



European Materials Research Society

Spring Meeting 2022

May 30 | June 3
Virtual Conference

SYMPOSIUM W

WiRE: Women in Renewable Energy

Symposium Organizers :

Monica LIRA-CANTU, Catalan Institute of Nanoscience and Nanotechnology

Zakya H. KAFABI, Lehigh University



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From the publisher of the *Journal of Physics* series



Thursday June 2

08:15	Welcome to WiRE 2022 - Monica Lira-Cantu				
08:45	INV Optical property, photoexcited carrier dynamics and application to solar cells of phase stable and less-defect perovskite nanocr Qing Shen*, Chao Ding, Hua Li, Yusheng Li, Shota Yajima 1. The University of Electro-Communications, Tokyo, 182-8585, Japan. Email: shen@pc.uec.ac.jp	W .1			
09:15	INV Efficient and stable metal halide perovskite solar cells Huanping Zhou 1* 1. School of Materials Science and Engineering, Peking University, Beijing 100871, P. R. China. Email: happy_zhou@pku.edu.cn	W .2			
09:45	Reversible Pressure-Dependent Mechanochromism in Layered Hybrid Perovskites Loreta A. Muscarella,1, ‡ Algirdas Dučinskas,2,5 ‡ Mathias Dankl,3 Michał Andrzejewski,4 Nicola Pietro Maria Casati,4 Ursula Rothlisberger,3 Joachim Maier,5 Michael Graetzel,2 Bruno Ehrler,1,* Jovana V. Milić,2,6* 1. Center for Nanophotonics, AMOLF, Science Park 104, 1098 XG Amsterdam, the Netherlands 2. Laboratory of Photonics and Interfaces, Institute of Chemical Sciences and Engineering, École Polytechnique Fédérale de Lausanne, CH-1015 Lausanne, Switzerland 3. Laboratory of Computational Chemistry and Biochemistry, Institute of Chemical Sciences and Engineering, École Polytechnique Fédérale de Lausanne, CH-1015 Lausanne, Switzerland 4. Paul Scherrer Institute, Forschungsstrasse 111, CH-5232 Villigen, Switzerland 5. Max Planck Institute for Solid State Research, Heisenbergstr. 1, 70569 Stuttgart, Germany 6. Adolphe Merkle Institute, University of Fribourg, CH-1700 Fribourg, Switzerland Email: jovana.milic@unifr.ch	W .3			
10:00	Discussion				
10:15	Coffee				
10:30	INV Colored, Stable and Flexible Co-evaporated perovskites solar cells and minimodules Annalisa Bruno* Energy Research Institute @ NTU (ERI@N), Nanyang Technological University, 637553, Singapore Annalisa@ntu.edu.sg	W .4			
11:00	Printed perovskite solar cells and modules on flexible substrates and their integration with energy storage systems Francesca Brunetti1*, Francesca De Rossi1, Giuseppina Polino1, Babak Taheri1, Hamed Lomeri1, Matteo Bonomo2, Thomas Meredith Brown1, Aldo Di Carlo1,3, Claudia Barolo2 1. CHOSE, Department of Electronic Engineering, University of Rome Tor Vergata, via del Politecnico 1, 00133 Rome, Italy. Email: francesca.brunetti@uniroma2.it 2. Department of Chemistry, NIS Interdepartmental Centre and INSTM Reference Centre, Università degli Studi di Torino, Via G. Quarello 15 A, 10135 Turin, Italy 3. CNR-ISM Istituto di Struttura della Materia, via del Fosso del Cavaliere 100, 00133 Rome, Italy	W .5			
11:30	Innovative Approaches to Improve Stability of Perovskite Solar Cells I. Garcia-Benito,1,2 J. Urieta,1 A. Molina-Ontoria,1 G. Grancini,2,3 M. K. Nazeeruddin,2 N. Martin1 1. Universidad Complutense de Madrid (Av. Complutense, s/n, 28040, Madrid, Spain) and IMDEA nanoscience (c/Faraday, 9, 28049, Madrid, Spain) 2. EPFL (Rue de l'Industrie 17, 1950 Sion, Switzerland). 3. University of Pavia (via Taramelli, 16, 27100 Pavia, Italy). Email: ingarc10@ucm.es	W .6			
