CURRICULUM VITAE ABREVIADO (CVA)

IMPORTANT – The Curriculum Vitae cannot exceed 4 pages. Instructions to fill this document are available in the website.

Part A. PERSONAL INFORMATION

First name	Dietmar		
Family name	Leinen		
Gender (*)	male	Birth date (dd/mm/yyyy)	10/08/1961
Social Security, Passport, ID number	X1900566F		
e-mail	dietmar@uma.es	URL Web	
Open Researcher and Contributor ID (ORCID) (*)		0000-0002-1182-6874	

(*) Mandatory

A.1. Current position

Position	Professor of Applied Physics		
Initial date	28/03/1995		
Institution	University of Malaga		
Department/Center	Applied Physics I	Faculty of Science	
Country	Spain	Teleph. number	952131928
Key words	Preparation (PVD, CVD, chem. solution methods) and characterization (XPS / UPS / SEM-FIB / TEM / FTIR / UV-VIS-NIR spectroscopy, cyclic voltammetry) of nanostructured coatings and thin films; electrical, chemical, optical and morphological properties of solid surfaces		

A.2. Previous positions (research activity interruptions, indicate total months)

Period	Position/Institution/Country/Interruption cause
1995-2001	Associate Professor / idem / promotion
2001-2012	Professor of Applied Physics (first level) / idem / promotion

A.3. Education

PhD, Licensed, Graduate	University/Country	Year
Physicist (Diplom Physiker)	Technical University of Berlin / Germany	1991
Doctor in Physics	University of Seville / Spain	1995

(Include all the necessary rows)

Part B. CV SUMMARY *(max. 5000 characters, including spaces)*

I started my researcher career at the Institute of Condensed Matter (group Prof. Gumlich) at the Technical University of Berlin on the thematic of energy transfer in semimagnetic semiconductors at low temperatures using time resolved photoluminescence spectroscopy. After finishing my Physics degree, I made my doctoral thesis under supervision of Prof. A.R. Gonzáles-Elipe y Prof. A. Fernández at the Material Science Institute of Seville (ICMSE/CSIC) on the project “ion and photon beam effects in the synthesis of thin film titanate materials” obtaining a bursary from the EC (SCIENCE, S/SC1/915194, 01/11/1991-31/10/1993), leading to 17 international indexed publications (JCR). In 1995 I gained the position of associate professor at the University of Malaga in the Applied Physics department where I belong to up to now, following up to the position of permanent professor (level I) in 2001, and to permanent professor (upper level) in 2012. With the experience accumulated during my years of formation, particularly in surface analysis with photoemission (XPS, UPS, synchrotron

radiation) and ion beam induced effects, and CVD ion beam induced thin film preparation, I started at the University of Malaga various lines of investigation and scientific collaboration:
a) with ISOFOTON, former largest PV panel producer in Spain, in studying with XPS the different steps of solar cell fabrication. 2 publications (JCR) and supervising a dissertation in Physics presented at the University of Granada by M.J. Ariza Camacho in 1998.
b) with Prof. L. Calzada from ICMM y Prof. E. Castellón from UMA, Inorganic Chem. department, studying the effects of processing ferroelectric titanate thin film with XPS depth profiling. 4 publications (JCR).
c) with Prof. J.R. Ramos Barrado, supervising the doctoral thesis of P. Velásquez Castillo (UMA 2002) dealing with the properties of interface films formed at natural sulfur minerals from copper mining. 7 publications (JCR).

From approx. year 2000 on, I developed and set up together with Prof. F Martín (UMA, Chem. Ing. Dept.) a new line for thin film preparation by chemical spray pyrolysis (CPS). We studied the feasibility in preparing transparent conductive oxides (TCO), particularly Al doped ZnO films and Li doped SnO films, and ferroelectric titanate films. 5 publications (JCR) and supervision of the doctoral thesis of R. Ayouchi (UMA 2005).

