyte thin film by ink-jet printing techniques for porous LSM substrate, Ahmed Mohamed El-Toni, T. Yamaguchi, S. Shimizu, Y. Fujishiro, M. Awano, Journal of the American ceramic Society, Vol. 91[1], 346-349, 2008.
19. Panoscopic Assembling and UV-Shielding Properties of Calcia-Doped Ceria with Micaceous Lepidcrocite Type Potassium Lithium Titanate via Soft Chemical Processes, Tsugio SATO, Ahmed Mohamed El-TONI, Shu YIN and Takayuki KUMEI, Synthesis and Reactivity in Inorganic, Metal-Organic, and Nano-Metal Chemistry, Vol.38 [3], 335-340, 2008.
20. UV-shielding Performance of Panoscopically Mophology Controlled Plate-like Titanate/Calcia-doped Ceria Nanoparticle Composite, Chigusa Sato, Mohamed Ahmed El-Toni, Shu Yin and Tsugio Sato, Journal of the Japan Society of Powder and Powder Metallurgy, 55, 253-258, 2008.
21. Development of fabrication technology for honeycomb-type SOFC with integrated multi micro-cells, T. Yamaguchi, Ahmed Mohamed El-TONI, S. Shimizu, Y. Fujishiro, M. Awano, Ceramic Engineering and Science Proceedings, Vol. 28, 41-47, 2008.
22. Sonochemical synthesis of networked silica shell with reduced microporosity on titania nanocores for photocatalytic activity reduction", Ahmed Mohamed El-Toni, Shu Yin, Tsugio Sato, Journal of the American Ceramic Society, 92, 3125, 2009.
23. Synthesis of double mesoporous core-shell silica nanospheres with radially oriented mesopores via one-templating step using anionic surfactant, Ahmed Mohamed El-Toni, Mohamed Wasi Khan, Mohamed Abbas Ibrahim, Mohamed Abid, Mansour Al-Hoshan, and Mohamed Al-salhi, Chemical communications, 46, 6482, 2010.
24. Investigation of photocatalytic activity and UV-shielding properties for silica coated titania nanoparticles by solvothermal coating, Ahmed Mohamed El-Toni, Shu Yin, and Tsugio Sato, Talal Ghannam, Mansour Al-Hoshan, and Mohamed Al-Salhi, Journal of Alloys and compounds, 508, L1-L4, 2010.
25. Microwave-assisted synthesis of silver nanoparticles using poly-N-isopropylacrylamide/acrylic acid microgel particles, Aslam Khan, Ahmed Mohamed El-Toni, Salman Alrokayan, Mohamad Alsalhi, Mansour Alhoshan, Abdullah S. Aldwayyan, Colloids and Surfaces A: Physicochemical and Engineering Aspects, 377, 356, 2011.
26. Walterinnasia aegyptia venom combined with silica nanoparticles enhances the functions of normal lymphocytes through PI3K/AKT, NF?B and ERK signaling, Gamal Badr, Mohamed K. Al-Sadoon, Ahmed Mohamed El-Toni and Maha Daghestani, Lipids in Health and Disease 2012, 11:27.
27. Impact of textural properties of double mesoporous core-shell silica nanospheres on drug loading and in-viro release, Mohamed Abbas Ibrahim, Ahmed Mohamed El-Toni, Aslam Khan, Joselito P. Labi, and Mansour Al-Hoshan, Digest Journal of Nanomaterials and Biostructures 7, 2012, 447.
28. Preparation of magnetic polyacrylonitrile core-shell nanospheres by the miniemulsion polymerization method, Aslam Khan, Ahmed Mohamed El-Toni, Mohamad Alsalhi, Abdullah S. Aldwayyan and Mansour Alhoshan, Materials letters, 76, 2012, 141-143.
29. Synthesis of double mesoporous core-shell silica spheres with tunable core porosity and their drug release and cancer cell apoptosis properties, Ahmed Mohamed El-Toni, Aslam Khana, Mohamed A. Ibrahim, Joselito P. Labis, Gamal badr, Mansour Al-Hoshan, Shu Yin, and Tsugio Sato, J. Colloid and interface science, 378, 2012, Pages 83-92.
30. Synthesis of magnetic core-mesoporous silica shell nanoparticles using anionic surfactant and their application for ketoprofen control release, Ahmed Mohamed El-Toni, Aslam Khan, Mohamed Abbas Ibrahim, Mansour Al-Hoshan, Joselito Puzon Labis, Chemistry letters, 41,10, 1357, 2012.
31. Preparation of thermo-responsive hydrogel-coated magnetic nanoparticles, Aslam Khan, Ahmed Mohamed El-Toni, Mansour Alhoshan, Materials Letters, 89, 2012, 12-15.

