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|--------------------------------------|--|----------------|---------------------|------------|
| Part A. PERSONAL INFORMATION | | CV date | | 03/12/2024 |
| First and Family name | Boiko Cohen | | | |
| Social Security, Passport, ID number | [REDACTED] | | Age | [REDACTED] |
| Researcher codes | Open Researcher and Contributor ID (ORCID**) | | 0000-0002-5400-4678 | |
| | SCOPUS Author ID (*) | | 7402976839 | |
| | WoS Researcher ID (*) | | C-4381-2008 | |

(*) Optional

(**) Mandatory

A.1. Current position

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|--------------------------------|---|--------|--|
| Name of University/Institution | University of Castilla – La Mancha | | |
| Department | Department of Physical Chemistry / Faculty of Environmental Sciences and Biochemistry / INAMOL | | |
| Address and Country | Avenida Carlos III S/N, Toledo, Spain | | |
| Phone number | +34925268800 ext. 5571 | E-mail | Boiko.cohen@uclm.es |
| Current position | Full Professor | From | 16/03/2024 |
| Key words | Femtochemistry, Photophysics, Nanotechnology, Nanomaterials, Silica-based Materials, Metal Organic Frameworks, Hydrogen-bonded Organic Framework, Perovskites, Ultrafast Spectroscopy, Single Molecule Microscopy | | |

A.2. Education

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|-------------------------|---|------|
| PhD, Licensed, Graduate | University | Year |
| Licensed | Sofia University "St. Kliment Ohridsky" | 1997 |
| PhD | Tel Aviv University | 2003 |

Part C. RELEVANT MERITS (sorted by typology)

A.3. Indicators of Quality in Scientific Production (See the instructions)

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| <p>1) Number of "sexenios": 4, Last evaluated: 31/12/2023; Quinquenios: 3; Last evaluated: 31/12/2023</p> <p>2) Número Total de Artículos Científicos: 100</p> <p>3) h-index: 31</p> <p>4) Co-director of the following PhD thesis (4):</p> <p>1. PhD student: Elena Mancebo Caballero Title: Laser-Based Spectroscopy and Fluorescence Microscopy of Metal-Organic Frameworks and Their Composites: Relevance to Photonics and Photocatalysis Date: 10/07/2020 Note: Sobresaliente Cum Laude</p> <p>2. PhD student: Lorenzo Angiolini Title: Exploring the intimate interactions of selected antibiotics with cyclodextrin and silica-based nanocarriers Date: 12/07/2019 Note: Sobresaliente Cum Laude</p> <p>3. PhD student: Cristina Martín Álvarez Title: Aplicación de la Espectroscopia Láser y Microscopia de Fluorescencia al estudio de Nanosistemas. Date: 09/04/2014 Note: Sobresaliente Cum Laude</p> |
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4. PhD student: Yilun Wang

Title: Photodynamical Studies of Several Drug Molecules in Chemical and Biological Cavities.

Date: 01/07/2013

Note: Sobresaliente Cum Laude

Information about the quality of the published articles according to ISI Web of Science:

More than **40** Papers in the first quarter (Q1), in the respective areas of the Journal taking in account the Impact Factor in the respective year of publication.

Part B. Free Summary of CV (Max. of 3.500 characters, including spaces)

Boiko Cohen graduated in Chemistry from the Sofia University "St. Kliment Ohridsky", Bulgaria in 1997. He received his PhD in chemistry working on the study of proton transfer reactions in 2003 under the supervision of Prof. Dan Huppert of Tel Aviv University and Professor Noam Agmon of the Hebrew University of Jerusalem (Israel). During his PhD thesis he studied excited state intermolecular proton transfer reactions using ultrafast laser spectroscopy. He carried out postdoctoral research in the group of Professor Bern Kohler (Ohio State University, USA), where he studied the ultrafast dynamics of DNA bases and polymers. In 2006 he worked as an associate researcher in the group of Professor Michael R. Wasielewski (USA), where he acquired experience in the study of charge transfer reactions in donor-acceptor nanosystems with applications in solar energy conversion. From 2007 until 2011 he was a Ramón y Cajal researcher with the femtochemistry group of Professor A. Douhal (Toledo, UCLM). Since March 2012 he is an Associate Professor at the University of Castilla – La Mancha (UCLM). During these years he has collaborated with different researchers from universities and research centers: Professor Alexander Roshal (2003, 2007) from Harkov University (Ukraine), Dr. S. Wang (2006) from Nakai University, (China), Prof. Ulrich Wiesner from Cornell University (USA). Since 2013 he has been co-director of 4 doctoral thesis (Dr. Elena Mancebo Caballero, Dr. Lorenzo Angiolini, Dr. Cristina Martín Álvarez and Dr. Yilun Wang). He is co-author of 86 peer-reviewed papers in scientific journals and book chapters with h-index of 29 (excluding self-citations, Scopus, September 2022). He is an associate editor of *Molecules* (MDPI, Switzerland) since 2019. His present research is focused on studies of the confinement effect in chemical and biological systems, development, and characterization of the photophysical properties of metal organic and hydrogen bonded organic frameworks (MOFs and HOFs, respectively) using ultrafast and single molecule spectroscopic techniques. He has participated as a member of the research team in 10 national (MINECO and JCCM) and 2 international (FP7 and Horizon 2020) research projects. Co-Principal Investigator in three projects financed by JCCM (SBPLY/19/180501/000212 and SBPLY/23/180225/000196) and MINECO (PID2020-116519RB-I00), dedicated to the development and characterization of luminescent hybrid materials, such as MOFs, COFs and HOFs, for potential applications in photonics. He has more than 30 contributions to national and international meetings.