11:45	Engineering 2D TMD nanoflake films for solar energy conversion applications Rebekah A. Wells, Marina C. Caretti, Charles R. Lhermitte, Kevin Sivula Ecole Polytechnique Federale de Lausanne (LIMNO), EPFL (LIMNO), Los Alamos National Laboratory, EPFL (LIMNO)	W .9			
12:00	Discussion				
12:15	Lunch				
13:00	INV Advanced modelling in electrochemical CO2 reduction Núria López1,* 1. Institute of Chemical Research of Catalonia, The Barcelona Institute of Science and Technology (BIST), Av. Països Catalans 16, 43007 Tarragona, Spain. Email: nlopez@icicq.es			W .8	
13:30	INV Development of new battery chemistries: Ca metal as case example M. Rosa Palacin 1,* 1. Institut de Ciència de Materials de Barcelona, ICMA-B-CSIC, Campus UAB, 08193 Bellaterra, Catalonia, Spain. Email: rosa.palacin@icmab.es			W .11	
13:45	INV Exploring how battery materials function and fail - new characterisation approaches and new insights Clare Gray tba			W .10	
14:15	Establishing structure/property interrelations of organic semiconducting solar-cell materials using fast calorimetry Natalie Stingelin Georgia Institute of Technology, Ferst Drive, 30332 Atlanta, GA, U.S.A. natalie.stingelin@gatech.edu			W .7	
14:30	Discussion				
14:45	Coffee				
15:00	Welcome to WiRE 2022: Zakya H. Kafafi				
15:15	INV Design of Solid State Battery Materials and Prototypes Jennifer L.M. Rupp Technical University of Munich & TUM International Energy, Germany jrupp@mit.edu			W .12	
15:45	INV Antimony based materials as non toxic alternative for photovoltaic conversion and electrochemical energy storage Marina E. Rincón1 1 Renewable Energy Institute (IER), National University of Mexico (UNAM). Privada Xochicalco S/N, Col. Centro, Temixco, Morelos, México. Email: merg@ier.unam.mx			W .13	
16:15	3D Nanoarchitectures as building blocks for single and hybrid energy harvesters Xabier García-Casas, Javier Castillo-Seoane, Francisco J. Aparicio, Ali Ghaffarnejad, Lidia Contreras-Bernal, Jorge Budagoski, M. Carmen Lopez-Santos, Angel Barranco, Juan R. Sánchez-Valencia, Ana Borrás* 1. Nanotechnology on Surfaces and Plasma Lab. Materials Science Institute of Seville (CSIC-US). c/ Americo Vespucio 49, 41092, Sevilla, Spain. Email: anaissabel.borras@icmse.csic.es			W .14	
16:45	INV Defect Chemistry and Impact on Thermoelectric Properties of the Yb2-xEuxCdSb2 Layered Zintl Phase Ashlee K. Hauble1, Kasey P. Devlin1 and Susan M. Kauzlarich1,* 1. Chemistry Department, One Shields Ave, University of California, Davis, CA, USA. Email: smkauzlarich@ucdavis.edu			W .15	
17:15	Discussion				
17:30	ROUND TABLE: The Role of Women Scientists in Renewable Energy - Zakya Kafafi - Misha Bonn - Debra Rolinson				
	: Zakya H. Kafafi / Monica Lira-Cantu				
18:30	Recycling of Electric Vehicle batteries: Recycling methods, Challenges and International practices of battery recycling Toni Zhimomi1, Bhagyasree1, Shweta Kalia1, Sahana L 1 1. Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ)GmbH, GIZ India, 110029, New Delhi, India			W 3.1	
18:30	Study of Two Novel Dyes as Efficient Photosensitizers in DSSC: DFT Investigation Ankit Kargeti*(1), Shamooh Ahmad Siddiqui(2,3), Tabish Rasheed(1) (1) School of Engineering and Technology, BML Munjal University, Gurugram, Haryana, India 122413 (2) Promising Centre for Sensors and Electronic Devices, Najran University, Najran, KSA 11001 (3) Department of Physics, Najran University, Najran, KSA 11001.			W 3.2	

