



TO MAGNIFICO RETTORE OF UNIVERSITA' DEGLI STUDI DI MILANO

I the undersigned asks to participate in the public selection, for qualifications and examinations, for the awarding of a type B post-doc fellowship

[Ahmed Almarasy]

CURRICULUM VITAE

PERSONAL INFORMATION

Surname	Almarasy
Name	Ahmed
Date of birth	[14, 08, 1989]

PRESENT OCCUPATION

Appointment	Structure
Graduated	PhD in Materials Science and Engineering

EDUCATION AND TRAINING

Degree	Course of studies	University	year of achievement of the degree
Degree	Master	Tanta	2016
Specialization	PhD	Saitama	2022
PhD	Materials Sciences	Saitama	2022
Master	Physical Chemistry	Tanta	2016
Other	Bachelor in Chemistry	Tanta	2010

REGISTRATION IN PROFESSIONAL ASSOCIATIONS

Date of registration	Association	City
10 December 2020	The Society of Polymer Science, Japan (SPSJ)	Tokyo, Japan

FOREIGN LANGUAGES

Languages	level of knowledge
Arabic	Mother tongue
English	Excellent
Japanese	Beginner



AWARDS, ACKNOWLEDGEMENTS, SCHOLARSHIPS

Year	Description of award
2019	Japanese Government (MONBUKAGAKUSHO: MEXT) Fellowship at the Graduate School of Science and Engineering of Saitama University (Doctoral Course Program) starting from October 2019 to September 2022 .

TRAINING OR RESEARCH ACTIVITY

My graduate studies focused on the areas of instrumental analysis, surface chemistry, and polymer nanocomposites. My main research focused around organo modification of Single Walled Carbon Nanotubes (SWCNTs) and formation of organized films with it using Langmuir trough and their nano dispersion behavior in polymer matrix to enhance its mechanical and thermal properties. I studied surface modification of nanoparticles with a fluorocarbon chain, and evaluated the maintenance of trypsin activity upon adsorption from the subphase to the interfacial monolayer of these nanoparticles. I studied also the adsorption immobilization of various biomolecules on organo-modified SWCNTs and its activity maintenance characteristics after adsorption. In addition to special studies and exercises in physics of biological matter and experimental techniques for the structural investigation of materials by Langmuir-Blodgett trough, X-ray diffraction, DSC, TG, IR and fluorescence spectrophotometry.

PROJECT ACTIVITY

Year	Project
2019-2022	<p>New Progression of Study on Organo-Modified Single-Walled Carbon Nanotubes –Interfacial monolayer formation and uniformly dispersible polymer-based nanocomposite –</p> <p>As some of the requirements for obtaining a PhD, my role was as follows: Sample preparation and organo-modification of SWCNTs, evaluation the behavior of organo-SWCNTs on the water surface using the π-A isotherm, observing the surface morphology of it using an atomic force microscope, evaluation the orientation of the modified chains via polarized infrared spectroscopy, Investigation the packing mode by XRD, polymer-based nanocomposite preparation and its mechanical and thermal property evaluation.</p>

PATENTS

Patent
<ul style="list-style-type: none">• Patent No. 28212 was granted on 10/9/2017 by Ahmed A. Almarasy, Saleh A. Azim and El-Zeiny M. Ebeid for an invention titled : <u>Method for drinking water treatment in presence of starch and sodium hydroxide.</u> <p>http://www.egypt.gov.eg/Search/Patent.aspx?FILE_SEQ=EG&FILE_SER=2014&FILE_TYP=P&FILE_NBR=1047</p>

PUBLICATIONS

Books
<ol style="list-style-type: none">1. A. A. Almarasy*, S. A. Azim, E. M. Ebeid: Hematite Nanoparticles as Coagulant for River Nile Surface Water. LAP LAMBERT Academic Publishing, 2019.