Part C. Relevant accomplishments

C.1. Publications

1. Scientific Paper. **Authors:** Mario Gutiérrez; Mario de la Hoz Tomas; Soumyadipta Rakshit; Luis Lezama; Boiko Cohen; Abderrazzak Douhal, **Title:** Direct Evidence of the Effect of Water Molecules Position in the Spectroscopy, Dynamics, and Lighting Performance of an Eco-Friendly Mn-Based Organic-Inorganic Metal Halide Material for High-Performance LEDs and Solvent Vapor Sensing Journal: *Advanced Science*, **Year:** 2024, **Pages:** 2400879 (in press) (**corresponding author**), **IF:** 15.17
2. Scientific Paper. **Authors:** Mario de la Hoz Tomas; Mao Yamaguchi; Boiko Cohen; Ichiro Hisaki; Abderrazzak Douhal, **Title:** Deciphering the ultrafast dynamics of a new tetraphenylethylene derivative in solutions: charge separation, phenyl ring rotation and C = C bond twisting, **Journal:** *Physical Chemistry Chemical Physics*, **Year:** 2023, **Volume:** 25, **Pages:** 1755-1767, (**corresponding authors**) **IF:** 3.945
3. Scientific Paper. **Authors:** Mario Gutiérrez; Maria Rosaria di Nunzio; Elena Caballero-Mancebo; Félix Sánchez, Boiko Cohen; Abderrazzak Douhal, **Title:** Disentangling the complex photodynamics of mixed-linker Zr-MOFs – efficient energy and charge transfer processes, **Journal:** *Journal of Materials Chemistry C*, **Year:** 2023, **Volume:** 11, **Pages:** 183-195, (**corresponding authors**) **IF:** 8.067.