18:30	Boosting Perovskite based tandem solar cell performance S. Aazou1,2*, E. Ntsoenzok3, Z. Sekkat1,2, E. M. Assaid4 1 Faculty of Sciences, University of Mohammed V in Rabat, Rabat, Morocco, 2 Optics and Photonics Center, Moroccan Foundation for Advanced Science, Innovation & Research- MASclR- UM6P, Rabat, Morocco, 3 CEMHTI-CNRS Site Cyclotron, 3A Rue de la Férollerie, Orléans, 45071, France, 4 Faculty of Sciences, University of Chouaib Doukkali, El Jadida, Morocco, * Correspondence: s.aazou@um5r.ac.ma	W 3.3	18:30	Impact of chopping frequency and voltage/light bias during EQE measurements of perovskite/Siilicon tandem solar cells Vasiliki Paraskeva1, Maria Hadjipanayi1, Matthew Norton1, George E. Georghiou1 1. FOSS Research Centre for Sustainable Energy, Department of Electrical and Computer Engineering, University of Cyprus, 75 Kallipoleos St., Nicosia, 1678, Cyprus Email: vparas01@ucy.ac.cy	W 3.13
18:30	Carbon-Based Mesoscopic Screen-Printed Perovskite Solar Cells: Fabrication and Characterization Kylie Thompson1, David Tanenbaum1* 1. Pomona College, Department of Physics and Astronomy, Claremont, California 91711 Email: david.tanenbaum@pomona.edu	W 3.4	18:30	Metallophthalocyanines as Efficient Hole Transporting Materials in Perovskite Solar Cells Ángela Sastre-Santos,1, * Adrián Herrero, Desiré Molina,1 Jorge Follana-Berná, Lydia Ferrer, 1 Javier Ortiz1 1. Área de Química Orgánica, Instituto de Bioingeniería, Universidad Miguel Hernández, Elche 03202 (Alicante), Spain. E-mail: asastre@umh.es	W 3.14
18:30	New Fluorene-Based Derivatives as Hole Transporting Materials for Efficient Perovskite Solar Cells Aistė Jegorovė1, Cristina Momblona2, Marytė Daškevičienė1, Artiom Magomedov1, Vyntas Jankauskas3, Mohammad Khaja Nazeeruddin,2 Vytautas Getautis1 1. Department of Organic Chemistry, Kaunas University of Technology, Lithuania. 2. Group for Molecular Engineering of Functional Material, Institute of Chemical Sciences and Engineering, École Polytechnique Fédérale de Lausanne, Switzerland. 3. Institute of Chemical Physics, Vilnius University, Lithuania. aislc@ktu.lt	W 3.5	18:30	A bichromophoric organic-inorganic semiconductor nanocomposite: device ready broad spectral response light-harvesting material Kajari Dutta, 1, * Swarna Goswami,1 Arnab Dey, 1 Sagareeka Ghosh, 1 Susmita Das, 2 Avisek Dutta4, Shibsankar Dutta3, Sukanta Dec3 1. Department of Physics, Amity University, Major Arterial Road (South-East), Action Area II, Newtown, Kolkata, 700135, India. 2. Department of Chemistry, Amity University, Major Arterial Road (South-East), Action Area II, Newtown, Kolkata, Kolkata, 700135, India 3. Department of Physics, Presidency University, 86/1, College Street, Kolkata, 700073, India 4. School of Materials Sciences, Indian Association for the Cultivation of Science, Kolkata, 700032 Email: das.kajari@gmail.com, kdutta@kol.amity.edu	W 3.15
