CURRÍCULUM VÍTAE NORMALIZADO

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GOBIERNO DE ESPAÑA
MINISTERIO DE CIENCIA, INNOVACIÓN Y UNIVERSIDADES

FECYT INNOVACIÓN

Summary of CV

This section describes briefly a summary of your career in science, academic and research; the main scientific and technological achievements and goals in your line of research in the medium -and long- term. It also includes other important aspects or peculiarities.

1. I am a Dutch well-trained multilingual international scientist with 15+ years of experience in scientific research, academic education & mentoring fellow students in Oviedo, Spain; Nijmegen & Groningen, Holland; & Cairo, Egypt, with short research stays in Gothenburg, Sweden; Grenoble, France; & Granada, Spain
2. I always amend my skills by attending international courses (10 since 2015) on macromolecular crystallography, (cryo)electron microscopy, microfluidics, light scattering technologies & other relevant (bio)physical methodologies
3. As a biophysicist, I conduct multidisciplinary research, generating knowledge in (nanostructured) [bio-]materials, [bio-]nanotechnology & macromolecular crystallography with a focus on the applicability of the research output in products providing rational solutions for current scientific demands. An example is the ceiling crystallization method, realized for biological macromolecules, that I innovated, approved & designed its applicable kit during my PhD project (DOI: 10.1039/c4ce01814a) & was commercialized through Radboud University, Holland & sold to NOVARTIS, Switzerland. This work was extensively highlighted in the Dutch & international media.
3. I am involved in successful collaborations ever since conducting my master's: During my PhD, I worked at the solid-state chemistry & biochemistry departments & cooperated with researchers from other departments within Radboud University, & other Dutch Universities (Groningen, Utrecht, Leiden). Moreover, I had concert collaborations at Granada, ES & Gothenburg, Sweden that resulted in joint publications. During the execution of my first postdoc, I cooperated with a researcher in Oviedo, ES, whereas my second postdoc was conducted at the drug design & pharmaceutical analysis departments, Groningen University, collaborating with a Japanese company (Daiichi Sankyo). Now, I collaborate with 7 groups at different departments at Oviedo University, 1 group at Malaga University, 3 groups at national institutions (INCAR, CINN & IDONIAL) & 3 other international institutes plus the industrial sector. I actively participate in their research & guide their PhD students. I am an official member of SYSTAM group at Oviedo University (https://systam.grupos.uniovi.es/inicio) & participated in the preparation of their research proposal that led to the acquisition of their latest funding (MINECO-PID2020-113558RB-C). 4. Independently, I got two personal grants on the row: PTA in 2022 & Ramon y Cajal in 2023.
5. Since July 2017, I conceived a research project on the synthesis of biocompatible nanostructured antimicrobial materials for direct applications as biomaterials or as coating for medical alloys. I lead this ongoing project & supervised a PhD & 3 B.Sc. students & collaborate with researchers at CINN & the faculties of chemistry, engineering & dentistry at Oviedo University. This project resulted in a PhD thesis (cum laude 2021), 8 published articles (1 selected as Asturias-RSEQ best chemistry article of 2021 & 7 conference proceedings & delivered 3 invited talks.
6. With proven capability of scientific production: I co-authored 50+ peer reviewed scientific communications (31+ since 2020), with 15+ as the first author & 19+ as the responsible author (3 chosen among Asturias-RSEQ best articles in 2021, 2022 & 2023; 1 editors' choice in 2022 and best paper award in 2024). Additionally, my results were

communicated in 30+ international meetings with 20 posters (1 best poster award in 2013) & 14 (5 invited) oral talks (1 best talk award in 2009). Alongside, I reviewed 68 manuscripts for 31 WOS-indexed journals of different publishers & academically edited 2 manuscripts, chaired a conference session, & I was an evaluation committee member for GWIS grant 2023 & currently for AEI.

7. I have a proven ability of managing & professional usage of macroscale scientific facilities (SEM/HRTEM) since 2017.

8. I have concert experience in academic teaching (2004-2016 & 2025-). Now at the unit of electron microscopy, I train & guide many (under)graduate students in acquiring & analyzing their HRTEM & SEM results, & participate in the demonstrations presented for school pupils (Semana de Ciencia) & other microscopy introductory sessions for undergraduate students.

9. I am involved since 2008 in the supervision & guidance of (under)graduate students on their research internships & thesis projects. I officially supervised 1 PhD (Cum Laude 2021), 5 master & 6 bachelor students, besides unofficially guiding 15+ PhD students in their research projects & manuscripts writing & revision. 9. I am Involved in scientific voluntary activities with my multicultural perspective in societies as Graduate Women in Science (GWIS.org) & Egypt Scholars to assist fellow international female or Egyptian researchers in providing scientific materials, writing their short-term proposals & CVs & looking for opportunities to conduct PhD abroad.

General quality indicators of scientific research

This section describes briefly the main quality indicators of scientific production (periods of research activity, experience in supervising doctoral theses, total citations, articles in journals of the first quartile, H index...). It also includes other important aspects or peculiarities.

Alaa Adawy, PhD, M.Sc., B.Sc.
https://orcid.org/0000-0001-5517-6693
http://www.webofscience.com/wos/author/record/K-6440-2015
https://www.scopus.com/authid/detail.uri?authorId=55549046000
https://www.lens.org/lens/profile/635064470/scholar

https://sciprofiles.com/profile/alaaadawy
https://scholar.google.nl/citations?user=w8mFXrgAAAAJ&hl=nl
https://www.researchgate.net/profile/Alaa-Adawy
https://rug.academia.edu/AlaaAdawy

Total publications: 50 (25 est. 2020). Lens.org: 1352 citations; Academia.edu: 920 mentions; Google Scholar: 897 citations; Scopus: 676 citations; WOS: 665 citations; , i10-index: 18 Average citations/item: up to 27.

Reviewing manuscripts for international Journals 68 articles in 31 peer-reviewed WOS-indexed journals

Academic Editor of 2 article published in journals Materials & Molecules.

Guest Editor for Special Issue entitled Advances in Phosphate Materials: Structural, Technological and Biomedical Applications, in journal Materials.
Guest Editor for Special Issue entitled Functional Crystals for (Nano-)Technological and Biomedical Applications, in journal Molecules.

Current professional situation

1 **Employing entity:** Universidad de Oviedo **Type of entity:** University
Professional category: Ramon y Cajal Scientific Researcher
Start date: 01/09/2024
Type of contract: Temporary employment contract
Performed tasks: Academic teaching 80 hrs per academic year Principal investigator of a research project

2 **Employing entity:** Universidad de Oviedo **Type of entity:** University
Department: Unit of Electron Microscopy and Nanotechnology, Institute for Scientific and Technological Resources (SCTs)
Professional category: PhD, Titulado Superior **Leadership and management (Y/N):** Yes
City employing entity: Oviedo, Principality of Asturias, Spain
Start date: 01/05/2017
Type of contract: Temporary employment contract **Dedication regime:** Full time
Primary (UNESCO code): 220000 - Physics; 230000 - Chemistry; 240000 - Life Science
Secondary (UNESCO code): 220200 - Electro-magnetism; 220900 - Optics; 221000 - Physical chemistry; 221100 - Solid state physics; 221300 - Thermodynamics; 230100 - Analytical chemistry; 230300 - Inorganic chemistry; 230400 - Macromolecular chemistry; 240600 - Biophysics; 240700 - Cell biology; 241400 - Microbiology; 330200 - Biochemical technology; 330300 - Chemical technology and engineering; 331200 - Materials technology; 331400 - Medical technology; 331600 - Metal products technology
Tertiary (UNESCO code): 220212 - X-rays; 220304 - Electron microscopy; 220912 - Microscopes; 220919 - Physical optics; 221003 - Chemical kinetics; 221016 - Interfacial chemistry; 221026 - Scattering phenomena; 221028 - Solid state chemistry; 221029 - Solid state physics; 221101 - Alloys; 221102 - Composites; 221103 - Crystal Growth; 221105 - Crystal structure; 221128 - Surfaces; 230102 - Biochemical analysis; 230112 - Microscopy; 230120 - X-ray spectroscopy; 230318 - Metals; 230322 - Phosphorus compounds; 230408 - Macromolecules; 230700 - Physical chemistry; 240606 - Medical physics
Performed tasks: I work as the scientist responsible for the maintenance and operation of the High-Resolution Transmission Electron Microscope JEOL JEM 2100F and Scanning Electron Microscope JEOL-6610LV . I analyse samples of other researchers using the different analysis facilities possible with these microscopes (SEM, HR-TEM, Electron diffraction (SAED, NBD, CBD), tomography, EELS, EDX-mapping and STEM both in the bright and dark field (HAADF) modes, that can be operated at ambient, elevated and cryogenic conditions. I combine my technical responsibilities with my scientific research and have established some collaborations with several research groups inside and outside the University, giving a special focus for mentoring PhD students, the first of whom has obtained her PhD (Cume Laude) in September 2021. My main interest is to use HRTEM at a much lower voltage (can be operated at 120 KV) together with the cryo-holder to study protein nucleation. I adapted myself to this position for a family reunion purpose.
Identify key words: Analytical methods validation; Methodology; Solid phase synthesis; Nanostructures; Xrays; Chemical surface; Amorphous; Ceramics; Nanomaterials; Crystalline

engineering; Defects; Structural phase transition; Structure; Synthesis; Physics - Medical physics; Diffraction; Cell culture; Industrial chemistry

Area of leadership and/or management activity: University

Applicability in teaching and/or research: Beside the technical and research perspectives of this position, I also guide bachelor, master and PhD students in the interpretation of their results. Officially, I supervise PhD students. The latter task allowed me to finally officially act as a senior scientist who designs a research project. My first PhD student has successfully defended her thesis in September 2021 (cume laude) after publishing 3 articles in 3 high Impact factor Q1 journals.

Previous positions and activities

	Employing entity	Professional category	Start date
1	Universidad de Oviedo	PhD, PTA	01/01/2022
2	Universidad de Oviedo	Research and Technical Scientist	01/10/2022
3	Universidad de Oviedo	Titulado Superior PhD	22/12/2020
4	Universidad de Oviedo	Research and Technical Scientist	02/05/2017
5	University of Groningen (RUG)	PhD, Scientific Researcher	01/01/2016
6	Radboud University (RUN)	PhD, Postdoctoral associate	01/07/2014
7	Radboud University (RUN)	Research & academic assistant	01/07/2013
8	Radboud University (RUN)	PhD student (promovenda)	01/07/2009

1 **Employing entity:** Universidad de Oviedo **Type of entity:** University

Professional category: PhD, PTA

Start-End date: 01/01/2022 - 31/08/2024

Performed tasks: A 3-year grant from the Spanish ministry of science and innovation Tasks 1. Manage, operate, maintain and develop the HRTEM facility at Oviedo University. 2. Train under graduate and graduate students 3. Sample preparation and data acquisition 4. Scientific research (independent and collaborative resesarch lines) 5. Supervise 3 B.Sc. students on their TFG (internships)

2 **Employing entity:** Universidad de Oviedo **Type of entity:** University

Department: Physical and Analytical Chemistry, Faculty of Chemistry

City employing entity: Oviedo, Spain

Professional category: Research and Technical Scientist **Leadership and management (Y/N):** Yes

Start-End date: 01/10/2022 - 31/12/2022

Type of contract: Temporary employment contract

Performed tasks: I work as the scientist responsible for the maintenance and operation of the High-Resolution Transmission Electron Microscope JEOL JEM 2100F and Scanning Electron Microscope JEOL-6610LV . I analyse samples of other researchers using the different analysis facilities possible with these microscopes (SEM, HR-TEM, Electron diffraction (SAED, NBD, CBD), tomography, EELS, EDX-mapping and STEM both in the bright and dark field (HAADF) modes, that can be operated at ambient, elevated and cryogenic conditions. I combine my technical responsibilities with my scientific research and have established some collaborations with several research groups inside and outside the University, giving a special focus for mentoring PhD students, the first of whom has obtained her PhD (Cume Laude) in September 2021. My main interest is to use HRTEM at a much lower voltage (can be operated at 120 KV) together with the cryo-holder to study protein nucleation.