**32.** Fabrication of Mesoporous Silica Shell on Solid Silica Spheres Using Anionic Surfactant and Their Potential Application in Controlling Drug Release, Ahmed Mohamed El-Toni, Aslam Khan, Mohamed Abbas Ibrahim, Mansour Al-Hoshan, Joselito Puzon Labis, Molecules, 17, 13210-13199, 2012.

**33.** Cellular and molecular mechanisms underlie the anti-tumor activities exerted by Walterinnesia aegyptia venom combined with silica nanoparticles against multiple myeloma cancer cell types,Gamal Badr, Mohamed K. Al-Sadoon, Ahmed Mohamed El-Toni and Maha Daghestani, PLOS ONE, 7, 2012, e51661, 1-15.

**34.** Optimization of synthesis parameters for mesoporous shell formation on magnetic nanocores and their Application as nanocarriers for Docetaxel Cancer Drug, Ahmed Mohamed El-Toni, Mohamed Abbas Ibrahim, Joselito Puzon Labis ,Aslam Khan and Mansour Alhoshan, Int. J. Mol. Sci. 2013, 14, 11496-11509.

**35.** Spatially confined fabrication of core?shell gold nanocages@mesoporous silica for near-infrared controlled, Jianping Yang, Dengke Shen, Lei Zhou, Wei Li, Xiaomin Li, Chi Yao, Rui Wang, Ahmed Mohamed El-Toni, Fan Zhang, and Dongyuan Zhao, Chem. Mater. 2013, 25 (15), 3030-3037.

**36.** Immobilization of cyclodextrin glucanotransferase on aminopropyl-functionalized silica-coated superparamagnetic nanoparticles, Abdelnasser S.S. Ibrahim, Ali A. Al-Salamah, Ahmed Mohamed El-Toni, Mohamed A. El-Tayeb, and Yahya B. Elbadawi, e-Journal of Biotech. 2013, 16 (6), 1-16.

**37.** Detoxification of hexavalent chromate by Amphibacillus sp. KSUCr3 cells immobilised in silica-coated magnetic alginate beads, Abdelnasser S.S. Ibrahim, Ali A. Al-Salamah, Ahmed Mohamed El-Toni, Mohamed A. El-Tayeb, Yahya B. Elbadawi, Garabed Antranikian, Biotechnology and Bioprocess Eng. 2013, 18, 1238-1249.

**38.** Cyclodextrin glucanotransferase immobilisation onto functionalized magnetic double mesoporous core-shell silica nanospheres, Abdelnasser S.S. Ibrahim, Ali A. Al-Salamah, Ahmed Mohamed El-Toni, Mohamed A. El-Tayeb, and Yahya B. Elbadawi, e-Journal of Biotechnology, 17, 2014, 55-64.

**39.** Mesoporous Silica Coated Plasmonic Nanostructures for Surface-Enhanced Raman Scattering Detection and Photothermal Therapy, Jianping Yang, Dengke Shen, Lei Zhou, Wei Li, Jianwei Fan, Ahmed Mohamed El-Toni, Wei-xian Zhang, Fan Zhang, and Dongyuan Zhao, Advanced Healthcare Materials, 2014, 3, 1620-1628.

**40.** Simple and facile synthesis of amino functionalized hollow core-mesoporous shell silica spheres using anionic surfactant for Pb(II), Cd(II), and Zn(II) adsorption and recovery, Ahmed Mohamed El-Toni ,Mohamed A. Habila, Mohamed A. Ibrahim, Joselito P. Labis 2, Zeid A. Al Othman, Chem. Eng. J., 251, 2014, 441.

**41.** Anisotropic growth induced synthesis of dual-compartment Janus mesoporous silica nanoparticles for bimodal triggered drugs delivery, Xiaomin Li, Lei Zhou, Yong Wei, Ahmed Mohamed El-Toni, Fan Zhang, and Dongyuan Zhao, J. Am. Chem. Soc., 136 (42), 2014, 15086-15092.

**42.** Effect of an external quantum electric field on the surface plasmons of a nano-system, T. Ghannam, Ahmed Mohamed El-Toni, Optik, 126, 2015, 101-106.