18:30	Photo-storage devices based on perovskite solar cells and supercapacitors Cojocar, L.*(1), Keppetipola, N. K.(1), Kumara, G. R. A. (2), Olivier, C. (1), & Toupance, T(1). (1) University of Bordeaux, CNRS, Bordeaux INP, ISM, UMR 5255, 351 Cours de la Libération, F-33405 Talence Cédex, France (2) National Institute of Fundamental Studies, Hantana Road, 20000 Kandy, Sri Lanka	W 3.6	18:30	Metrology on Commercial Thin Film Photovoltaic Modules – Working the Black Box Bettina Friedel1.* 1. Physikalisch-Technische Bundesanstalt (PTB), Department for Applied Radiometry – Solar Modules. Bundesallee 100, 38116 Braunschweig, Germany. Email: bettina.friedel@ptb.de	W 3.16
18:30	Pathways of Cations Migration in Minerals: Theoretical Modeling N. A. Kabanova*a,b, T. L. Panikorovskiib, S. M. Aksenovc, E. A. Morkhovaa aSamara Center for Theoretical Materials Science, Samara state technical university, Molodogvardeyskaya Str. 244, Samara 443100, Russia bLaboratory of nature-inspired technologies and environmental safety of the Arctic, Kola Science Centre, Russian Academy of Sciences, Fersmana str. 14, 184209 Apatity, Russia, cLaboratory of arctic mineralogy and material sciences, Kola Science Centre, Russian Academy of Sciences, Fersmana str. 14, 184209 Apatity, Russia	W 3.7	18:30	The role of the organic/inorganic cation and the halide anion on the structural, optical properties and stability of perovskite Hajar Moumine1,2, Hasnae Chfi1, Bernabé Marí Soucase2, Mohammed Abd-Lefdi1, Lahoucine Atourki1 1. Mohammed V University of Rabat, Department of physics, Rabat, Morocco. Email : hajar.moumine@um5r.ac.ma 2. Polytechnic University of Valencia, Institute of Design & Fabrication (IDF), Valencia, Spain Email : hmoumin@doctor.upv.es	W 3.17
18:30	Manufacture of Stable and higher efficiency FA-based lead triiodide perovskites solar cells through doping Amal Bouich, Júlia Marí Guaita, Inmaculada Guaita Pradas, Bernabé Mari, Pablo Palacios. Institut de Disseny i Fabricació, Universitat Politècnica.,València, Spain Dept. Física Aplicada, Universitat Politècnica Madrid, Spain	W 3.8	18:30	Pathway Toward Fabrication of Efficient and Stable Perovskite Solar Modules Narges Yaghoobi Nia1,2*, Mahmoud Zendehtdel1, Aldo Di Carlo1,2 1. CHOSE, Department of Electronic Engineering, University of Rome Tor Vergata, via del Politecnico 1, 00133 Rome, Italy 2. CNR-ISM Istituto di Struttura della Materia, via del Fosso del Cavaliere 100, 00133 Rome, Italy Email: YAGHOOBI.NIA@ing.uniroma2.it	W 3.18