Area of leadership and/or management activity: University

Applicability in teaching and/or research: Beside the technical and research perspectives of this position, I also guide bachelor, master and PhD students in the interpretation of their results. Officially, I supervise PhD students. The latter task allowed me to finally officially act as a senior scientist who designs a research project. My first PhD student has successfully defended her thesis in September 2021 (cume laude) after publishing 3 articles in 3 high Impact factor Q1 journals. Currently I supervise 3 B.SC. studentson their internships at the faculty of chemistry.

3 **Employing entity:** Universidad de Oviedo **Type of entity:** University
Department: Unit of Electron Microscopy and Nanotechnologu, SCTs
City employing entity: Oviedo, Spain
Professional category: Titulado Superior PhD **Leadership and management (Y/N):** Yes
Start-End date: 22/12/2020 - 21/12/2021
Type of contract: Temporary employment contract
Performed tasks: I work as the scientist responsible for the maintenance and operation of the High-Resolution Transmission Electron Microscope JEOL JEM 2100F and Scanning Electron Microscope JEOL-6610LV . I analyse samples of other researchers using the different analysis facilities possible with these microscopes (SEM, HR-TEM, Electron diffraction (SAED, NBD, CBD), tomography, EELS, EDX-mapping and STEM both in the bright and dark field (HAADF) modes, that can be operated at ambient, elevated and cryogenic conditions. I combine my technical responsibilities with my scientific research and have established some collaborations with several research groups inside and outside the University, giving a special focus for mentoring PhD students, the first of whom has obtained her PhD (Cume Laude) in September 2021. My main interest is to use HRTEM at a much lower voltage (can be operated at 120 KV) together with the cryo-holder to study protein nucleation. I adapted myself to this position for a family reunion purpose.
Area of leadership and/or management activity: University
Applicability in teaching and/or research: Applicability in teaching and/or research: Beside the technical and research perspectives of this position, I also guide bachelor, master and PhD students in the interpretation of their results. Officially, I supervise PhD students. The latter task allowed me to finally officially act as a senior scientist who designs a research project. My first PhD student has successfully defended her thesis in September 2021 (cume laude) after publishing 3 articles in 3 high Impact factor Q1 journals. Primary (UNESCO code): Chemistry;Life Science;Physics

4 **Employing entity:** Universidad de Oviedo **Type of entity:** University
Department: Unit of Electron Microscopy and Nanotechnologu, SCTs
City employing entity: Oviedo, Spain
Professional category: Research and Technical Scientist **Leadership and management (Y/N):** Yes
Start-End date: 02/05/2017 - 20/06/2020
Type of contract: Temporary employment contract
Performed tasks: I work as the scientist responsible for the maintenance and operation of the High-Resolution Transmission Electron Microscope JEOL JEM 2100F and Scanning Electron Microscope JEOL-6610LV . I analyse samples of other researchers using the different analysis facilities possible with these microscopes (SEM, HR-TEM, Electron diffraction (SAED, NBD, CBD), tomography, EELS, EDX-mapping and STEM both in the bright and dark field (HAADF) modes, that can be operated at ambient, elevated and cryogenic conditions. I combine my technical responsibilities with my scientific research and have established some collaborations with several research groups inside and outside the University, giving a special focus for mentoring PhD students, the first of whom has obtained her PhD (Cume Laude) in September 2021. My main interest is to use HRTEM at a much lower voltage (can be operated at 120 KV) together with the cryo-holder to study protein nucleation. I adapted myself to this position for a family reunion purpose.
Area of leadership and/or management activity: University

Applicability in teaching and/or research: Applicability in teaching and/or research: Beside the technical and research perspectives of this position, I also guide bachelor, master and PhD students in the interpretation of their results. Officially, I supervise PhD students. The latter task allowed me to finally officially act as a senior scientist who designs a research project. My first PhD student has successfully defended her thesis in September 2021 (cume laude) after publishing 3 articles in 3 high Impact factor Q1 journals. Primary (UNESCO code): Chemistry;Life Science;Physics

5 **Employing entity:** University of Groningen (RUG) **Type of entity:** University
Department: Department of Drug Design, Structural biology group, Groningen Research Institute of Pharmacy
City employing entity: Groningen, Groningen, Holland
Professional category: PhD, Scientific Researcher **Leadership and management (Y/N):** Yes
Start-End date: 01/01/2016 - 30/04/2017 **Duration:** 1 year - 4 months
Type of contract: Grant-assisted student (pre or post-doctoral, others)
Dedication regime: Full time
Primary (UNESCO code): 220000 - Physics; 230000 - Chemistry; 240000 - Life Science
Secondary (UNESCO code): 220900 - Optics; 221000 - Physical chemistry; 221028 - Solid state chemistry; 221300 - Thermodynamics; 230100 - Analytical chemistry; 230200 - Biochemistry; 230291 - Chemical biological macromolecules; 240600 - Biophysics; 240700 - Cell biology; 330000 - Technological Science.; 330200 - Biochemical technology; 330300 - Chemical technology and engineering; 331100 - Instrumentation technology
Tertiary (UNESCO code): 220206 - Infrared, visible and ultraviolet radiation; 220403 - Fluid flow; 220910 - Lasers; 220911 - Light; 221016 - Interfacial chemistry; 221026 - Scattering phenomena; 221033 - Transport phenomena; 221103 - Crystal Growth; 221104 - Crystallography; 230102 - Biochemical analysis; 230103 - Chromatographic analysis; 230110 - Mass spectroscopy; 230112 - Microscopy; 230120 - X-ray spectroscopy; 230202 - Amino acid; 230224 - Peptides; 230227 - Proteins; 230408 - Macromolecules; 332805 - Crystallisation; 332818 - Mass transfer
Performed tasks: I worked as a staff member in the department of drug design, led by Professor Alexander Domling, under the supervision of Professor Matthew R. Groves. I worked on a project funded by a Japanese international company (Daiichi Sankyo). In this project, an attempt was made to invent a new screening method to scan for protein nucleation by combining microfluidics and light scattering techniques. The project led to promising results, some of which are still pending publication. To execute this project, I combined light scattering technologies (SLS and DLS) with microfluidics technology to build the screening system. I combined my research activities with the supervision of some B.Sc. and M.Sc. students in performing their research internships. In addition, I guided around 10 starting PhD students in the interpretation and execution of their experiments as well as revising their manuscripts.
Identify key words: Microchips; Liquid chromatography (uv, luminiscence, ms, electochemical, etc); Amorphous; Crystalline engineering; Diffusion-limited aggregation; interferometry; Epitaxies and crystalline growth
Area of leadership and/or management activity: University
Applicability in teaching and/or research: Regarding the participation in education and mentorship, I was involved in training, guiding and supervising bachelor, master and PhD students in performing their experimental tasks at the laboratory and their after revising their generated manuscripts. Moreover,I presented my results in internationally recognized meetings and was invited to give inspiring scientific talks to aimed for the B.Sc. students to encourage them to perform their internships in our research institute.

6 **Employing entity:** Radboud University (RUN) **Type of entity:** University
Department: Bio-organic Chemistry, Institute for Molecules and Materials
City employing entity: Nijmegen, Gelderland, Holland
Professional category: PhD, Postdoctoral associate **Leadership and management (Y/N):** Yes

Start-End date: 01/07/2014 - 31/12/2015 **Duration:** 1 year - 6 months
Type of contract: Grant-assisted student (pre or post-doctoral, others)
Dedication regime: Full time
Primary (UNESCO code): 220000 - Physics; 230000 - Chemistry
Secondary (UNESCO code): 220900 - Optics; 221000 - Physical chemistry; 221100 - Solid state physics; 230100 - Analytical chemistry; 230200 - Biochemistry; 230400 - Macromolecular chemistry
Tertiary (UNESCO code): 220912 - Microscopes; 221017 - Ion exchange; 221026 - Scattering phenomena; 221028 - Solid state chemistry; 221102 - Composites; 221103 - Crystal Growth; 221193 - Phase Transitions in liquid crystals; 230102 - Biochemical analysis; 230103 - Chromatographic analysis; 230112 - Microscopy; 230227 - Proteins; 230408 - Macromolecules; 230415 - Polyethylene
Performed tasks: I worked under the supervision of Professor Jan van Hest in a project funded by ERC advanced grant. In this project, an attempt was made to effectuate the crystallization in nanoconfined polymeric vesicles. The project led to promising results, that were published in Small (IF > 13). In addition, I participated in a review article that was published in Chemical Reviews (IF > 60) To execute this project: I practised the synthesis of block copolymers and their assembly into polymersomes. I extensively used characterization techniques such as DLS, TEM, Cryo-TEM, Cryo-SEM and NMR.
Identify key words: Liquid chromatography (uv, luminiscence, ms, electochemical, etc); Spectrophotometry; Solid phase synthesis; Nanostructures; Supramolecular organic chemistry; Biomembranes and receivers; Chilarity; Autoassembly; Amorphous; Nanomaterials; Biocompatible materials
Applicability in teaching and/or research: I combined my research activities with the guidance of PhD students in performing their research and revising their manuscripts. In addition, I participated in laboratory demonstrations for B.Sc. students. Moreover,I presented my results in internationally recognized meetings.

7 **Employing entity:** Radboud University (RUN) **Type of entity:** University
Department: Solid State Chemistry, Institute for Molecules and Materials
City employing entity: Nijmegen, Gelderland, Holland
Professional category: Research & academic assistant **Leadership and management (Y/N):** Yes
Start-End date: 01/07/2013 - 30/06/2014 **Duration:** 5 years
Type of contract: Grant-assisted student (pre or post-doctoral, others)
Dedication regime: Full time
Primary (UNESCO code): 220000 - Physics; 230000 - Chemistry; 240000 - Life Science
Secondary (UNESCO code): 220400 - Fluida (physics of); 220600 - Molecular physics; 220900 - Optics; 221000 - Physical chemistry; 221100 - Solid state physics; 230100 - Analytical chemistry; 230200 - Biochemistry; 240300 - Biochemistry
Tertiary (UNESCO code): 220403 - Fluid flow; 220603 - Macromolecules (physics of); 220903 - Colorimetry; 220906 - Geometric optics; 220910 - Lasers; 220912 - Microscopes; 220919 - Physical optics; 220921 - Spectroscopy; 221003 - Chemical kinetics; 221028 - Solid state chemistry; 221102 - Composites; 221103 - Crystal Growth; 221104 - Crystallography; 221105 - Crystal structure; 221108 - Diffusion in solids; 221128 - Surfaces; 221311 - Transport phenomena; 230112 - Microscopy; 230227 - Proteins; 230408 - Macromolecules; 230418 - Polypeptides and proteins; 230700 - Physical chemistry; 240699 - Other; 240705 - Tissue culture
Performed tasks: I worked as a staff member in the research group of Professor E. Vlieg. My work involved research, education and supervision of internships. I conducted my research between the IMM and RIMLS in Nijmegen, Groningen University, Gothenburg University, Sweden, and Granada University, Spain. This project led to 1. the approval of the ceiling crystallization method for the nucleation and growth of high resolution protein crystals 2. designing a kit for easy usage of them method at the microscale 3. design a system based on phase shifting interferometer and numerical simulation to monitor changes in solution concentrations around growing crystals 4. scientific collaboration with researchers in RIMLS to design a method for producing unidirectional free-dried collagen scaffolds

Identify key words: Liquid chromatography (uv, luminiscence, ms, electochemical, etc); Peptides and proteins; Liquid cristals; Chemical phisycs of materials; Physics - Optical physics; Physical aplications to problems and biological systems; Cell culture; Biochemistry