**43.** Anisotropic Encapsulation-Induced Synthesis of Asymmetric Single-Hole Mesoporous Nanocages, Xiaomin Li, Lei Zhou, Yong Wei, Ahmed Mohamed El-Toni, Fan Zhang and Dongyuan Zhao, J. Am. Chem. Soc.,2015, 137, 5903-5906.

**44.** Synthesis of Mesoporous Silica/Reduced Graphene Oxide Sandwich-Like Sheets with Enlarged and "Funneling" Mesochannels, Yupu Liu, Wei Li, Dengke Shen, Chun Wang, Xiaomin Li, Manas Pal, Renyuan Zhang, Lei Chen, Chi Yao, Yong Wei, Yuhui Li, Yujuan Zhao, Hongwei Zhu, Wenxing Wang, Ahmed Mohamed El?Toni, Fan Zhang, and Dongyuan Zhao, Chem. Mater., 27, 2015, 5577-5586.

**45.** Pulsed laser deposition of 3D ZnO nanowall networks in nest-like structures by a two-step approach Solar Energy Materials and Solar Cells, Joselito P. Labis, Mahmoud Hezam, Anwar Al-Anazi, Hamad Al-Brithen, Anees A. Ansari, Ahmad Mohamed El-Toni, Ronaldo Enriquez, Gwenole Jacopin, and Mansour Al-Hoshan, Solar Energy Materials & Solar Cells, 143, 2015, 539-545.

**46.** Carbon-dot Sensitized and N-doped TiO2 in Mesoporous Silica for Water Decontamination through Non-hydrophobic Enrichment-Degradation Mode, Lingzhi Wang, Chen Cheng, Tapas Sen, Juying Lei, Jinlong Zhang, Ahmed Mohamed El-Toni, Fan Zhang and Dongyuan Zhao, Chem. Eur. J., 2015, 21 ,1-8.

**47.** Design, synthesis and applications of core-shell, hollow core, and nanorattle multifunctional nanostructures, Ahmed Mohamed El-Toni, Mohamed A. Habila, Joselito Puzon Labis, Zeid A. ALOthman, Mansour Alhoshan, Ahmed A. Elzatahry, and Fan Zhang, Nanoscale, 2016,8, 2510-2531.

**48.** Periodic Mesoporous Organosilica Nanocubes with Ultrahigh Surface Areas for Efficient CO2 Adsorption, Yong Wei, Xiaomin Li, Renyuan Zhang, Yong Liu, Wenxing Wang, Yun Ling, Ahmed Mohamed El-Toni, Scientific reports, 2016, 6:20769.

**49.** Facile Peptides Functionalization of Lanthanide-based Nanocrystals through Phosphorylation Tethering for Efficient In Vivo NIR-to-NIR Bioimaging, Chi Yao, Caiyi Wei, Zhi Huang, Yiqing Lu, Ahmed Mohamed El-Toni, Dianwen Ju, Xiangmin Zhang, Wenning Wang and Fan Zhang, Anal. Chem., 2016, 88, 1930-1936.

**50.** Development of novel robust nanobiocatalyst for detergents formulations and the other applications of alkaline protease, Abdelnasser S.S. Ibrahim, Ahmed Mohamed El-Toni, Ali A. Al-Salamah, Mohamed A. El-Tayeb, Yahya B. Elbadawi, Bioprocess and Biosys. Eng., 2016, 39, 793-805.

**51.** Enhancement of alkaline protease activity and stability via covalent immobilization onto hollow core-mesoporous shell silica nanospheres, Abdelnasser Salah Shebl Ibrahim, Ali A. Al-Salamah, Ahmed M. El-Toni, Khalid S. Almaary, Mohamed A. El-Tayeb, Yahya B. Elbadawi, Garabed Antranikian, Int. J. Mol. Sci., 2016, 17, 184.

**52.** Phosphorylated Peptides Functionalization of Lanthanide Upconversion Nanoparticles for Tuning the Nanomaterial-Cell Interaction, Chi Yao, Caiyi Wei, Zhi Huang, Yiqing Lu, Ahmed Mohamed El-Toni, Dianwen Ju, Xiangmin Zhang, Wenning Wang and Fan Zhang, ACS Applied Materials & Interfaces, 2016, 8 (11), 6935-6943.

**53.** Synthesis of Highly Dispersed Silver Doped g-C3N4Nanocomposites with Enhanced Visible-Light Photocatalytic Activity, M. Faisal, Adel A. Ismail, Farid A. Harraz, S. A. Al-Sayaria, Ahmed Mohamed El-Toni, M.S. Al-Assiri, Materials & Design, 2016, 98, 223-230.

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## Meeting/symposia/ conferences

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