4. Scientific Paper. **Authors:** Eduardo Gomez; Daisuke Yasumiya; Norimitsu Tohnai; Miquel Moreno; Boiko Cohen; Ichiro Hisaki; Abderrazzak Douhal, **Title:** Deciphering the behavior of a new MOF and its composites under light at ensemble and single crystal levels: relevance to its photonic applications, **Journal:** Journal of Materials Chemistry C, **Year:** 2021, **Volume:** 9, **Pages:** 6418 – 6435, **(corresponding authors) IF:** 8.067, **Citations:** 1
5. Scientific Paper. **Authors:** Annika F. Moslein; Mario Gutierrez; Boiko Cohen; Jin-Chong Tan, **Title:** Near-Field Infrared Nanospectroscopy Reveals Guest Confinement in Metal-Organic Framework Single Crystals, **Journal:** Nano Letters, **Year:** 2020, **Volume:** 20, **Pages:** 7446-7454, **IF:** 12.262, **Citations:** 13
6. Review. **Authors:** Maria Rosaria di Nunzio, Elena Caballero-Mancebo; Boiko Cohen; Abderrazzak Douhal, **Title:** Photodynamical behaviour of MOFs and related composites: Relevance to emerging photon-based science and applications, **Journal:** Journal of Photochemistry and Photobiology C – Photochemistry Reviews, **Year:** 2020, **Volume:** 44, **Pages:** 100355. **IF:** 11.95; **Citations:** 18
7. Scientific paper. **Authors:** Elena Caballero-Mancebo; Boiko Cohen; Simon Smolders; Dirk E. de Vos; Abderrazzak Douhal, **Title:** Unravelling Why and to What Extent the Topology of Similar Ce-Based MOFs Conditions their Photodynamic: Relevance to Photocatalysis and Photonics, **Journal:** Advanced Science, **Year:** 2019, **Volume:** 6, **Pages:** 1901020. **IF:** 13.98; **Citations:** 21
8. Scientific paper. **Authors:** Elena Caballero-Mancebo; Jose Maria Moreno; Boiko Cohen; Avelino Corma; Urbano Diaz; Abderrazzak Douhal, **Title:** Unraveling Competitive Electron and Energy-Transfer Events at the Interfaces of a 2D MOF and Nile Red Composites: Effect of the Length and Structure of the Linker, **Journal:** ACS Applied Materials & Interfaces, **Year:** 2018, **Volume:** 10, **Pages:** 32885-32894. **IF:** 8.456; **Citations:** 8
9. Scientific paper. **Authors:** Ichiro Hisaki; Yuto Suzuki; Eduardo Gomez; Boiko Cohen; Norimitsu Tohnai; Abderrazzak Douhal, **Title:** Docking Strategy to Construct Thermostable, Single-crystalline, Hydrogen-bonded Organic Framework with Large Surface Area, **Journal:** Angewandte Chemie-International Edition, **Year:** 2018, **Volume:** 57, **Pages:** 12650-12655. **IF:** 12.257; **Citations:** 64
10. Scientific paper. **Authors:** Eduardo Gomez; Mario Gutierrez; Boiko Cohen; Ichiro Hisaki; Abderrazzak Douhal, **Title:** Single crystal fluorescence behavior of a new HOF material: A potential candidate for a new LED, **Journal:** Journal of Materials Chemistry C, **Year:** 2018, **Volume:** 6, **Pages:** 6929–6939. **IF:** 6.641; **Citations:** 26

C.2. Research Projects and Grants

1. **Title:** Nuevos Materiales Híbridos Basados en Marcos Orgánicos Covalentes (COFs) para una Nueva Generación de OLEDs. **Reference:** SBPLY/23/180225/000196. **Period:** 01/05/2024 - 30/04/2027. **Amount of subsidy:** 125 000 €. **Funding Body:** JCCM **Principal Investigator:** Abderrazzak Douhal and Boiko Cohen
2. **Title:** Desarrollo de MOF-LEDs Eficientes y Sostenibles para el Ahorro Energético. **Reference:** TED2021-131650B-I00 **Period:** 01/12/2022 - 30/11/2024 **Amount of subsidy:** 195.500 € **Funding Body:** Ministerio de Ciencia e Innovación **Principal Investigator:** Abderrazzak Douhal and Mario Gutierrez Tovar
3. **Title:** Toward New LEDs based on Metal-, and Hydrogen-Bonded Organic Frameworks. **Reference:** PID2020-116519RB-I00 **Period:** 01/09/2021 - 30/08/2025 **Amount of subsidy:** 217.800 € **Funding Body:** Ministerio de Ciencia e Innovación **Principal Investigator:** Abderrazzak Douhal and Boiko Cohen
4. **Title:** Explorando los Límites de MOFs y HOFs Luminiscentes: Aplicaciones en Nanofotónica. **Reference:** SBPLY/19/180501/000212. **Period:** 01/01/2020 - 20/03/2023. **Amount of subsidy:** 170.709 €. **Funding Body:** JCCM **Principal Investigator:** Abderrazzak Douhal and Boiko Cohen

5. Title: Fotodinamica de Materiales Inteligentes Basados en Redes Organo-Metalicas, Covalentes y Unidas por Enlaces de Hidrogeno (MOFs, COFs, HOFs) para Aplicaciones en Fotonica. **Reference:** MAT2017-86532-R **Period:** 01/01/2018 - 31/12/2020 **Amount of subsidy:** 121.000 € **Funding Body:** Ministerio de Ciencia e Innovación **Principal Investigator:** Abderrazzak Douhal

6. Title: Dinámica estructural en materiales híbridos: relevancia en nanofotónica. **Reference:** MAT2014-57646-P **Period:** 01/01/2015 - 31/12/2017 **Amount of subsidy:** 187.550 € **Funding Body:** Ministerio de Ciencia e Innovación **Principal Investigator:** Abderrazzak Douhal

7. Title: Femtociencia y microscopia de moléculas individuales en medios confinados basados en sílice con aplicaciones en nanotecnología. **Reference:** PEII-2014-003-P. **Period:** 01/12/2014 - 30/11/2017. **Amount of subsidy:** 204 810 €. **Funding Body:** JCCM **Principal Investigator:** Abderrazzak Douhal