Area of leadership and/or management activity: University

Applicability in teaching and/or research: I participated in the theoretical tutorials of two courses (Condensed matter & crystal structure) for 3 years (6 semesters, 4 hrs/week). I supervised 1 B.Sc. internship and 4 Masters internships. My research was recognized internationally (through oral presentations) and the output (ceiling kit) was considered for industrial applications (Sold to NOVARTIS)

8 **Employing entity:** Radboud University (RUN) **Type of entity:** University

Department: Solid State Chemistry, Institute for Molecules and Materials

City employing entity: Nijmegen, Gelderland, Holland

Professional category: PhD student (promovenda) **Leadership and management (Y/N):** Yes

Start-End date: 01/07/2009 - 30/06/2013 **Duration:** 5 years

Type of contract: Grant-assisted student (pre or post-doctoral, others)

Dedication regime: Full time

Primary (UNESCO code): 220000 - Physics; 230000 - Chemistry; 240000 - Life Science

Secondary (UNESCO code): 220400 - Fluida (physics of); 220600 - Molecular physics; 220900 - Optics; 221000 - Physical chemistry; 221100 - Solid state physics; 230100 - Analytical chemistry; 230200 - Biochemistry; 240300 - Biochemistry

Tertiary (UNESCO code): 220403 - Fluid flow; 220603 - Macromolecules (physics of); 220903 - Colorimetry; 220906 - Geometric optics; 220910 - Lasers; 220912 - Microscopes; 220919 - Physical optics; 220921 - Spectroscopy; 221003 - Chemical kinetics; 221028 - Solid state chemistry; 221102 - Composites; 221103 - Crystal Growth; 221104 - Crystallography; 221105 - Crystal structure; 221108 - Diffusion in solids; 221128 - Surfaces; 221311 - Transport phenomena; 230112 - Microscopy; 230227 - Proteins; 230408 - Macromolecules; 230418 - Polypeptides and proteins; 230700 - Physical chemistry; 240699 - Other; 240705 - Tissue culture

Performed tasks: I worked as a staff member in the research group of Professor E. Vlieg. My work involved research, education and supervision of internships. I conducted my research between the IMM and RIMLS in Nijmegen, Groningen University, Gothenburg University, Sweden, and Granada University, Spain. This project led to 1. the approval of the ceiling crystallization method for the nucleation and growth of high resolution protein crystals 2. designing a kit for easy usage of them method at the microscale 3. design a system based on phase shifting interferometer and numerical simulation to monitor changes in solution concentrations around growing crystals 4. scientific collaboration with researchers in RIMLS to design a method for producing unidirectional free-dried collagen scaffolds

Identify key words: Liquid chromatography (uv, luminiscence, ms, electochemical, etc); Peptides and proteins; Liquid cristals; Chemical phisycs of materials; Physics - Optical physics; Physical aplications to problems and biological systems; Cell culture; Biochemistry

Area of leadership and/or management activity: University

Applicability in teaching and/or research: I participated in the theoretical tutorials of two courses (Condensed matter & crystal structure) for 3 years (6 semesters, 4 hrs/week). I supervised 1 B.Sc. internship and 4 Masters internships. My research was recognized internationally (through oral presentations) and the output (ceiling kit) was considered for industrial applications (Sold to NOVARTIS)

Education

University education

Doctorates

Doctorate programme: PhD degree in Chemistry & Physics at IMM institute
Degree awarding entity: Radboud University (RUN) **Type of entity:** University
Date of degree: 04/06/2014
European doctorate: Yes **Date of certificate:** 04/06/2014
Thesis title: The Ceiling Method for the Growth of High Resolution Protein Crystals
Recognition of quality: Yes
Standardised degree: Yes **Date of standardisation:** 04/12/2020

Teaching experience

General teaching experience

1 **Type of teaching:** Official teaching
Name of the course: Fisica
Type of programme: Bachelor's degree **Type of teaching:** Laboratory work
Type of subject: Obligatory
Assessment type: Internal assessment
University degree: Licenciado en Informática
Course given: General Physics **Frequency of the activity:** 1
Start date: 21/01/2025 **End date:** 04/07/2025
Type of hours/ ECTS credits: Hours
Hours/ECTS credits: 12
Entity: Universidad de Oviedo **Type of entity:** University
Faculty, institute or centre: Ciencias
Department: Physics
City of entity: Oviedo, Principality of Asturias, Spain
City assessment entity: Oviedo, Principality of Asturias, Spain
Assessment type: Internal assessment
Subject language: English

2 **Type of teaching:** Official teaching
Name of the course: Fisica
Type of programme: Bachelor's degree **Type of teaching:** Laboratory work
Type of subject: Obligatory
Assessment type: Internal assessment
University degree: Licenciado en Biología Opción Biología Fundamental y Biotecnología.
Course given: General Physics **Frequency of the activity:** 4
Start date: 21/01/2025 **End date:** 04/07/2025

Type of hours/ ECTS credits: Hours
Hours/ECTS credits: 12
Entity: Universidad de Oviedo
Type of entity: University
Faculty, institute or centre: Ciencias
Department: Physics
City of entity: Oviedo, Principality of Asturias, Spain
City assessment entity: Oviedo, Principality of Asturias, Spain
Assessment type: Internal assessment
Subject language: Spanish

3
Type of teaching: Official teaching
Name of the course: Condensed matter
Type of programme: Bachelor's degree
Type of teaching: Practical work (classroom-problems)
Type of subject: Obligatory
Assessment type: An official exam
University degree: Licenciado en Ciencias Químicas
Course given: Crystal Structure
Frequency of the activity: 3
Start date: 01/04/2011
End date: 30/06/2013
Type of hours/ ECTS credits: Hours
Hours/ECTS credits: 48
Entity: Radboud University (RUN)
Type of entity: University
Faculty, institute or centre: Faculty of Science
Department: Solid State Chemistry
City of entity: Nijmegen, Gelderland, Holland
City assessment entity: NIjmegen, Gelderland, Holland
Assessment type: An official exam
Subject language: Dutch

4
Type of teaching: Official teaching
Name of the course: Crystal structure
Type of programme: Bachelor's degree
Type of teaching: Practical work (classroom-problems)
Type of subject: Obligatory
Assessment type: Internal assessment
University degree: Licenciado en Ciencias Químicas
Course given: Crystal Structure
Frequency of the activity: 3
Start date: 01/10/2010
End date: 15/01/2013
Type of hours/ ECTS credits: Hours
Hours/ECTS credits: 48
Entity: Radboud University (RUN)
Department: Solid State Chemistry
City of entity: Nijmegen, Gelderland, Holland
City assessment entity: NIjmegen, Gelderland, Holland
Assessment type: Internal assessment
Subject language: Dutch

5
Type of teaching: Official teaching
Name of the course: Experimental Biophysics (3rd years B.Sc. students)
Type of programme: Bachelor's degree
Type of teaching: Laboratory work
Type of subject: Obligatory
Assessment type: An official exam
University degree: Licenciado en Ciencias Biofísicas

Course given: Experimental Biophysics (3rd years B.Sc. students) **Frequency of the activity:** 4
Start date: 01/02/2006 **End date:** 31/05/2009
Type of hours/ ECTS credits: Hours
Hours/ECTS credits: 48
Entity: Ain Shams University **Type of entity:** University
Faculty, institute or centre: Faculty of Science
Department: Physics
City of entity: Cairo, Egypt
City assessment entity: Cairo, Egypt
Assessment type: An official exam
Subject language: English

6 **Type of teaching:** Official teaching
Name of the course: Experimental Biophysics (4th years B.Sc. students)
Type of programme: Bachelor's degree **Type of teaching:** Laboratory work
Type of subject: Obligatory
Assessment type: An official exam
University degree: Licenciado en Ciencias Biofísicas
Course given: Experimental Biophysics (4th years B.Sc. students) **Frequency of the activity:** 4
Start date: 01/02/2006 **End date:** 31/05/2009
Type of hours/ ECTS credits: Hours
Hours/ECTS credits: 48
Entity: Ain Shams University **Type of entity:** University
Faculty, institute or centre: Faculty of Science
Department: Physics
City of entity: Cairo, Egypt
City assessment entity: Cairo, Egypt
Assessment type: An official exam
Subject language: English

7 **Type of teaching:** Official teaching
Name of the course: Experimental physics (1st year B.Sc. Students)
Type of programme: Bachelor's degree **Type of teaching:** Laboratory work
Type of subject: Obligatory
Assessment type: An official exam
University degree: Licenciado en Ciencias Físicas
Course given: Experimental physics **Frequency of the activity:** 6
Start date: 01/04/2004 **End date:** 31/05/2009
Type of hours/ ECTS credits: Hours
Hours/ECTS credits: 720
Entity: Ain Shams University **Type of entity:** University
Faculty, institute or centre: Faculty of Science
Department: Physics
City of entity: Cairo, Egypt
City assessment entity: Cairo, Egypt
Assessment type: An official exam
Subject language: English

8 **Type of teaching:** Official teaching
Name of the course: Laser Physics (4th years B.Sc. students)
Type of programme: Bachelor's degree
Type of teaching: Practical work (classroom-problems)
Type of subject: Obligatory
Assessment type: An official exam
University degree: Licenciado en Ciencias Biofísicas
Course given: Laser Physics
Frequency of the activity: 3
Start date: 01/10/2005
End date: 30/12/2008
Type of hours/ ECTS credits: Hours
Hours/ECTS credits: 96
Entity: Ain Shams University
Type of entity: University
Faculty, institute or centre: Faculty of Science
Department: Physics
City of entity: Cairo, Egypt
City assessment entity: Cairo, Egypt
Assessment type: An official exam
Subject language: English

9 **Type of teaching:** Official teaching
Name of the course: Physical optics (3rd year B.Sc. Students)
Type of programme: Bachelor's degree
Type of teaching: Practical work (classroom-problems)
Type of subject: Obligatory
Assessment type: An official exam
University degree: Licenciado en Ciencias Biofísicas
Course given: Physical Optics
Frequency of the activity: 3
Start date: 01/10/2005
End date: 30/12/2008
Type of hours/ ECTS credits: Hours
Hours/ECTS credits: 96
Entity: Ain Shams University
Type of entity: University
Faculty, institute or centre: Faculty of Science
Department: Physics
City of entity: Cairo, Egypt
City assessment entity: Cairo, Egypt
Assessment type: An official exam
Subject language: English

10 **Type of teaching:** Official teaching
Name of the course: Physics for Biologists (2nd years B.Sc. students)
Type of programme: Bachelor's degree
Type of teaching: Practical work (classroom-problems)
Type of subject: Obligatory
Assessment type: An official exam
University degree: Licenciado en Ciencias Biofísicas
Course given: Physics for biologists (2nd year students)
Frequency of the activity: 3
Start date: 01/10/2004
End date: 30/12/2007
Type of hours/ ECTS credits: Hours
Hours/ECTS credits: 96
Entity: Ain Shams University
Type of entity: University
Faculty, institute or centre: Faculty of Science
Department: Physics
City of entity: Cairo, Egypt
City assessment entity: Cairo, Egypt

Assessment type: An official exam
Subject language: English

11 **Type of teaching:** Official teaching
Name of the course: Experimental Biophysics (2nd years B.Sc. students)
Type of programme: Bachelor's degree
Type of teaching: Laboratory work
Type of subject: Obligatory
Assessment type: An official exam
University degree: Licenciado en Ciencias Biofísicas
Course given: Experimental Biophysics (2nd years B.Sc. students)
Frequency of the activity: 2
Start date: 01/10/2004
End date: 30/12/2006
Type of hours/ ECTS credits: Hours
Hours/ECTS credits: 48
Entity: Ain Shams University
Type of entity: University
Faculty, institute or centre: Faculty of Science
Department: Physics
City of entity: Cairo, Egypt
City assessment entity: Cairo, Egypt
Assessment type: An official exam
Subject language: English