18:30	Bismuth-based hybrid perovskites for thermoelectrics Vanira Trifiletti, Simona Binetti, Simone Fabiano, Oliver Fenwick Vanira Trifiletti, Simona Binetti Department of Materials Science and Solar Energy Research Center (MIB-SOLAR), University of Milano-Bicocca, Via Cozzi 55, 20125 Milano, IT Vanira Trifiletti, Oliver Fenwick School of Engineering and Materials Science, Queen Mary University of London, 327 Mile End Road, London E1 4NS, UK Simone Fabiano Laboratory of Organic Electronics, Department of Science and Technology, Linköping University, Norrköping, SE.	W 3.9	18:30	Detailed electron nanoscopy investigations on Zn3P2 nanowires with photovoltaics application Spadaro Maria Chiara1*, Escobar-Steinval Simon2,3, Dzade Nelson Y.4, Marti-Sánchez Sara1, Torres-Vila Pol1, Fontcuberta i Morral Anna2 and Arbiol Jordi1,5 1. Catalan Institute of Nanoscience and Nanotechnology (ICN2), CSIC and BIST, Campus UAB, Bellaterra, 08193 Barcelona, Catalonia, Spain. 2. Laboratory of Semiconductor Materials, Institute of Materials, Ecole Polytechnique Fédérale de Lausanne, 1015 Lausanne, Switzerland 3. Center for Analysis and Synthesis and NanoLund, Lund University, Box 124, 221 00 Lund, Sweden 4. School of Chemistry, Cardiff University, CF10 3AT Cardiff, United Kingdom 5. ICREA, Pg Lluís Companys 23, 08010 Barcelona, Catalonia, Spain. * Email: mariachiara.spadaro@icn2.cat	W 3.19
18:30	An innovative Wireless Energy Transfer System based on thermoelectric devices powered by an incident high-power laser beam M. M. Maia, A. L. Pires, M. Rocha, A. M. Pereira IFIMUP - Institute of Physics for Advanced Materials, Nanotechnology and Photonics, Faculdade de Ciências da Universidade do Porto, 4169-007 Porto, Portugal	W 3.10	18:30	Efficient Perovskite Solar Cells using Enamine-derived Hole Transporting Materials Deimante Vaitukaityte1, Minh Anh Truong2, Yasuko Iwasaki2, Richard Murdey2, Kasperas Rakstys1*, Atsushi Wakamiya2*, Vytautas Getautis1* 1. Department of Organic Chemistry, Kaunas University of Technology, Lithuania. Email: deimante.vaitukaityte@ktu.lt 2. Institute for Chemical Research, Kyoto University, Japan	W 3.20
18:30	Liquid Crystal Based New Generation Organic Photovoltaics Nimet Yilmaz Canli1* 1. Yildiz Technical University, Department of Physics, 34210 Istanbul, Turkey. Email: niyilmaz@yahoo.com, niyilmaz@yildiz.edu.tr	W 3.11	18:30	Novel Organic Materials for the Redox Flow Batteries: Implementation of Triarylamine and Phenazine Core Structures Elena I. Romadina 1,*, Keith J. Stevenson 1 1. Skolkovo Institute of Science and Technology, Bolshoy Boulevard 30, 1, Moscow, Russia Email: Elena.Romadina@skoltech.ru	W 3.21
18:30	Stepping towards net zero goals with green powered charging stations Jayasree K S, Sahana L, Toni Zhimomi, Bhagyasree, Shweta Kalia Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ)GmbH Email: ksjayasree97@gmail.com, sahana.l@giz.de, toni.zhimomi@giz.de, bhagyasree.bhagyasree@giz.de, shweta.kalia@giz.de	W 3.12			