Articles in journals	Impact Factor	Citation (57)
15. Y. Yamada, K. Obuchi, N. Kikuchi, <u>AA. Almarasy</u> , and A. Fujimori*, "Immobilization of Trypsin from Subphase to the Langmuir Monolayer of Fluorocarbon-Modified Single-Walled Carbon Nanotube and Its Activity Maintenance", <i>Langmuir</i> , 2022 , 38(18), 5692-5701	4.33	1
14. X. Kai, K. Harada, <u>AA. Almarasy</u> , T. Hayasaki, A. Fujimori*, "Nanofiller Dispersing, Drawn Orientation, and Mechanical Properties of Polymer-Based Composites via Organo-Modification of Two-Types of Single-Walled Carbon Nanotubes by Different Manufacturing Methods", <i>Polym. Compos.</i> , 2022 , 43(6), 3457-3470	3.53	
13. T. Hayasaki, K. Harada, X. Kai, <u>AA. Almarasy</u> , A. Fujimori*, "Dispersion Characteristics of Polypropylene/Organo-Modified Single-Walled Carbon Nanotube Composites with a Long-Chain Phosphonic Acid Added as the Third Dispersant Component and Their Drawn Orientation.", <i>Polym. Bull.</i> , 2022 , 79, in press	2.84	
12. <u>AA. Almarasy</u> , Y. Yamada, Y. Mashiyama, H. Maruyama, Y. Kimura, <u>A. Fujimori*</u> , "Activity Maintenance Characteristics and Protease Adsorption on Langmuir Monolayer of Organo-Modified Single-Walled Carbon Nanotubes.", <i>ChemistrySelect</i> , 2021 , 6(21), 5329-5337.	2.30	2
11. T. Hayasaki, Y. Yamada, X. Kai, <u>AA. Almarasy</u> , S. Akasaka, A. Fujimori*, "Study on the Improvement of Dispersibility and Orientation Control of Fluorocarbon-Modified Single-Walled Carbon Nanotubes in a Fluorinated Polymer Matrix.", <i>Polym. Compose.</i> , 2021 , 42(9), 4845-4859.	3.53	5
10. Y. Abiko, Y. Yamada, T. Hayasaki, Y. Kimura, <u>AA. Almarasy</u> , A. Fujimori*, "Adsorption Immobilization of Biomolecules from Subphase on Langmuir Monolayers of Organo-Modified Single-Walled Carbon Nanotube.", <i>Colloids Surf. A</i> , 2021 , 621, 126559–1-14.	5.51	7
9. <u>AA. Almarasy</u> , T. Hayasaki, Y. Abiko, Y. Kawabata, S. Akasaka, A. Fujimori*, "Comparison of Characteristics of Single-Walled Carbon Nanotubes Obtained by Super-Growth CVD and Improved-Arc Discharge Methods Pertaining to Interfacial Film Formation and Nanohybridization with Polymers.", <i>Colloids Surf. A</i> , 2021 , 615, 126221–1-12.	5.51	6
8. T. Hayasaki, Y. Abiko, <u>AA. Almarasy</u> , S. Akasaka, A. Fujimori*, "Effect of the Uniaxial Orientation on the Polymer/Filler Nanocomposites Using Phosphonate-Modified Single-Walled Carbon Nanotube with Hydro- or Fluorocarbons.", <i>Polym. Bull.</i> , 2021 , 78, 5503-5524.	2.84	5
7. Y. Abiko, T. Hayasaki, S. Hirayama, <u>AA. Almarasy</u> , A. Fujimori*, "Fabrication of Organo-Modified Carbon Nanotube with Excellent Heat Resistance and Preparation of Its Polymer-Based Nanocomposite by Simple Melt Compounding.", <i>Polym. Bull.</i> , 2021 , 78, 1585-1607.	2.84	9
6. <u>AA. Almarasy</u> , A. Fujimori, "Attempt of uniform dispersion in polymer-based nanocomposites using surface-modified single-walled carbon nanotubes", <i>Acc.</i>		



<i>Mater. Surf. Res.</i> , 2020 , 5(3), 80-89		
5. S. Hirayama, T. Hayasaki, <u>AA. Almarasy</u> , H. Yabu, M. Tokita, A. Fujimori*, "Influence of Uniaxial Orientation of Fluorinated Polymer/Phosphonate-Modified Needle-Like Nanofiller Composite by Drawing.", <i>Polym. Compos.</i> , 2020 , 41(8), 3062-3073.	3.53	7
4. Y. Abiko, T. Hayasaki, S. Hirayama, <u>AA. Almarasy</u> , Y. Kawabata, A. Fujimori*, "Formation, Structure, and Function of Hydrogenated and Fluorinated Long-Chain Phosphonate-Modified Single-Walled Carbon Nanotubes with Bidentate Bonds.", <i>ChemistrySelect</i> , 2020 , 5(22), 6594-6607.	2.30	7
3. <u>AA. Almarasy</u> *, S. A. Azim, E. M. Ebeid, The Application of Hematite (α -Fe ₂ O ₃) Nanoparticles in Coagulation and Flocculation Processes of River Nile Rosetta Branch Surface Water. In: <i>SN Applied Sciences</i> , 2019 , 1,6.		7
2. <u>AA. Almarasy</u> *, S. A. Azim, E. M. Ebeid, The Characterization and Application of a Prepared Photo-Catalytic TiO ₂ Coating on Glazed Ceramic Tiles. In: <i>Nanomedicine & Nanotechnology Open Access</i> , 2017 , 000127.		
1. <u>AA. Almarasy</u> *, S. A. Azim, E. M. Ebeid, Preparation and characterization of a photo catalytic TiO ₂ coating on glazed ceramic tiles. In: <i>Delta Journal of Science</i> , 2016 , 96-102.		