From 2003 until end of 2006, I was engaged with the EU project (SOLABS ENK6-CT-2002-00679) as scientific responsible for UMA working on the development of protective transparent oxide coatings on galvanized steel for solar façade elements. Within this project I developed and set up a coil coating spray station for continuous deposition onto large surfaces of laminated steel (coil width 0.4 m). After development, prototype solar façade elements were fabricated and tested. 6 publications (JCR) and supervision of the doctoral thesis of R. López Ibáñez (UMA 2009).

In parallel, an intensive scientific relation was established with investigators from Chile and Urugay particularly with Prof. E. Dalchiele, collaborating on the preparation and characterization of nanostructured materials and thin films by electrochemical methods for applications as new PV elements, solar selective surfaces, electrochromic films, etc. 26 publications (JCR) and supervision of 2 doctoral thesis (R. Romero Pareja, UMA 2007; A.L. Cuevas Meléndez, UMA 2012).

More recently, collaborative work of investigation has been carried out with Prof. L. Soriano (UAM) on graphene related interfaces, with Prof. D. Araujo (UCA) on diamond based Schottky diodes, with Prof. T. Myers from Texas State University on CdTe based solar cells, and with Prof. C. Sanchez (UAM) on growth mechanism of pyrite films. 8 publications (JCR).

Part C. RELEVANT MERITS *(sorted by typology)*

C.1. Publications *(see instructions)*
Silver zirconium oxide cermet coatings spray deposited onto galvanized steel sheet for low temperature solar applications
R. Romero, A. Domínguez, M.C. López-Escalante, F. Martín, P. Romero-Gómez, S. Palanco, D. Leinen
Ceramics International, 49 (2023) 33643
doi.org/10.1016/j.ceramint.2023.08.045

The reaction mechanism and kinetic model of Fe thin films transformation into monosulfides (FeS): first step of the Fe films sulfuration process into pyrite
C. Morales, A. Pascual, D. Leinen, E. Flores, E. Muñoz-Cortes, F. Leardini, J.R. Ares, J.I. Flege, L. Soriano, I. Ferrer, C. Sanchez
Journal of Physical Chemistry C, 126 (2022) 13870
doi.org/10.1021/acs.jpcc.2c02060

Influence of chemical and electronic inhomogeneities of Graphene/Copper on the growth of oxide thin films: the ZnO/Graphene/Copper case
C. Morales, F. Urbanos, A. del Campo, D. Leinen, D. Granados, P. Prieto, L. Aballe, M. Foerster, L. Soriano

Nanotechnology 32 (2021) 245301 (13pp)
doi.org/10.1088/1361-6528/abe0e8

Comprehensive nanoscopic analysis of tungsten carbide/Oxygenated diamond contacts for Schottky barrier diodes
G. Alba, D. Leinen, M.P. Villar, R. Alcántara, J.C. Piñero, A. Fiori, T. Teraji, D. Araujo
Appl. Surface Sci. 537 (2021) 147874
doi.org/10.1016/j.apsusc.2020.147874

Imaging the Kirkendall effect in pyrite (FeS2) thin films: cross-sectional microstructure and chemical features
C. Morales, D. Leinen, E. Flores, E. Muñoz-Cortes, F. Leardini, J.R. Ares, J.I. Flege, L. Soriano, I.J. Ferrer, C. Sanchez
Acta Materialia 205 (2021) 116582
doi.org/10.1016/j.actamat.2020.116582

Valence Band Offset Determination of CdSeTe and CdMgTe alloys with CdTe using X-ray Photoemission Spectroscopy
E. G. LeBlanc, D. Leinen, M. Edirisooriya, A. Los and T. H. Myers
Appl. Surface Sci. 529 (2020) 147126
doi.org/10.1016/j.apsusc.2020.147126

Diamond/γ-alumina band offset determination by XPS
J. Cañas, G. Alba, D. Leinen, F. Lloret, M. Gutierrez, D. Eon, J. Pernot, E. Gheeraert, D. Araujo
Appl. Surface Sci. 535 (2021) 146301
doi.org/10.1016/j.apsusc.2020.146301

Electronic decoupling of graphene from copper induced by deposition of ZnO. A complex Substrate/Graphene/Deposit/Environment Interaction
C. Morales, F.J. Urbanos, A. del Campo, D. Leinen, D. Granados, M.A. Rodríguez, L. Soriano
Adv. Mater. Interfaces 2020, 1902062
doi.org/10.1002/admi.201902062