Experience supervising doctoral thesis and/or final year projects

1 **Project title:** Surface engineering of medical alloys
Type of project: End of course project
Entity: Universidad de Oviedo
Type of entity: University
Student: Jesus Perez Llera
Obtained qualification: 7.8
Date of reading: 14/02/2025

2 **Project title:** A comparative study on the biofunctionality of α-TiP versus γ-TiP, intercalated with Zinc ions
Type of project: End of course project
Entity: Universidad de Oviedo
Type of entity: University
Student: Rodrigo Prieto Peruyera
Obtained qualification: 7.8
Date of reading: 14/02/2024

3 **Project title:** A comparative study on the biofunctionality of α-TiP versus γ-TiP intercalated with silver
Type of project: End of course project
Entity: Universidad de Oviedo
Type of entity: University
Student: Carlos García Marín
Obtained qualification: 8.1
Date of reading: 20/06/2023

4 **Project title:** Nucleation and crystal growth of biological macromolecules
Type of project: End of course project
Entity: Universidad de Oviedo
Type of entity: University
Student: Gonzalo Rodríguez Alonso
Obtained qualification: 8.9

Date of reading: 20/06/2023

5 **Project title:** Nanomaterials in the prevention and treatment of infections. Metal phosphates of low dimensionality as respositories for antimicrobial nanoparticles
Type of project: Doctoral thesis
Entity: Universidad Internacional Menéndez Pelayo **Type of entity:** University
City of entity: Madrid, Community of Madrid, Spain
Student: Inés García González
Obtained qualification: Doctorado en Ciencia y Tecnología
Identify key words: Bioanalysis; Chemical phisycs of materials; Biophysic chemistry; Nanomaterials; Biocompatible materials; Biomaterials; Cell culture; Disinfection
Date of reading: 16/09/2021
European doctorate: Yes **Date of recognition:** 2001
Quality recognition: Yes **Date of award:** 20/10/2021

6 **Project title:** Monitoring the nucleation events by using different methods
Type of project: Work leading to an ASD
Entity: University of Groningen (RUG) **Type of entity:** University
City of entity: Groningen, Groningen, Holland
Student: Katharina Duda
Obtained qualification: Erasmus M.Sc. degree
Identify key words: Analytic chemistry; Physic chemistry
Date of reading: 31/10/2016
Quality recognition: Yes **Date of award:** 01/11/2016

7 **Project title:** UV protein absorbance as a possible route to facilitate protein crystallization
Type of project: End of course project
Entity: University of Groningen (RUG) **Type of entity:** University
City of entity: Groningen, Groningen, Holland
Student: Cornel Brouwer
Obtained qualification: B.Sc.
Identify key words: Analytic chemistry; Physic chemistry
Date of reading: 17/06/2016

8 **Project title:** Creating porous materials by freeze-casting
Type of project: Work leading to an ASD
Entity: Radboud University (RUN)
City of entity: Nijmegen, Gelderland, Holland
Student: Janneke Dickhout
Obtained qualification: M.Sc. degree (doctorandus)
Date of reading: 06/09/2013
Quality recognition: Yes **Date of award:** 30/09/2013

9 **Project title:** Monitoring of concentration gradients during crystal growth by means of phase shifting interferometry and numerical simulations
Type of project: Work leading to an ASD
Entity: Radboud University (RUN) **Type of entity:** University
City of entity: Nijmegen, Gelderland, Holland
Student: Kess Marks
Obtained qualification: M.Sc. degree (doctorandus)
Date of reading: 01/07/2013

Quality recognition: Yes **Date of award:** 30/09/2013

10 **Project title:** The effect of impurities on protein crystal growth
Type of project: Work leading to an ASD
Entity: Radboud University RUN **Type of entity:** University
City of entity: Nijmegen, Gelderland, Holland
Student: Esther van der Hijden
Obtained qualification: M.Sc. degree (doctorandus)
Date of reading: 08/05/2013
Quality recognition: Yes **Date of award:** 30/09/2013

11 **Project title:** Effect of impurities on Hen egg-white lysozyme crystal growth
Type of project: End of course project
Entity: Radboud University (RUN) **Type of entity:** University
City of entity: Nijmegen, Gelderland, Holland
Student: Iris van Leeuwen Adawy
Obtained qualification: B.Sc. degree
Date of reading: 14/07/2011
Quality recognition: Yes **Date of award:** 30/09/2011

12 **Project title:** Defects in protein crystals
Type of project: Work leading to an ASD
Entity: Radboud University (RUN) **Type of entity:** University
City of entity: Nijmegen, Gelderland, Holland
Student: Mireille Smets
Obtained qualification: M.Sc. degree (doctorandus)
Date of reading: 05/07/2011
Quality recognition: Yes **Date of award:** 30/09/2011

13 **Project title:** Biomaterials and their applications
Type of project: End of course project
Entity: Ain Shams University **Type of entity:** University
City of entity: Cairo, Egypt
Student: Rehab Sayed Algahlan
Obtained qualification: B.Sc. degree
Date of reading: 01/05/2006
Quality recognition: Yes **Date of award:** 01/06/2006

Courses and seminars given

1 **Type of event:** Course
Name of the event: Introducción al análisis y caracterización de materiales
City organizing entity: Oviedo, Principality of Asturias, Spain
Organising entity: Instituto de ciencia y tecnología del carbono (INCAR) **Type of entity:** Public Research Body
Target group profile: postgraduates
Hours of teaching: 1 **Teaching language:** English
Teaching date: 29/05/2024
Type of participation: Participatory - Plenary session
Theme: Otra Temáctica

2 **Type of event:** Seminar
Name of the event: Borrellecture: Crystallisation as a science not a coincidence!
City organizing entity: Groningen, Holland
Organising entity: Huygens committee of the FMF, University of Groningen
Target group profile: undergraduates
Hours of teaching: 2 **Teaching language:** English
Teaching date: 07/02/2017
Type of participation: Participatory - invited/keynote talk

Participation in innovative teaching projects

1 **Project title:** XXI Semana de la Ciencia y la Tecnología
Type of participation: Team member
Time of working relationship: For a limited time
Funding entity: Unidad de cultura científica y de la innovación, Universidad de Oviedo **Type of entity:** University Centres and Structures and Associated Bodies
Start-End date: 08/11/2021 - 21/11/2021 **Duration:** 2 days

2 **Project title:** XIX Semana de la Ciencia y la Tecnología
Type of participation: Team member
Time of working relationship: For a limited time
Funding entity: Unidad de cultura científica y de la innovación, Universidad de Oviedo
Start-End date: 04/11/2019 - 17/11/2019 **Duration:** 2 days

3 **Project title:** XVIII Semana de la Ciencia y la Tecnología
Type of participation: Team member
Time of working relationship: For a limited time
Funding entity: Unidad de cultura científica y de la innovación, Universidad de Oviedo
Start-End date: 12/11/2018 - 16/11/2018 **Duration:** 2 days

Scientific and technological experience

Scientific or technological activities

R&D projects funded through competitive calls of public or private entities

1 **Name of the project:** Innovative Biophysical Solutions for Biotechnological Applications in the Fields of Macromolecular Crystallography and Biomaterials
Type of project: Research and development, including transfer
Degree of contribution: Coordinator of total project, network or consortium
Entity where project took place: Universidad de Oviedo **Type of entity:** University
City of entity: Oviedo, Principality of Asturias, Spain
Nº of researchers: 1 **Nª people/year:** 1
Name of the programme: Ayudas para contratos de Ramon y Cajal 2022
Start-End date: 01/09/2024 - 31/08/2029
Total amount: 240.000 €
Dedication regime: Full time
Applicant's contribution: Principal research investigator and lecturer at the physics department, Oviedo University

2 **Name of the project:** Espectrometria de Masas y Análisis Biomédico
Type of project: Research and development, including transfer **Geographical area:** National
Degree of contribution: Researcher
Entity where project took place: Universidad de Oviedo **Type of entity:** University
City of entity: Oviedo, Principality of Asturias, Spain
Name principal investigator (PI, Co-PI....): Santiago Garcia Granda; Jose Ruben Garcia Menendez
Nº of researchers: 25 **Nª people/year:** 25
Type of participation: Team member
Name of the programme: GRUPIN
Code according to the funding entity: IDE/2024/000742
Start-End date: 01/01/2025 - 31/12/2026 **Duration:** 2 years
Total amount: 199.220 €
Dedication regime: Part time
Applicant's contribution: to the moment there are 7 reported Publications.

3 **Name of the project:** Determination of nanostructures by high resolution electron microscopy
Type of project: Research and development, including transfer
Degree of contribution: Coordinator of total project, network or consortium
Entity where project took place: Universidad de Oviedo **Type of entity:** University
City of entity: Oviedo, Principality of Asturias, Spain
Nº of researchers: 1 **Nª people/year:** 1
Name of the programme: Ayudas para contratos de Personal Técnico de Apoyo (PTA) 2021
Start-End date: 01/01/2023 - 31/12/2025

Total amount: 50.000 €
Dedication regime: Full time
Applicant's contribution: Operate, manage & develop the HRTEM facility at Oviedo University, Spain

4 **Name of the project:** Síntesis, estructura y aplicación tecnológica de materiales implicados en los campos de la salud, las energías limpias y el cambio climático [MCI-21-PID2020-113558RB-C41]
Type of project: Research and development, including transfer
Degree of contribution: Researcher
Entity where project took place: Universidad de Oviedo **Type of entity:** University
City of entity: Oviedo, Principality of Asturias, Spain
Name principal investigator (PI, Co-PI....): Santiago Garcia Granda; Jose Ruben Garcia Menendez
Nº of researchers: 20
Type of participation: Team member
Name of the programme: Programa de GENERACIÓN DE CONOCIMIENTO
Code according to the funding entity: MCI-21-PID2020-113558RB-C41
Start-End date: 01/09/2021 - 31/08/2025 **Duration:** 5 years
Dedication regime: Part time
Applicant's contribution: to the moment there are 7 reported Publications.

5 **Name of the project:** Diseño, Sintesis, Caracterizacion Y Operacion De Nuevos Catalizadores Heterogeneos Para La Sintesis De Amoniaco Y La Fotoconversion De Compuestos Organicos
Type of project: Research and development, including transfer
Degree of contribution: Researcher
Entity where project took place: Universidad de Oviedo **Type of entity:** University
City of entity: Oviedo, Principality of Asturias, Spain
Name principal investigator (PI, Co-PI....): Santiago Garcia Granda; Jose Ruben Garcia Menendez
Nº of researchers: 20
Type of participation: Team member
Name of the programme: MINECO
Code according to the funding entity: MINECO-17-MAT2016-78155-C2-1-R
Start-End date: 30/12/2016 - 29/06/2021 **Duration:** 4 years - 6 months
Dedication regime: Part time
Applicant's contribution: 1. Since July 2017, led and participated in research that led to 13 scientific Publications 2. Delivered oral presentations 3. Participated in conferences 4. Attended scientific schools 5. Supervised a PhD thesis

6 **Name of the project:** Síntesis, Estructura y Aplicación Tecnológica de Materiales
Type of project: Research and development, including transfer **Geographical area:** National
Degree of contribution: Researcher
Entity where project took place: Universidad de Oviedo **Type of entity:** University
City of entity: Oviedo, Principality of Asturias, Spain
Name principal investigator (PI, Co-PI....): Santiago Garcia Granda; Jose Ruben Garcia Menendez
Nº of researchers: 7 **Nª people/year:** 7
Type of participation: Team member
Name of the programme: GRUPIN
Code according to the funding entity: IDI/2018/000170
Start-End date: 01/01/2018 - 31/12/2020 **Duration:** 3 years
Total amount: 178.000 €

Dedication regime: Part time

7 **Name of the project:** Rational Solutions for Protein Crystalllisation
Type of project: Research and development, including transfer
Entity where project took place: University of Groningen (RUG)
City of entity: Groningen, Groningen, Holland
Nº of researchers: 2
Funding entity or bodies:
Daiichi Sankyo Company
City funding entity: Japan