18:30	Transient absorption studies on organic semiconductors photocatalyst Soranyel Gonzalez Carrero,1 Jan Kosco,2 Teng Fei,1 Yifan Dong,1 Weidong Xu,1 Ian McCulloch,2,3 James Durrant1 1. Department of Chemistry, Centre for Processable Electronics, Imperial College London, London W12 0BZ, U.K. 2. King Abdullah University of Science and Technology (KAUST), KAUST Solar Center (KSC), Physical Sciences and Engineering Division (PSE), Thuwal 23955-6900, Kingdom of Saudi Arabia. 3. Department of Chemistry, University of Oxford, 12 Mansfield Road, Oxford, OX1 4BH, UK Email: s.gonzalez-carrero@imperial.ac.uk	W 3.22	18:30	In-situ characterization techniques for dismantling stability mechanisms in Perovskite Solar Cells with accelerated testing Fanny Baumann1, Sonia Ruiz Raga 1, Monica Lira-Cantu1,* 1. Catalan Institute of Nanoscience and Nanotechnology (ICN2), CSIC and the Barcelona Institute of Science and Technology (BIST). Building ICN2, Campus UAB E-08193, Bellaterra, Barcelona, Spain. Email: monica.lira@icn2.cat	W 3.28
18:30	New low-cost and dopant-free hole transporting materials for high performance and stable perovskite solar cells Sārūnė Daškevičiūtė-Gegužienė1, Cristina Momblona2, Kasparas Rakštys1, Marytė Daškevičienė1, Vytautas Getautis1, Mohammad Khaja Nazeeruddin2 1. Department of Organic Chemistry, Kaunas University of Technology, Kaunas, Lithuania. 2. Group for Molecular Engineering of Functional Materials, Institute of Chemical Sciences and Engineering, École Polytechnique Fédérale de Lausanne, Switzerland Email: sarune.daskeviciute@ktu.lt	W 3.23	18:30	Surface Functionalized MXene-based Halide Perovskite Solar Cells Ashitha Paingott Parambil1, Masoud Karimipour1, Monica Lira-Cantu1,* 1. Catalan Institute of Nanoscience and Nanotechnology (ICN2), CSIC and the Barcelona Institute of Science and Technology (BIST). Building ICN2, Campus UAB E-08193, Bellaterra, Barcelona, Spain. Email: monica.lira@icn2.cat	W 3.29
18:30	Exergy and carbon taxing analysis of renewable energy system: application of solar photovoltaic thermal collector Rasikh Tariq1, *, Ixchel Gijón-Arreortúa2 1. Facultad de Ingeniería, Universidad Autónoma de Yucatán, Av. Industrias No Contaminantes por Anillo Periférico Norte, Apdo. Postal 150, Cordemex, Mérida, 97203, Yucatán, Mexico. Email: rasikhtariq@gmail.com, rasikhtariq@alumnos.uady.mx. Website: sites.google.com/view/rasikhtariq. 2. Facultad de Ingeniería Química, Universidad Autónoma de Yucatán, Mérida, México.	W 3.24	18:30	Enhancement of stability and mechanical bending durability of flexible perovskite solar cells using perovskite layer sandwiching Masoud Karimipour1, Monica Lira-Cantu1,* 1. Catalan Institute of Nanoscience and Nanotechnology (ICN2), CSIC and the Barcelona Institute of Science and Technology (BIST). Building ICN2, Campus UAB E-08193, Bellaterra, Barcelona, Spain. Email: monica.lira@icn2.cat	W 3.30
18:30	Modified P3HT materials as hole transport layers for flexible perovskite solar cells and space applications Francesca De Rossi1,*, Matteo Bonomo2, Babak Taheri1, Giacomo Renno2, Viktoria Ilieva2, Vishal Gupta3, Narges Yaghoobi Nia1,7, Andrea Fin3, P. Quagliotto2, Paolo Rech5, C. Frost6, C. Cazzaniga6, Marco Ottavi3, Aldo Di Carlo1,7, Claudia Barolo2,8, Francesca Brunetti1 1 CHOSE, Department of Electronic Engineering, University of Rome Tor Vergata, via del Politecnico 1, 00133 Rome, Italy – Email: francesca.de.rossi@uniroma2.it 2 Department of Chemistry, NIS Interdepartmental Centre and INSTM Reference Centre, Università degli Studi di Torino, Via G. Quarello 15A, 10135 – Turin, Italy 3 Department of Electronic Engineering, University of Rome Tor Vergata, via del Politecnico 1, 00133 Rome, Italy 4 Department of Science and Drug Technology, Università degli Studi di Torino, Via Pietro Giuria 9, 10125 Turin, Italy 5 Universidade Federal do Rio Grande do Sul (UFRGS), Brazil 6 ISIS facility, UKRI-STFC, Rutherford Appleton Laboratory, Didcot, OX11 0QX, United Kingdom 7 CNR-ISM Istituto di Struttura della Materia, via del Fosso del Cavaliere 100, 00133 Rome, Italy 8 ICxT Interdepartmental Centre, Università degli Studi di Torino, Via Lungo Dora Siena 100, 10153 Turin, Italy	W 3.25	18:30	Towards the Commercialization of Perovskite Solar Cells: Encapsulation Strategies and Outdoor Stability Testing Kenedy Tabah Tanko1, Carlos Pereyra1 Fanny A. K. Baumann1, Sonia Ruiz Raga1, Masoud Karimipour1, Monica Lira-Cantu1,* 1. Catalan Institute of Nanoscience and Nanotechnology (ICN2), CSIC and the Barcelona Institute of Science and Technology (BIST). Building ICN2, Campus UAB E-08193, Bellaterra, Barcelona, Spain. Email: monica.lira@icn2.cat	W 3.31