Congress proceedings
22. Xu kai, <u>Ahmed A. Almarasy</u> , Atsuhiko Fujimori, Preparation of polymer composites through organic modification of two types of single-walled carbon nanotubes with different manufacturing methods and their structural properties, 2022 Annual Meeting of the Society of fiber science and technology, Japan, June 2022 (online oral presentation).
21. Xu kai, <u>Ahmed A. Almarasy</u> , Atsuhiko Fujimori, Nanofiller dispersion, draw orientation, and mechanical properties of polymer composite materials through organic modification of two types of single-walled carbon nanotubes with different manufacturing methods, 71st Polymer Discussion Session of the Society of Polymer Science, Japan, May 2022 (online poster).
20. <u>Ahmed A. Almarasy</u> , Wataru Harada, Xu kai, Atsuhiko Fujimori, Dispersion Characteristics of Polypropylene/Organo-Modified Single-Walled Carbon Nanotube Composites with the Third Dispersant Component and Their Drawn Orientation, 71st Polymer Discussion Session of the Society of Polymer Science, Japan, May 2022 (online oral presentation).
19. Takuto Hayasaki, Yuna Yamada, Wataru Harada, Xu kai, <u>Ahmed A. Almarasy</u> , Atsuhiko Fujimori, "Creation of Uniformly Dispersible Polymer Nanocomposites with Organically Modified Carbon Nanotubes and Long-Chain Phosphoric Acids", 72nd Colloid and Surface Chemistry Debate, Japan, Sept 16, 2021 (online oral presentation).
18. Yuna Yamada, Takuto Hayasaki, <u>Ahmed A. Almarasy</u> , Atsuhiko Fujimori, Adsorption and immobilization behaviour of biomolecules using organically modified single-walled carbon nanotube Langmuir membrane as a template, 70th Polymer Discussion Session of the Society of Polymer Science, Japan, Tokyo University of Science, Katsushika Campus, online held, Sept 7, 2021 (poster).
17. <u>Ahmed A. Almarasy</u> , Yuna Yamada, Takuto Hayasaki, Atsuhiko Fujimori, Activity Maintenance Characteristics and Protease Adsorption on Langmuir Monolayer of Organo-Modified Single-Walled Carbon Nanotubes, 70th Polymer Discussion Session of the Society of Polymer Science, Japan, Tokyo University of Science, Katsushika Campus, 3Pb038, online held, Sept 7, 2021 (poster).