Start-End date: 01/10/2015 - 01/10/2017 **Duration:** 2 years
Total amount: 200 €
Applicant's contribution: 1. Participated and led research that resulted in 4 publications (+2 pending) 2. Supervised M.Sc. and B.Sc. students 3. Attended scientific schools 4. Delivered oral presentations in conferences 5. Developed a screening methodology for screening of protein nucleation

8 **Name of the project:** Stoma Motors
Type of project: Research and development, including transfer
Degree of contribution: Researcher
Entity where project took place: Radboud University (RUN)
City of entity: Nijmegen, Gelderland, Holland
Nº of researchers: 10
Type of participation: Team member
Name of the programme: ERC starting grant
Code according to the funding entity: (FP7/2007-2012)/ERC-StG 307679
Start-End date: 01/09/2012 - 01/09/2016 **Duration:** 1 year - 6 months
Total amount: 1.500.000 €
Dedication regime: Full time
Applicant's contribution: Working on this project led to: 1. a research article in Small 2. a review article in Chemical review 3. writing 2 proposals for grants

9 **Name of the project:** Cheap microgravity for protein crystal growth
Type of project: Research and development, including transfer **Geographical area:** European Union
Degree of contribution: Researcher
Entity where project took place: Radboud University (RUN)
City of entity: Nijmegen, Gelderland, Holland
Nº of researchers: 3
Type of participation: Team member
Name of the programme: ECHO-NWO
Start-End date: 01/07/2009 - 01/07/2014 **Duration:** 5 years
Total amount: 240.000 €
Dedication regime: Full time
Applicant's contribution: I was the PhD student hired to work for 5 years on this project. The output of this work was 1. PhD thesis, that was defended in public 2. The five published research articles 3. Scientific collaboration that led to an additional published article 4. one technical development (a kit), from which a package was sold to Novartis, Switzerland 5. Several highlights published in (inter)national journals 6. A proposal for new research project

Results

Technological results derived from specialized and transfer activities, not included in previous sections

Description: Designing and commercializing the ceiling crystallization kit for microscale application
Name of the principal Investigator (PI): Alaa Adawy
Degree of contribution: Coordinator of total project, network or consortium

Scientific and technological activities

Scientific production

1 **H index:** 13
Date of application: 18/01/2025
Source of H-Index: WOS

2 **H index:** 14
Date of application: 18/01/2025
Source of H-Index: GOOGLE SCHOLAR

3 **H index:** 13
Date of application: 18/01/2025
Source of H-Index: SCOPUS

4 **H index:** 14
Date of application: 18/01/2025
Source of H-Index: Lens.org

Publications, scientific and technical documents

1 Safa Toumi; Alaa Adawy; Alberto Quaranta; Khaled Farah. Exploiting Cu⁺-Na⁺ ion-exchanged and Ar/H₂ annealed glass matrix to synthesize copper nanoparticles. JOURNAL OF THE AMERICAN CERAMIC SOCIETY. 107 - 11, pp. e1 - e18. WILEY, 11/2024. ISSN 0002-7820
Type of production: Scientific paper **Format:** Journal

2 Alaa Adawy. A Tutorial Review on the Methodologies and Theories Utilized to Handle Proteins toward Obtaining Single Protein Crystals. CRYSTAL GROWTH & DESIGN. 24 - 16, pp. 6865 - 6887. AMER CHEMICAL SOC, 08/2024. ISSN 1528-7483
Type of production: Scientific paper **Format:** Journal

3 Safa Toumi; Alaa Adawy; Alberto Quaranta; Khaled Farah. Copper nanoparticle and point defect formation in Cu⁺-Na⁺ ion-exchanged glass using protons of 2 MeV energy. DALTON TRANSACTIONS. 53 - 22, pp. 9578 - 9589. ROYAL SOC CHEMISTRY, 06/2024. ISSN 1477-9226
Type of production: Scientific paper **Format:** Journal

4 Alaa Adawy; Camino Trobajo; Santiago Garcia-Granda. A comparative study of the biofunctionality and intercalation capacity of two metal phosphates phases intercalated with antimicrobials. ACTA CRYSTALLOGRAPHICA A-FOUNDATION AND ADVANCES. 79 - S, pp. C792 - C792. INT UNION CRYSTALLOGRAPHY, 08/2023. ISSN 2053-2733

Type of production: Scientific paper **Format:** Journal

5 Elena Korina; Natalya Heintz; Oleg Grafov; Alaa Adawy; Anton Abramyan; Oleg Bol'shakov. Molten salt Cu(I) intercalation into the poly(triazine imide) for the electrochemical sensing of nitrite. Journal of Applied Polymer Science. 140 - 41, pp. e54537 - e54537. 2023. Available on-line at: <https://onlinelibrary.wiley.com/doi/abs/10.1002/app.54537>.

Type of production: Scientific paper **Format:** Journal

6 Zakariae Amghouz; Rafael Mendoza-Meroño; Alaa Adawy. Nucleation & growth of α-Ti(HPO4)2·H2O single-crystal and its structure determination from X-ray single–crystal data. Journal of Solid State Chemistry. 327, pp. 124251 - 124251. 2023. Available on-line at: <https://www.sciencedirect.com/science/article/pii/S002245962300419X>. ISSN 0022-4596

Type of production: Scientific paper **Format:** Journal

7 Mona Fadel; F. Julián Martín-Jimeno; M. P. Fernández-García; Fabián Suárez-García; Juan Ignacio Paredes; J. H. Belo; J. P. Araújo; Alaa Adawy; David Martínez-Blanco; Pablo Álvarez-Alonso; Jesús A. Blanco; Pedro Gorria. Untangling the role of the carbon matrix in the magnetic coupling of Ni@C nanoparticles with mixed FCC/HCP crystal structures. J. Mater. Chem. C. 11, pp. 4070 - 4080. The Royal Society of Chemistry, 2023. Available on-line at: <http://dx.doi.org/10.1039/D3TC00257H>.

Type of production: Scientific paper **Format:** Journal

8 Serena Lima; Elisa I. García-López; Alaa Adawy; Giuseppe Marcì; Francesca Scargiali. Valorisation of Chlorella sp. biomass in 5-HMF through a two-step conversion in the presence of Nb2O5 and NbOPO4 and optimisation through reactive extraction. Chemical Engineering Journal. 471, pp. 144583 - 144583. 2023. Available on-line at: <https://www.sciencedirect.com/science/article/pii/S1385894723033144>. ISSN 1385-8947

Type of production: Scientific paper **Format:** Journal

9 Z. Amghouz; R. Mendoza-Merono; S. Garc{\'\i}a-Granda; A. Adawy. {Nucleation and growth of {α}-Ti(HPO${\sb 4}$)${\sb 2}${$\cdot$}H${\sb 2}$O single crystal and its unprecedented structure determination from X-ray single-crystal data}. Acta Crystallographica Section A. 78 - a2, pp. e734 - e734. 08/2022. Available on-line at: <https://doi.org/10.1107/S2053273322090477>.

Type of production: Scientific paper **Format:** Journal

Corresponding author: Yes

10 Adawy; García; Amghouz. A Review on the Synthesis and Current and Prospective Applications of Titanium and Zirconium Phosphates. ENG. 3 - 1, pp. 161 - 174. Multidisciplinary Digital Publishing Institute, 2022.

Type of production: Scientific paper **Format:** Journal

Corresponding author: Yes

11 Celia Toyos-Rodríguez; Alaa Adawy; Francisco Javier García-Alonso; Alfredo de la Escosura-Muñiz. Enhancing the electrocatalytic activity of palladium nanocluster tags by selective introduction of gold atoms: Application for a wound infection biomarker detection. Biosensors and Bioelectronics. 200, pp. 113926 - 113926. Elsevier, 2022. Available on-line at: <https://www.sciencedirect.com/science/article/pii/S0956566321009635>. ISSN 0956-5663

Type of production: Scientific paper **Format:** Journal

Position of signature: 2 **Degree of contribution:** Author or co-author of article in journal with external admissions assessment committee

Total no. authors: 4

Relevant results: This work required adequate and detailed analysis using electron microscopy () to evaluate the possibility of obtaining nanoparticles and whether they were nanoparticle of the two main elements. For this

high-resolution inspection using HRTEM, SAED, EELS, STEM and EDX was performed to determine the particle size distribution and the actual composition per nanoparticle.
Reviews in journals: 3

12 Alaa Adawy. Functional chirality: From small molecules to supramolecular assemblies. Symmetry. 14 - 2, pp. 292. Multidisciplinary Digital Publishing Institute, 2022.
Type of production: Scientific paper **Format:** Journal
Corresponding author: Yes

13 Alaa Adawy; Raquel Diaz. Probing the Structure, Cytocompatibility, and Antimicrobial Efficacy of Silver-, Strontium-, and Zinc-Doped Monetite. ACS applied bio materials. 5 - 4, pp. 1648 - 1657. ACS Publications, 2022.
Type of production: Scientific paper **Format:** Journal
Corresponding author: Yes

14 Artem A Babaryk; Ievgen V Odynets; Álvaro Lobato; Alaa Adawy; J Manuel Recio; Santiago Garcia-Granda. Structural and Electronic Effect Driven Distortions in Visible Light Absorbing Polar Materials A Ta2V2O11 (A= Sr, Pb). The Journal of Physical Chemistry C. 126 - 18, pp. 8047 - 8055. ACS Publications, 2022.
Type of production: Scientific paper **Format:** Journal

15 Alaa Adawy; Zakariae Amghouz; Camino Trobajo; Jose R. Garc{\'\i}a. Antimicrobial nanolayered and nanofibrous metal phosphates for prospective biomedical applications. Acta Crystallographica Section A. 77 - a2, pp. C1072 - C1072. 08/2021. Available on-line at: <https://doi.org/10.1107/S010876732108630X>.
Type of production: Scientific paper **Format:** Journal

16 Inés García; Camino Trobajo; Zakariae Amghouz; Marta Alonso-Guervos; Raquel Díaz; Rafael Mendoza; Mario Mauvezín-Quevedo; Alaa Adawy. Ag- and Sr-enriched nanofibrous titanium phosphate phases as potential antimicrobial cement and coating for a biomedical alloy. Materials Science and Engineering: C. 126 - 112168, 2021. Available on-line at: <https://www.sciencedirect.com/science/article/pii/S0928493121003076>. ISSN 0928-4931
Type of production: Scientific paper **Format:** Journal
Position of signature: 8 **Degree of contribution:** Author or co-author of article in journal with external admissions assessment committee
Total no. authors: 8 **Corresponding author:** Yes
Reviews in journals: 4

17 Celia Marcos; Zulema del Río; Alaa Adawy. Heterogeneous Distribution of Interlayer Cations and Iron as a Plausible Explanation of the Non-Exfoliation of Commercial Vermiculites Post Alcohol Treatment and Microwave Irradiation. Minerals. 11 - 8, MDPI, 2021. Available on-line at: <https://www.mdpi.com/2075-163X/11/8/835>. ISSN 2075-163X
Type of production: Scientific paper **Format:** Journal
Position of signature: 3 **Degree of contribution:** Author or co-author of article in journal with external admissions assessment committee
Total no. authors: 3 **Corresponding author:** No
Reviews in journals: 3

18 Inés García; Camino Trobajo; Zakariae Amghouz; Alaa Adawy. Nanolayered Metal Phosphates as Biocompatible Reservoirs for Antimicrobial Silver Nanoparticles. Materials. 14 - 6, MDPI, 2021. Available on-line at: <https://www.mdpi.com/1996-1944/14/6/1481>. ISSN 1996-1944
Type of production: Scientific paper **Format:** Journal
Position of signature: 4 **Degree of contribution:** Author or co-author of article in journal with external admissions assessment committee
Total no. authors: 4 **Corresponding author:** Yes
Reviews in journals: 3

19 Elena Korina; Sergey Naifert; Nadezhda Palko; Maria Grishina; Vladimir Potemkin; Roman Morozov; Alaa Adawy; Rafael Merono; Vyacheslav Avdin; Artyom Schelokov; Vadim Popov; Oleg Bol'shakov. Probing Adsorption of Dipeptides on Anatase in H2O and D2O: Thermodynamics and Molecular Geometry. ChemPhysChem. 22 - 24, pp. 2550 - 2561. 2021. Available on-line at: <https://chemistry-europe.onlinelibrary.wiley.com/doi/abs/10.1002/cphc.202100540>.