8. Title: "CYCLON Hit" *Nanocarriers for the Delivery of Antimicrobial Agents to Fight Resistance Mechanisms*. **Reference:** 608407 **Period:** 01/03/2014 - 29/02/2018, **Amount of subsidy:** 234 931 € para la UCLM. **Funding Body:** U.E. FP7-PEOPLE-2013-ITN **Principal Investigator:** Abderrazzak Douhal (Toledo)

9. Title: *Dinámica estructural de nanomateriales basados en sílice: relevancia en la nanofotónica*, **Reference:** MAT 2011-25472, **Period:** 01/01/2012 - 31/12/2015, **Amount of subsidy:** 132 231 €, **Funding Body:** Ministerio de Ciencia e Innovación, **Principal Investigator:** Abderrazzak Douhal

10. Title: "Development of more efficient catalysts for the design of sustainable chemical processes and clean energy production". **Reference:** Nanocat, CSD2009-00050. **Period:** 26/01/2010 - 16/12/2015, **Amount of subsidy:** 250 000 €. **Funding Body:** Ministerio de Ciencia e Innovación (MICINN), Proyecto Consolidar, **Principal Investigator:** Coordinador: Avelino Corma, IP de la UCLM: Abderrazzak Douhal (UCLM).

C.5. Other

- XXIV International Conference on Photochemistry (ICP 2009) July 2009, Toledo, Spain (**organizing committee**)
- The First bi-Lateral Spanish-Japanese School and Workshop on Nanotechnology and New Materials with Environmental Challenges, September. 2010, Toledo, Spain (**organizing committee**)
- V^{as} Jornadas Ibéricas de Fotoquímica, September 2016, Toledo, Spain (**scientific and organizing committee**)
- Research work presented at over 30 national/international meetings as oral, invited or plenary.
- Member of Editorial Board (Since 2019), Molecules (MDPI, Switzerland)
<https://www.mdpi.com/journal/molecules/editors>
- Referee for the following journals (Publons): Account of Chemical Research (ACS), Physical Chemistry Chemical Physics (RSC); Energies (MDPI); Nanoscale (RSC); Journal of Drug Delivery Science and Technology (Elsevier); Methods and Applications in Fluorescence (IOP Publishing); Dalton Transactions (RSC); Molecules (MDPI); International Journal of Molecular Sciences (MDPI); Nanomaterials (MDPI); Machine Learning: Science and Technology (IOP Publishing), Journal of Physical Chemistry A, B, C (ACS).

C.6. Docencia

Desde el curso 2008/2009 hasta el curso 2010-2011, mi labor docente se desarrolló como Investigador Ramon y Cajal en el primer ciclo de la licenciatura de CC. Químicas y de la licenciatura de Medio Ambiente (UCLM, campus de Toledo) impartiendo las prácticas de asignaturas de Bases Químicas del Medio Ambiente (6 créditos prácticos), Contaminación Atmosférica (4 créditos prácticos), Enlace Química y Estructura de la Materia (1 crédito practico), Introducción a la Experimentación en Química Física (1 crédito practico) y Química (5 créditos practico).

A partir del curso 2011-2012 hasta la actualidad, y después de la conversión de licenciatura en CC Químicas en el Grado en Bioquímica, mi labor docente se desarrolla en el Grado en Bioquímica (UCLM, Campus de Toledo) donde he impartido y las siguientes asignaturas, tanto los créditos de teoría como de laboratorio (según el curso): •Termodinámica y Cinética (formación básica): 6 créditos de prácticas. •Biofísica (obligatoria): 2 créditos prácticos. •Enzimología (obligatoria): 2 créditos de teoría y 3 créditos



Nº Procedimiento: 030569

Código SIACI: SKAZ



prácticos. •Laboratorio Integrado I (obligatoria): 1 crédito práctico. •Biología Molecular de Sistemas y Bioinformática (obligatoria): 2 créditos de teoría + 1 crédito de prácticas. •Modelización Aplicada a Biomoléculas (optativa): 1,5 créditos de teoría + 1,5 crédito de prácticas.

Todo esto supone una experiencia docente de 2687,5 horas (prácticos + teóricos) en la licenciatura en Químicas y la licenciatura en Medio Ambiente y en el Grado de Bioquímica, y 390 créditos en Máster en Nanociencia y Nanotecnología Molecular a lo que habría que sumar la dedicación docente que suponen 14 TFGs codirigidos y 4 TFMs codirigidos

Fecha y firma,