Spray-grown highly oriented antimony-doped tin dioxide transparent conducting films
R. Parra, D. Leinen, J.R. Ramos-Barrado, F. Martín
Ceramics International 40 (2020) 1361–1367
doi.org/10.1016/j.jeurceramsoc.2019.11.052

Ga-doped IZO films obtained by magnetron sputtering as transparent conductors for visible and solar applications
D. Solís-Cortes, E. Navarrete-Astorga, J.L. Kosta-Krämer, J. Salguero-Fernández, R. Schrebler, D. Leinen, E.A. Dalchiele, J.R. Ramos-Barrado, F. Martin
Ceramics International 45 (2019) 5577–5587
doi.org/10.1016/j.ceramint.2018.12.017

C.2. Congress, indicating the modality of their participation (invited conference, oral presentation, poster)
AEM2018, Advanced Energy Materials, Surrey (UK), September 10 – 12, 2018
Oral presentation: Solar thermal Ag-ZrO2 cermet coatings sprayed onto aluminized steel sheet
R. Romero, F. Martin, J.R. Ramos-Barrado, D. Leinen

ECASIA'19, Dresden (Germany), September 15 – 20, 2019
Poster: XPS depth profiling with low energy Ar ions for band offset determination
D. Leinen, J. Cañas, G. Alba, E. Gheeraert, M. Gutierrez, D. Araujo

ECASIA'22, Limerick (Ireland), 29 May – 3 June, 2022
Poster: SnO2 grown by spray pyrolysis as transparent conductor and current collector of supercapacitor
F. Martin Jimenez, R. Parra, D. Solis, J. Peinado, D. Leinen, J. Ramos Barrado

E-MRS Spring Meeting, Strasbourg (France), May 27-31, 2024
Poster: Spray deposited Ag-ZrO_2 cermet coatings on galvanized steel sheet
R. Romero, A. Domínguez, M.C. López-Escalante, F. Martín, P. Romero-Gomez, S. Palanco and D. Leinen

C.3. Research projects, indicating your personal contribution. In the case of young researchers, indicate lines of research for which they have been responsible.
PROYEXCEL_00637, High-speed environmental monitoring of abandoned mining waste facilities and evaluation of their potential for recovery of raw materials by chemical mapping with drone-borne Laser-induced plasma spectrometry (Reminlaser), Junta de Andalucía. Consejería de Universidad, Investigación e Innovación, Santiago Palanco López, 12/2022 – 12/2025, 154.022,95 €, researcher

PID2020-117832RB-I00, Dispositivos con generación y almacenamiento integrados de energía solar, Ministerio de Ciencia e Innovación (Energía, Nanotecnología), Fco. de Paula Martín Jiménez, 01/09/2021 - 01/09/2024, 43.000 €, researcher

UMA18-FEDERJA-041, Nano-Estructuras 1d Ordenadas de Semiconductores Transparentes Para Aplicaciones Fotovoltaicas y Foto-Electroquímicas (1dnanosun), Junta de Andalucía. Consejería de Economía, Conocimientos, Empresas y Universidad, J.R. Ramos Barrado, 30/04/2019 - 30/04/2021, 40.940 €, researcher

TEC2014-53906-R, Nanostructured devices for energy production and accumulation in the horizont of 2020, Ministery of Economy and Competivity, J.R. Ramos Barrado UMA, 01/01/2015 - 31/12/2018, 154.600 €, researcher

RMN 1399, Application of new common nanostructures to active elements in invisible electrónics for energetic applications, Junta de Andalucía, J.R. Ramos Barrado UMA, 29/01/2014 - 29/01/2018, 189.894 €, researcher

C.4. Contracts, technological or transfer merits, Include patents and other industrial or intellectual property activities (contracts, licenses, agreements, etc.) in which you have collaborated. Indicate: a) the order of signature of authors; b) reference; c) title; d) priority countries; e) date; f) Entity and companies that exploit the patent or similar information, if any