Type of production: Scientific paper
Format: Journal
Position of signature: 7
Degree of contribution: Author or co-author of article in journal with external admissions assessment committee
Total no. authors: 12
Corresponding author: No
Reviews in journals: 3

20 Celia Marcos; María de Uribe-Zorita; Pedro Álvarez-Lloret; Alaa Adawy; Patricia Fernández; Pablo Arias. Quartz Crystallite Size and Moganite Content as Indicators of the Mineralogical Maturity of the Carboniferous Chert: The Case of Cherts from Eastern Asturias (Spain). Minerals. 11 - 6, MDPI, 2021. Available on-line at: <https://www.mdpi.com/2075-163X/11/6/611>. ISSN 2075-163X

Type of production: Scientific paper
Format: Journal
Position of signature: 4
Total no. authors: 6
Reviews in journals: 3

21 Artem A. Babaryk; Alaa Adawy; Inés García; Camino Trobajo; Zakariae Amghouz; Rosario M. P. Colodrero; Aurelio Cabeza; Pascual Olivera-Pastor; Montse Bazaga-García; Lucía dos Santos-Gómez. Structural and proton conductivity studies of fibrous π-Ti2O(PO4)2·2H2O: application in chitosan-based composite membranes. Dalton Transactions. 50, pp. 7667 - 7677. The Royal Society of Chemistry, 2021. Available on-line at: <http://dx.doi.org/10.1039/D1DT00735A>.

Type of production: Scientific paper
Format: Journal
Position of signature: 2
Degree of contribution: Author or co-author of article in journal with external admissions assessment committee
Total no. authors: 10
Reviews in journals: 3

22 Elena Korina; Roman Morozov; Ivan Arkhipushkin; Dmitriy Vorobiev; Natalya Heintz; Igor Inyaev; Alaa Adawy; Rafael Mendoza; Irina Vasileva; Tatiana Dolinina; Vyacheslav Avdin; Sergey Sozykin; Artyom Schelokov; Vadim Popov; Elena Strel'tsova; Oleg Bol'shakov. Surface dehydroxylation of nanocrystalline TiO2. Inorganic Chemistry Communications. 126 - 108478, 2021. Available on-line at: <https://www.sciencedirect.com/science/article/pii/S138770032100037X>. ISSN 1387-7003

Type of production: Scientific paper
Format: Journal
Position of signature: 7
Degree of contribution: Author or co-author of article in journal with external admissions assessment committee
Total no. authors: 16
Reviews in journals: 3

23 S. García-Dalí; J.I. Paredes; B. Caridad; S. Villar-Rodil; M. Díaz-González; C. Fernández-Sánchez; A. Adawy; A. Martínez-Alonso; J.M.D. Tascón. Activation of two-dimensional MoS2 nanosheets by wet-chemical sulfur vacancy engineering for the catalytic reduction of nitroarenes and organic dyes. Applied Materials Today. 20, pp. 100678 - 100678. ElSevier, 2020. Available on-line at: <https://www.sciencedirect.com/science/article/pii/S2352940720301256>. ISSN 2352-9407

Type of production: Scientific paper
Format: Journal
Position of signature: 7
Degree of contribution: Author or co-author of article in journal with external admissions assessment committee
Total no. authors: 9

24 Exfoliation and europium (III)-functionalization of α-titanium phosphate via propylamine intercalation: from multilayer assemblies to single nanosheets. Adsorption. 26 - 2, pp. 241 - 250. Springer, 2020.
Type of production: Scientific paper
Format: Journal
Position of signature: 3
Degree of contribution: Author or co-author of article in journal with external admissions assessment committee
Total no. authors: 4
Reviews in journals: 3

25 Celia Marcos; Valeria Medoro; Alaa Adawy. Modified Vermiculite as Adsorbent of Hexavalent Chromium in Aqueous Solution. Minerals. 10 - 9, MDPI, 2020. Available on-line at: <https://www.mdpi.com/2075-163X/10/9/749>. ISSN 2075-163X
Type of production: Scientific paper
Format: Journal
Position of signature: 3
Degree of contribution: Author or co-author of article in journal with external admissions assessment committee
Total no. authors: 3

26 Celia Marcos; Alaa Adawy; Irene Rodríguez. Relationship between Textural Parameters of Lamellar Products Obtained by Acid Activation of Pure and Commercial Vermiculites and Their Iron and Water Content. Minerals. 10 - 8, MDPI, 2020. Available on-line at: <https://www.mdpi.com/2075-163X/10/8/661>. ISSN 2075-163X
Type of production: Scientific paper
Format: Journal
Position of signature: 2
Degree of contribution: Author or co-author of article in journal with external admissions assessment committee
Total no. authors: 3
Reviews in journals: 3

27 Sergio García-Dalí; Juan I. Paredes; José M. Munuera; Silvia Villar-Rodil; Alaa Adawy; Amelia Martínez-Alonso; Juan M.D. Tascón. Aqueous Cathodic Exfoliation Strategy toward Solution-Processable and Phase-Preserved MoS2 Nanosheets for Energy Storage and Catalytic Applications. ACS Applied Materials & Interfaces. 11 - 40, pp. 36991 - 37003. 2019. Available on-line at: <https://doi.org/10.1021/acsami.9b13484>.
Type of production: Scientific paper
Format: Journal
Position of signature: 5
Degree of contribution: Author or co-author of article in journal with external admissions assessment committee
Total no. authors: 7
Reviews in journals: 4

28 Sergey Lunev; Sabine Butzloff; Atilio R. Romero; Marleen Linzke; Fernanodo Batista; Kamila A. Meissner; Ingrid B. Müller; Alaa Adawy; Carsten Wrenger; Matthew Groves. Oligomeric interfaces as a tool in drug discovery: Specific interference with activity of malate dehydrogenase of Plasmodium falciparum in vitro. PLOS ONE. 13 - 4, pp. 1 - 22. Public Library of Science, 2018. Available on-line at: <https://doi.org/10.1371/journal.pone.0195011>.
Type of production: Scientific paper
Format: Journal
Position of signature: 8
Degree of contribution: Author or co-author of article in journal with external admissions assessment committee
Total no. authors: 10

29 zakariae amghouz; Alaa Adawy; Jose R. Garcia; Santiago Garcia Granda. Pushing the limits of material characterization using transmission electron microscopy at the University of Oviedo. Acta Crystallographica |Section A. 74, pp. e316. (Spain): 2018.
Type of production: Scientific paper

30 Size-exclusion chromatography as a lab-based indicator for protein self-assembly prior to nucleation. Acta crystallographica section A. 74, pp. e189. 2018.
Type of production: Scientific paper
Corresponding author: Yes

31 Ameena M. Ali; Jack Atmaj; Alaa Adawy; Sergey Lunev; Niels Van Oosterwijk; Sun Rei Yan; Chris Williams; Matthew R. Groves. The Pex4p-Pex22p complex from Hansenula polymorpha: biophysical analysis, crystallization and X-ray diffraction characterization}. Acta Crystallographica Section F. 74 - 2, pp. 76 - 81. 2018. Available on-line at: <https://doi.org/10.1107/S2053230X17018428>.

Type of production: Scientific paper
Format: Journal
Position of signature: 3
Degree of contribution: Author or co-author of article in journal with external admissions assessment committee
Total no. authors: 8

32 A Systematic Protein Refolding Screen Method using the DGR Approach Reveals that Time and Secondary TSA are Essential Variables. Scientific Reports. 7 - 9355, Nature, 2017. Available on-line at: <https://rdcu.be/cFCTO>.

Type of production: Scientific paper
Format: Journal
Position of signature: 4
Degree of contribution: Author or co-author of article in journal with external admissions assessment committee
Total no. authors: 7

33 Alaa Adawy; Zakariae Amghouz; Jan C. M. van Hest; Daniela A. Wilson. Sub-Micron Polymeric Stomatocytes as Promising Templates for Confined Crystallization and Diffraction Experiments. Small. 13 - 28, pp. 1700642 - 1700642. 2017. Available on-line at: <https://onlinelibrary.wiley.com/doi/abs/10.1002/smll.201700642>.

Type of production: Scientific paper
Format: Journal
Position of signature: 1
Degree of contribution: Author or co-author of article in journal with external admissions assessment committee
Total no. authors: 4
Corresponding author: Yes

34 Alaa Adawy; Matthew R. Groves. The Use of Size Exclusion Chromatography to Monitor Protein Self-Assembly. Crystals. 7 - 11, 2017. Available on-line at: <https://www.mdpi.com/2073-4352/7/11/331>. ISSN 2073-4352

Type of production: Scientific paper
Format: Journal
Position of signature: 1
Degree of contribution: Author or co-author of article in journal with external admissions assessment committee
Total no. authors: 2

35 Yingfeng Tu; Fei Peng; Alaa Adawy; Yongjun Men; Loai K. E. A. Abdelmohsen; Daniela A. Wilson. Mimicking the Cell: Bio-Inspired Functions of Supramolecular Assemblies. Chemical Reviews. 116 - 4, pp. 2023 - 2078. ACS, 2016. Available on-line at: <https://doi.org/10.1021/acs.chemrev.5b00344>.

Type of production: Scientific paper
Format: Journal
Position of signature: 3
Degree of contribution: Author or co-author of article in journal with external admissions assessment committee
Total no. authors: 6

36 Alaa Adawy; Esther G. G. van der Heijden; Johan Hekelaar; Willem J. P. van Enckevort; Willem J. de Grip; Elias Vlieg. A Comparative Study of Impurity Effects on Protein Crystallization: Diffusive versus Convective Crystal Growth. Crystal Growth & Design. 15 - 3, pp. 1150 - 1159. ACS, 2015. Available on-line at: <https://doi.org/10.1021/cg501455d>.

Type of production: Scientific paper
Format: Journal
Corresponding author: Yes

37 Alaa Adawy; Wil Corbeek; Erik de Ronde; Willem J. P. van Enckevort; Willem J. de Grip; Elias Vlieg. A practical kit for micro-scale application of the ceiling crystallisation method. CrystEngComm. 17, pp. 2602 - 2605. The Royal Society of Chemistry, 2015. Available on-line at: <http://dx.doi.org/10.1039/C4CE01814A>.

Type of production: Scientific paper
Format: Journal
Position of signature: 1
Degree of contribution: Author or co-author of article in journal with external admissions assessment committee

Total no. authors: 6 **Corresponding author:** Yes

38 Michiel W. Pot; Kaeuis A. Faraj; Alaa Adawy; Willem J. P. van Enckevort; Herman T. B. van Moerkerk; Elias Vlieg; Willeke F. Daamen; Toin H. van Kuppevelt. Versatile Wedge-Based System for the Construction of Unidirectional Collagen Scaffolds by Directional Freezing: Practical and Theoretical Considerations. ACS Applied Materials & Interfaces. 7 - 16, pp. 8495 - 8505. ACS, 2015. Available on-line at: <https://doi.org/10.1021/acsami.5b00169>.

Type of production: Scientific paper **Format:** Journal
Position of signature: 3 **Degree of contribution:** Author or co-author of article in journal with external admissions assessment committee
Total no. authors: 8 **Corresponding author:** No

39 Alaa Adawy; Willem J. P. van Enckevort; Elisabeth S. Pierson; Willem J. de Grip; Elias Vlieg. Illuminating protein crystal growth using fluorophore-labelled proteins. CrystEngComm. 16, pp. 9800 - 9809. The Royal Society of Chemistry, 2014. Available on-line at: <http://dx.doi.org/10.1039/C4CE01281J>.