16. Takuto Hayasaki, Yuna Yamada, Xu kai, Ahmed A. Almarasy, Atsuhiko Fujimori, "Improved dispersibility and stretch orientation characteristics of crystalline polymer / organically modified carbon nanotube composite materials containing the third component ", 70th Polymer Discussion Session of the Society of Polymer Science, Japan , Tokyo University of Science, Katsushika Campus, online held , Sept 6, **2021** (poster).
15. Ahmed A. Almarasy, Takuto Hayasaki, Yuna YAMADA, Youhei KAWABATA, Atsuhiko Fujimori "Comparison of Characteristics of Single-Walled Carbon Nanotubes Obtained by SuperGrowth CVD and Improved-Arc Discharge Methods Pertaining to Interfacial Film Formation and Nanohybridization with Polymer", 70th Annual Meeting of the Society of Polymer Science, Japan, 2Pa031, Online, May 27, **2021**(poster).
14. Takuto Hayasaki, Ahmed A. Almarasy, Atsuhiko Fujimori, "Proposal of Dispersibility Improvement Technology for Nanocomposite Preparation of Crystalline Fluorinated Polymer/Organo-modified Single-walled Carbon Nanotubes", 70th Annual Meeting of the Society of Polymer Science, Japan, Online, May 27, **2021**(poster).
13. Takuto Hayasaki, Ahmed A. Almarasy, Atsuhiko Fujimori , "The introduction of surfactants on fluorocarbon-modified carbon nanotubes Dispersion effect in fluororesin ", The 101st Annual Meeting of the Chemical Society of Japan 2021, online, March 21, **2021** (oral).
12. Yoshinori Abiko, Takuto Hayasaki, Ahmed A. Almarasy, Youhei Kawabata, Atsuhiko Fujimori, "Formation and Structure of Phosphonate-Modified Single-walled Carbon Nanotubes with Hydrocarbon Chains and Simple Fluorine Chains", 69th Annual Meeting of the Society of Polymer Science, Online, September 16, **2020** (oral).
11. Takuto Hayasaki, Yoshinori Abiko, Ahmed A. Almarasy, Atsuhiko Fujimori "Orientation effect on fluoropolymer / phosphonic acid-modified single-walled carbon nanotube composite material by uniaxial high-temperature stretching", 69th Annual Meeting of the Society of Polymer Science, Online, September 16, **2020** (oral).
10. Yoshinori Abiko, Takuto Hayasaki, Ahmed A. Almarasy, Youhei Kawabata, Atsuhiko Fujimori "Langmuir film formation by organically modified single-walled carbon nanotubes and the structure and function of its cumulative curtain", 71st Colloid and Surface Chemistry Conference, online, September 14, **2020** (poster).
9. Takuto Hayasaki, Yoshinori Abiko, Ahmed A. Almarasy, Atsuhiko Fujimori "Effect of uniaxial orientation on polymer / nanofiller composites containing long-chain phosphonic acid-modified single-walled carbon nanotubes", 71st Colloid and Surface Chemistry Conference, online, September 14, **2020** (poster).
8. Takuto Hayasaki, Yoshinori Abiko, Ahmed A. Almarasy, Atsuhiko Fujimori, "Stretch orientation effect on crystalline fluoropolymer / fluorocarbon chain modified single-walled carbon nanotube nanocomposite" 69th Annual Meeting of the Society of Polymer Science, Fukuoka International Congress Center, May 28, **2020** (poster).
7. Yoshinori Abiko, Takuto Hayasaki, Ahmed A. Almarasy, Atsuhiko Fujimori, "Functional expansion of single-walled carbon nanotubes using organic modification method-nanocomposite preparation and organized film formation-" 69th Annual Meeting of the Society of Polymer Science, Fukuoka International Congress Center, May 28, **2020** (poster).
6. Shuhei Hirayama, Ahmed A. Almarasy, Eiichi Sato, Atsuhiko Fujimori, "Creation of Tissue-Controlled Millefeuille Structures in Polymer Systems: Structure / Functional Correlation of Stretch-Oriented Nanocomposites", 31st Saitama District Meeting of the Polymer Society of Japan, March **2020** (poster presentation).
5. Takuto Hayasaki, Yoshihiro Abiko, Ahmed A. Almarasy, Atsuhiko Fujimori, "Orientation effect of surface-modified carbon nanotube complex using organic modification by amphiphatic



molecules", 100th Annual Meeting of the Chemical Society of Japan, Spring Meeting, March 2020 (oral presentation).
4. Yoshinori Abiko, Takuto Hayasaki, <u>Ahmed A. Almarasy</u> , Atsuhiko Fujimori, "Exploring the Functions of Organically Modified Carbon Nanotube Assembled Membranes-Creation of High-Density Membranes and Interaction with Biomolecules-" 100th Annual Meeting of the Chemical Society of Japan 2020, Tokyo University of Science Noda Campus, March 24, 2020 (oral).
3. <u>Ahmed A. Almarasy</u> , Saleh A. Azim and El-Zeiny M. Ebeid, by presentation "Preparation of a photo- catalytic TiO ₂ coating on glazed ceramic tiles", conference of postgraduate students in Science, Tanta University, 13 - 14 October 2015 (presentation).
2. <u>Ahmed A. Almarasy</u> , Saleh A. Azim and El-Zeiny M. Ebeid, "Preparation of a photo- catalytic TiO ₂ coating on glazed ceramic tiles", Conference of First symposium on Nile Delta Development SNDD-1 Tanta University, 10 October 2015 (presentation)
1. <u>Ahmed A. Almarasy</u> , Saleh A. Azim and El-Zeiny M. Ebeid, " The Application of Hematite (α -Fe ₂ O ₃) Nanoparticles in Coagulation and Flocculation Processes of River Nile Rosetta Branch Surface Water " Workshop " Prospects of Crystals Basics and Application", kafrelsheikh university. 25 - 26 November 2014 (poster).

OTHER INFORMATION

- Member in The Society of Polymer Science, Japan (SPSJ)
Membership number : 2030924-00

Declarations given in the present curriculum must be considered released according to art. 46 and 47 of DPR n. 445/2000.

The present curriculum does not contain confidential and legal information according to art. 4, paragraph 1, points d) and e) of D.Lgs. 30.06.2003 n. 196.

Place and date: Saitama, Japan/ 6.2.2023

SIGNATURE