18:30	Energy contribution of a skylight for heating an Andean rural house located at 3700 masl Jessica Molina1, Mónica Gómez1*, Gilles Lefebvre2 1 Universidad Nacional de Ingeniería (UNI). Facultad de Ciencias. Tupac Amaru Av. 210, Rimac, Lima, Peru. 2 Université Paris-Est. Centre d'Étude et de Recherche en Thermique, Environnement et Systèmes (CERTES), Général de Gaulle Av. 94010, Créteil Cedex, France. *Email: mgomez@uni.edu.pe	W 3.26	18:30	Ferroelectric oxide/Halide Perovskite Solar Cells Carlos Pereyra1, Saptam Ganguly1, Haibing Xie1, Jesus Ricote2, Ricardo Jimenez Rioboo2, Maria Lourdes Calzada2, Monica Lira-Cantu1* 1. Catalan Institute of Nanoscience and Nanotechnology (ICN2), CSIC and the Barcelona Institute of Science and Technology (BIST). Building ICN2, Campus UAB E-08193, Bellaterra, Barcelona, Spain. Email: monica.lira@icn2.cat 2. Instituto de Ciencia de Materiales de Madrid, ICMM-CSIC. C / Sor Juana Inés de la Cruz 3, 28049, Canto Blanco, Madrid, Spain.	W 3.32
18:30	Back contact electrodes for perovskite solar cells Xiongfeng Lin,1,2 Sonia R. Raga, 1,2,3 Boer Tan,1,2 Siqi Deng,1,2 Kevin J. Rietwyk,1,2 Anton Weissbach,1,2,4 Anthony S.R. Chesman,5,6 David P. McMeekin,1,2 Qingdong Ou,7 Boya Zhao,1,2 Jianfeng Lu,1,2,8 Nicolas H. Voelcker,5,6,9,10 Liangcong Jiang,1,2 Andrew D. Scully,5 Liangcong Jiang,1,2 Qiaoliang Bao,7 Yi-Bing Cheng,11, Udo Bach1,2,5,6* 1 Department of Chemical and Biological Engineering, Monash University, Victoria 3800, Australia 2 ARC Center of Excellence in Exciton Science, Monash University, Victoria 3800, Australia 3 Catalan Institute of Nanoscience and Nanotechnology (ICN2), Bellaterra, Barcelona 08193, Spain 4 Institut für Angewandte Photophysik, Technische Universität Dresden, Dresden 01062, Germany 5 CSIRO Manufacturing, Clayton, Victoria 3168, Australia 6 The Melbourne Centre for Nanofabrication, Victorian Node of the Australian National Fabrication Facility, Clayton, Victoria 3168, Australia 7 Department of Materials Science and Engineering, Monash University, Victoria 3800, Australia 8 State Key Laboratory of Silicate Materials for Architectures, Wuhan University of Technology, Wuhan 430070, China 9 Drug Delivery, Disposition and Dynamics, Monash Institute of Pharmaceutical Sciences, Monash University, 381 Royal Parade, Parkville, Victoria 3052, Australia 10 INM-Leibniz Institute for New Materials, Campus D2 2, Saarbrücken 66123, Germany 11 State Key Laboratory of Advanced Technology for Materials Synthesis and Processing, Wuhan University of Technology, Wuhan 430070, China Contact: sonia.ruizraga@icn2.cat, udo.bach@monash.edu	W 3.27	18:30	Electric Vehicle Battery Modelling: Comparison of Battery Performance in relation to different electric vehicle segments Bhagyasree1, Shweta Kalia1, Sahana L1, Toni Zhimomi1-* Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ)GmbH, B 5/2, Safdarjung Enclave, New Delhi, India-110029 Email: bhagyasree.bhagyasree@giz.de, shweta.kalia@giz.de, sahana.l@giz.de, toni.zhimomi@giz.de	W 3.33
			18:30	Second life of Batteries: Remaining Life Prediction and Applications Bhagyasree1, Toni Zhimomi1, Shweta Kalia1, Sahana L1 -* 1. Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ)GmbH, B 5/2, Safdarjung Enclave, New Delhi, India-110029 Email: bhagyasree.bhagyasree@giz.de, toni.zhimomi@giz.de, shweta.kalia@giz.de, sahana.l@giz.de	W 3.34
			18:30	Low dimensional halide perovskites for efficient memristors Shrreya Krishnamurthy Department of Physics, Savitribai Phule Pune University, Ganeshkhind Rd., Pune, India – 411 007	W 3.35