Type of production: Scientific paper **Format:** Journal
Corresponding author: Yes

40 Alaa Adawy; Wafa I. Abdel-Fattah. An efficient biomimetic coating methodology for a prosthetic alloy. Materials Science and Engineering: C. 33 - 3, pp. 1813 - 1818. 2013. Available on-line at: <https://www.sciencedirect.com/science/article/pii/S092849311200625X>. ISSN 0928-4931

Type of production: Scientific paper **Format:** Journal
Position of signature: 1 **Degree of contribution:** Author or co-author of article in journal with external admissions assessment committee
Total no. authors: 2 **Corresponding author:** Yes
Reviews in journals: 3

41 Alaa Adawy; Etienne Rebuffet; Susanna Törnroth-Horsefield; Willem J. de Grip; Willem J. P. van Enckevort; Elias Vlieg. High Resolution Protein Crystals Using an Efficient Convection-Free Geometry. Crystal Growth & Design. 13 - 2, pp. 775 - 781. ACS, 2013. Available on-line at: <https://doi.org/10.1021/cg301497t>.

Type of production: Scientific paper **Format:** Journal
Position of signature: 1 **Degree of contribution:** Author or co-author of article in journal with external admissions assessment committee
Total no. authors: 6 **Corresponding author:** Yes
Reviews in journals: 4

42 Alaa Adawy; Kess Marks; Willem J. de Grip; Willem J. P. van Enckevort; Elias Vlieg. The development of the depletion zone during ceiling crystallization: phase shifting interferometry and simulation results. CrystEngComm. 15, pp. 2275 - 2286. The Royal Society of Chemistry, 2013. Available on-line at: <http://dx.doi.org/10.1039/C2CE26607E>.

Type of production: Scientific paper **Format:** Journal
Position of signature: 1 **Degree of contribution:** Author or co-author of article in journal with external admissions assessment committee
Total no. authors: 5 **Corresponding author:** Yes
Reviews in journals: 3

43 E. Vlieg; A. Adawy; E. Rebuffet; S. T{ö}rnroth-Horsefield; W. de Grip; W. van Enckevort. Record resolution protein crystals using an efficient convection-free growth geometry. Acta Crystallographica Section A. 68 - a1, pp. s10 - s10. 08/2012. Available on-line at: <https://doi.org/10.1107/S0108767312099801>.

Type of production: Scientific paper **Format:** Journal

44 Wafa I. Abdel-Fattah; El-Sayed M. El-Sayed; Mona S. H. Talaat; Alaa Adawy. Comparative Study of Sr+2 and Zn+2 Incorporation in the Biomimetic Coating of a Prosthetic Alloy. The Open Biomaterials Journal. 3, pp. 4 - 13. Bentham Open, 2011. Available on-line at: <https://benthamopen.com/ABSTRACT/TOBIOMTJ-3-4>.

Type of production: Scientific paper **Format:** Journal

Position of signature: 4
Degree of contribution: Author or co-author of article in journal with external admissions assessment committee
Total no. authors: 4
Corresponding author: Yes
Reviews in journals: 3

45 Alaa Adawy; Wafa I. Abdel-Fattah; El-Sayed M. El-Sayed; Mona S. H. Talaat. Biomimetic coating of precalcified Ti-6Al-4V alloy. The Open Medical Devices Journal. 1, pp. 19 - 28. Bentham Open, 2009. Available on-line at: <https://benthamopen.com/ABSTRACT/TOMDJ-1-19>.
Type of production: Scientific paper
Format: Journal
Position of signature: 1
Degree of contribution: Author or co-author of article in journal with external admissions assessment committee
Total no. authors: 4
Corresponding author: Yes
Reviews in journals: 3

46 Alaa Adawy. Zirconium and Titanium Phosphates. E Scholary Community Encycolopedia. Multidisciplinary Digital Publishing Institute, 2022. Available on-line at: <https://encyclopedia.pub/entry/21002>.
Type of production: Encyclopaedia article
Format: Journal
Degree of contribution: Author or co-author of educational publication
Corresponding author: Yes

47 Bio Nano Material: The Third Alternative. Nanotechnology. 7, Studium Press LLC, P.O. Box 722 200, Houston, TX 7, 2012. Available on-line at: <https://research.rug.nl/en/publications/bio-nano-material-the-third-alternative>.
Type of production: Book chapter
Format: Book
Position of signature: 1
Degree of contribution: Author or co-author of chapter in book
Total no. authors: 4
Corresponding author: Yes
Reviews in journals: 3

48 Towards a self-assembled monolayer as a template for protein nucleation. PhD thesis. pp. 77 - 91. Radboud University, 2012. Available on-line at: <https://repository.ubn.ru.nl/handle/2066/92731>.
Type of production: Book chapter
Position of signature: 2
Degree of contribution: Author or co-author of article in journal with external admissions assessment committee
Total no. authors: 6

49 Alaa Adawy; Willem J. P. van Enckevort; Willem J. de Grip; Elias Vlieg. Comment on “Performance evaluation of ceiling crystallization for suppressing buoyance-induced convection in mass transfer applications: an interferometric study”, S.S. Varma and A. Srivastava, Int J Heat & Mass Transfer 84 (2015) 61-72. 2015.
Type of production: commentary report
Format: Scientific and technical document or report
Corresponding author: Yes

50 The ceiling method for the growth of high resolution protein crystals. PhD thesis. Radboud University, 2014.
Type of production: Ph.D. thesis
Format: Book
Corresponding author: Yes

51 Surface Modification and Biophysical Characterization of a Prosthetic Alloy. MSc thesis. Ain Shams University, 2008.
Type of production: M.Sc. thesis
Format: Book
Corresponding author: Yes

Works submitted to national or international conferences

1 **Title of the work:** Resorbable Calcium Phosphates as Repository for Antimicrobial Ions
Name of the conference: 2nd Edition of Polymer Science and Composite Materials Virtual
Type of participation: Participatory - invited/keynote talk
Corresponding author: Yes
City of event: Virtual,
Date of event: 11/11/2022
End date: 12/11/2022
Organising entity: Sciene Wide
City organizing entity: Oviedo, Spain
"Invited talk".

2 **Title of the work:** Nucleation & Growth of α-Ti(HPO4)2·H2O Single Crystal and its Unprecedented Structure Determination from X-ray Single– Crystal Data
Name of the conference: 33rd European Crystallographic Meeting
Corresponding author: Yes
City of event: Versailles, France
Date of event: 23/08/2022
End date: 27/08/2022
Organising entity: European Crystallographic Association (ECA) **Type of entity:** Associations and Groups
Zakariae Amghouz; Rafael Mendoza-Merono; Santiago García-Granda; Alaa Adawy. "Nucleation & Growth of α-Ti(HPO4)2·H2O Single Crystal and its Unprecedented Structure Determination from X-ray Single–Crystal Data".

3 **Title of the work:** Probing the Cytocompatibility of Different Metals Phosphates doped/enriched with Antimicrobial Silver
Name of the conference: Annual National Conference of Graduate Women in Science 2022
Corresponding author: Yes
City of event: Madison, United States of America
Date of event: 23/06/2022
End date: 25/06/2022
Organising entity: GWIS
"oral presentation".

4 **Title of the work:** Functionalizing Metal Phosphates to Synthesise Antimicrobial Biomaterials
Name of the conference: Chemistry World conference second edition
Type of participation: Participatory - invited/keynote talk
Corresponding author: Yes
City of event: Virtual,
Date of event: 13/06/2022
End date: 14/06/2022
Organising entity: MAGNUS conferences
"Invited talk: Oral presentation".

5 **Title of the work:** Antimicrobial doped Monetite for Biomaterials Applications
Name of the conference: NALS 2022: Nanomaterials Applied to Life Sciences
Corresponding author: Yes

City of event: Santander, Spain
Date of event: 27/04/2022
End date: 29/04/2022
Organising entity: Universidad de Cantabria **Type of entity:** University
"Antimicrobial doped Monetite for Biomaterials Applications".

6 **Title of the work:** Highly electrocatalytic gold-palladium bimetallic nanoparticles as effective tags for wound infection diagnosis
Name of the conference: NALS: Nanomaterials applied to life sciences
City of event: Santander, Spain
Date of event: 27/04/2022
End date: 29/04/2022
Organising entity: Universidad de Cantabria **Type of entity:** University
Celia Toyos; Alaa Adawy; Francisco Javier García-Alonso; Alfredo de la Escosura-Muñiz. "Highly electrocatalytic gold-palladium bimetallic nanoparticles as effective tags for wound infection diagnosis".

7 **Title of the work:** Controlled-Release of Antimicrobial Silver loaded on Biocompatible Submicron Titanium Phosphate Phases
Name of the conference: RSEQ Symposium 2021
Type of event: Conference
Type of participation: 'Participatory - poster **Reasons for participation:** Representing
Corresponding author: Yes
Date of event: 27/09/2021
End date: 30/09/2021
Organising entity: Spanish Royal Society of Chemistry
"Controlled-Release of Antimicrobial Silver loaded on Biocompatible Submicron Titanium Phosphate Phases".

8 **Title of the work:** Antimicrobial nanolayered and nanofibrous metal phosphates for prospective biomedical applications
Name of the conference: 25th Congress of the International Union of Crystallography
Type of event: Conference
Type of participation: 'Participatory - poster
Corresponding author: Yes
City of event: Prague, Czech Republic
Date of event: 14/08/2021
End date: 22/08/2021
Organising entity: IUCR
"Antimicrobial nanolayered and nanofibrous metal phosphates for prospective biomedical applications".

9 **Title of the work:** High quality and Solution-Processable MoS2 Nanosheets Obtained by Electrochemical Exfoliation for Energy Storage and Catalytic Applications
Name of the conference: Graphene2020
City of event: Grenoble,
Date of event: 19/10/2020
End date: 23/10/2020
Organising entity: www.grapheneconf.com

10 **Title of the work:** Exfoliation and europium(III)-functionalization of α-titanium phosphate via propylamine intercalation: From multilayer assemblies to single nanosheets.
Name of the conference: 41ª Reunión Ibérica de Adsorción y 3º Simposio Iberoamericano de Adsorción
City of event: Gijon, Spain

Date of event: 05/09/2018
End date: 07/09/2018
Organising entity: Real Sociedad Española de Química **Type of entity:** Society
"Exfoliation and europium(III)-functionalization of α-titanium phosphate via propylamine intercalation: From multilayer assemblies to single nanosheets.".

11 **Title of the work:** Pushing the limits of material characterization using transmission electron microscopy at the University of Oviedo
Name of the conference: European Crystallography Meeting 31st
Type of participation: 'Participatory - poster **Reasons for participation:** Representing
Corresponding author: Yes
City of event: Oviedo, Spain
Date of event: 22/08/2018
End date: 27/08/2018
Organising entity: IUCR **Type of entity:** Associations and Groups
With external admission assessment committee: Yes
"Pushing the limits of material characterization using transmission electron microscopy at the University of Oviedo". En: Acta A. 74, pp. e316. 2018.

12 **Title of the work:** Size exclusion chromatography as a lab-based indicative for protein self-assembly prior to nucleation
Name of the conference: European Crystallography Meeting 31st
Type of participation: 'Participatory - poster **Reasons for participation:** Representing
Corresponding author: Yes
City of event: Oviedo, Spain
Date of event: 22/08/2018
End date: 27/08/2018
Organising entity: IUCR **Type of entity:** Associations and Groups
With external admission assessment committee: Yes
"Size exclusion chromatography as a lab-based indicative for protein self-assembly prior to nucleation". En: Acta A. 74, pp. e188. 2018.

13 **Title of the work:** A fibrous titanium phosphate as repository for silver on modified surfaces of titanium and titanium alloys
Name of the conference: NALS: Nanomaterials applied to life sciences
Type of event: Conference
Type of participation: 'Participatory - poster **Reasons for participation:** Representing
Corresponding author: Yes
City of event: Gijon, Principality of Asturias, Spain
Date of event: 13/12/2017
End date: 15/12/2017
Organising entity: Universidad de Oviedo **Type of entity:** University
City organizing entity: Oviedo,
"A fibrous titanium phosphate as repository for silver on modified surfaces of titanium and titanium alloys".

14 **Title of the work:** Confined Crystallization in Polymeric Nano Vials for Diffraction Experiments
Name of the conference: NALS: Nanomaterials applied to life sciences
Type of event: Conference
Type of participation: Participatory - oral communication
Corresponding author: Yes

City of event: Gijon, Principality of Asturias, Spain
Date of event: 13/12/2017
End date: 15/12/2017
Organising entity: Universidad de Oviedo **Type of entity:** University
City organizing entity: Oviedo,
"Confined Crystallization in Polymeric Nano Vials for Diffraction Experiments".

15 **Title of the work:** SLS Monitoring of Nucleation in Protein Crystallization
Name of the conference: NVK structural biology meeting
Type of event: Conference
Type of participation: Participatory - invited/keynote talk **Reasons for participation:** Upon invitation
Corresponding author: Yes
City of event: Einhoven, Holland
Date of event: 01/07/2016
End date: 01/07/2016
Organising entity: the Dutch Crystallographic Society (NVK) **Type of entity:** Associations and Groups
City organizing entity: Eindhoven, Holland
"the Dutch Crystallographic Society (NVK)".

16 **Title of the work:** An Efficient Convection–Free Geometry Effectuates the Growth of High Resolution Protein Crystals
Name of the conference: International Conference on Crystallization of Biological Macromolecules 14
Type of event: Conference
Type of participation: Participatory - oral communication **Reasons for participation:** Representing
Corresponding author: Yes
City of event: Huntsville, United States of America
Date of event: 31/05/2013
End date: 31/05/2013
Organising entity: International Organization for Biological Crystallization (IOBCr)
City organizing entity: Huntsville, United States of America
"An Efficient Convection–Free Geometry Effectuates the Growth of High Resolution Protein Crystals".

17 **Title of the work:** Diffusive or convective protein crystal growth? Does it really matter?!
Name of the conference: Belgian Symposium on Crystal Growth and Crystallization of Organic Compounds
Type of event: Conference
Type of participation: Participatory - oral communication **Reasons for participation:** Upon invitation
Corresponding author: Yes
City of event: Louvain-la-Neuve, Belgium
Date of event: 31/05/2013
End date: 31/05/2013
Organising entity: the Dutch Crystallographic Society (NVK) **Type of entity:** Associations and Groups
City organizing entity: Eindhoven, Holland
"the Dutch Crystallographic Society (NVK)".

18 **Title of the work:** Protein Crystal Growth on the Ceiling: A Terrestrial Alternative
Name of the conference: NWO CW Study group meeting Chemistry in Relation to Physics and Materials Sciences
Type of event: Conference
Type of participation: Participatory - oral communication
Reasons for participation: Representing
Corresponding author: Yes
City of event: Veldhoven, Holland
Date of event: 04/03/2013
End date: 05/03/2013
Organising entity: NWO CW
Type of entity: Public Research Body
City organizing entity: Veldhoven,
"Protein Crystal Growth on the Ceiling: A Terrestrial Alternative".

19 **Title of the work:** Record Resolution Protein Crystals Using an Efficient Convection-free Growth Geometry
Name of the conference: European Crystallography Meeting 27th
Type of participation: Participatory - oral communication
Reasons for participation: Representing
Corresponding author: Yes
City of event: Bergen, Norway
Date of event: 06/08/2012
End date: 11/08/2012
Organising entity: IUCR
Type of entity: Associations and Groups
With external admission assessment committee: Yes
"Record Resolution Protein Crystals Using an Efficient Convection-free Growth Geometry". En: Acta A. 68, pp. S10. 2018.

20 **Title of the work:** Higher Resolution Protein Crystals using an Efficient Convection-Free Geometry
Name of the conference: 4th European Conference on Crystal Growth (ECCG4)
Type of event: Conference
Type of participation: Participatory - oral communication
Reasons for participation: Representing
Corresponding author: Yes
City of event: Glasgow, Scotland, United Kingdom
Date of event: 17/06/2012
End date: 21/06/2012
Organising entity: Strathclyde University
Type of entity: University Centres and Structures and Associated Bodies
City organizing entity: Glasgow, United Kingdom

21 **Title of the work:** The positive impact of gravity during protein crystal growth
Name of the conference: International School of Crystallography, 45th Course: Present and Future Methods for Biomolecular Crystallography
Type of participation: 'Participatory - poster
Reasons for participation: Representing
Corresponding author: Yes
City of event: Erice, Italy
Date of event: 31/05/2012
End date: 11/06/2012
Organising entity: Ettore Majorana Foundation and Centre for Scientific Culture
City organizing entity: Erice, Italy
"The positive impact of gravity during protein crystal growth".

22 **Title of the work:** Growing the Best Protein Crystals
Name of the conference: IMM colloquium
Type of participation: Participatory - oral communication
Reasons for participation: Upon invitation
Corresponding author: Yes
City of event: Nijmegen, Holland
Date of event: 28/02/2012
End date: 28/02/2012
Organising entity: Radboud University
City organizing entity: Nijmegen, Holland

23 **Title of the work:** Towards High Resolution Protein Crystal Growth in Microgravity-Resembling Conditions
Name of the conference: A Structural View on Crystallization
Type of participation: Participatory - invited/keynote talk
Corresponding author: Yes
City of event: Utrecht, Holland
Date of event: 04/11/2011
End date: 04/11/2011
Organising entity: Crystallization the Dutch Crystallographic Society (NVK)
City organizing entity: Utrecht, Holland
"Towards High Resolution Protein Crystal Growth in Microgravity-Resembling Conditions".

R&D management and participation in scientific committees

Scientific, technical and/or assessment committees

Committee title: Evaluation committte of GWIS National fellowship 2023
Affiliation entity: GWIS.org
City affiliation entity: United States of America
Start-End date: 09/01/2023 - 15/05/2023

Organization of R&D activities

Title of the activity: Moderator
Type of activity: Chairing conference session
Convening entity: MAGNUS conferences
Start-End date: 14/06/2022 - 14/06/2022

Other achievements

Stays in public or private R&D centres

1 **Entity:** Electron Crystallography School - 3D Electron Diffraction/MicroED Uniting Small Molecule and Macromolecular Crystallography
City of entity: Prague, Czech Republic
Start-End date: 11/08/2021 - 14/08/2021 **Duration:** 4 days
Goals of the stay: Trainee
Provable tasks: Got trained on the concepts and developments in electron crystallography

2 **Entity:** 2nd Edition of the Instruct virtual course on Single Particle Analysis by CryoEM **Type of entity:** Innovation and Technology Centres
Faculty, institute or centre: INSTRUCT
City of entity: Madrid, Spain
Start-End date: 28/06/2021 - 02/07/2021 **Duration:** 5 days
Goals of the stay: Trainee

3 **Entity:** International Cryo-TEM workshop: Soft matter Cryo-TEM 2017
Faculty, institute or centre: Eindhoven University
City of entity: Eindhoven, Holland
Start-End date: 06/03/2017 - 10/03/2017 **Duration:** 5 days
Goals of the stay: Trainee
Provable tasks: Got trained on the preparation of samples and usage of Cryo electron microscopy

4 **Entity:** WYATT Technology Europe School: Light Scattering University (MALS)
Faculty, institute or centre: WAYTT
City of entity: Denbrach, Germany
Start-End date: 25/04/2016 - 28/04/2016 **Duration:** 4 days
Goals of the stay: Trainee
Provable tasks: Got trained on the usage of SLS technology

5 **Entity:** HERCULES: Higher European Research Course for Users of Large Experimental Systems
City of entity: Grenoble, France
Start-End date: 23/02/2014 - 26/03/2014 **Duration:** 1 month
Goals of the stay: Trainee
Provable tasks: Got trained on the usage and application of different Neutrons, X-ray Synchrotron Radiation, and Free Electron Laser for condensed biological samples, in addition to other complementary techniques including optical and electron microscopy, NMR, optical and THz spectroscopy.

6 **Entity:** Gothenburg University
City of entity: Gothenburg, Sweden
Start-End date: 26/10/2012 - 11/11/2012 **Duration:** 15 days
Goals of the stay: Guest
Provable tasks: Preparation and execution of protein crystals diffraction experiments

7 **Entity:** The European Synchrotron Radiation Facility **Type of entity:** Public Research Body
Faculty, institute or centre: Beamline ID 14-4
City of entity: Grenoble, France
Start-End date: 09/11/2012 - 10/11/2012 **Duration:** 2 days
Goals of the stay: Guest
Provable tasks: Data collection: MX/1380 ID14-4 09-11-2012/10-11-2012

8 **Entity:** The International School of Crystallography: Macromolecular Crystallography **Type of entity:** Foundation
Faculty, institute or centre: Ettore Majorana Foundation and Centre for Scientific Culture
City of entity: Erice, Italy
Start-End date: 31/05/2012 - 11/06/2012 **Duration:** 12 days
Goals of the stay: Trainee
Provable tasks: got trained on macromolecular crystallography and participated in oral and poster presentations

9 **Entity:** The European Synchrotron Radiation Facility **Type of entity:** Public Research Body
Faculty, institute or centre: beamline ID23-2
City of entity: Grenoble, France
Start-End date: 02/07/2011 - 03/07/2011 **Duration:** 2 days
Goals of the stay: Guest
Provable tasks: Data collection experiment MX/1204 ID14-1 02-07-2011/03-07-2011

10 **Entity:** Gothenburg University **Type of entity:** University
Faculty, institute or centre: Department of Biophysical Chemistry
City of entity: Gothenburg, Sweden
Start-End date: 01/08/2010 - 15/08/2010 **Duration:** 15 days
Goals of the stay: Guest
Provable tasks: Preparation and execution of protein crystals diffraction experiments

11 **Entity:** International school of Crystallization **Type of entity:** University Centres and Structures and Associated Bodies
Faculty, institute or centre: https://iscgranada.org/
City of entity: Granada, Andalusia, Spain
Start-End date: 23/05/2010 - 29/05/2010 **Duration:** 7 days
Goals of the stay: Trainee
Provable tasks: extensive education on the fundamentals and practical aspects of nucleation and crystallization

12 **Entity:** Universidad de Granada **Type of entity:** University
Faculty, institute or centre: Laboratorio de Estudios Cristalográficos (LEC)
City of entity: Granada, Andalusia, Spain
Start-End date: 01/07/2010 - 30/07/2009 **Duration:** 1 month
Goals of the stay: Guest
Provable tasks: Phase contrast imaging of protein crystal growth regime

Prizes, mentions and distinctions

1 **Description:** Best Paper Award
Awarding entity: Journal Symmetry
Conferral date: 2024

2 **Description:** Featured my article among the best articles of the year
Awarding entity: Real Sociedad Española de Química
Type of entity: Premio RSEQ-Asturias al Artículo Científico del Año en el Área de la Química
City awarding entity: Oviedo, Principality of Asturias, Spain
Conferral date: 2023

3 **Description:** Featured my article among the best articles of the year
Awarding entity: Real Sociedad Española de Química
Type of entity: Premio RSEQ-Asturias al Artículo Científico del Año en el Área de la Química
City awarding entity: Oviedo, Principality of Asturias, Spain
Conferral date: 2022

4 **Description:** Featured my article among the best articles of the year
Awarding entity: Real Sociedad Española de Química
Type of entity: Premio RSEQ-Asturias al Artículo Científico del Año en el Área de la Química
City awarding entity: Oviedo, Principality of Asturias, Spain
Conferral date: 2021