MONDAY, July 23rd

Plenary Lecture, 23/07/2018, 09:15 - Auditorium

MPL01
Probing and controlling excitons in 2D semiconductors
Heinz, Tony F.
Dept. of Applied Physics, Stanford University and SLAC National Accelerator Laboratory, Menlo Park, Stanford and Menlo Park, United States.

Invited Lecture, 23/07/2018, 10:00 - Auditorium

MI01
Franckeite: a naturally occurring superlattice
Castellanos-Gomez, Andres.
Materials Science Factory, Instituto de Ciencia de Materiales de Madrid (ICMM – CSIC), Madrid, Spain.

Oral Contributions I, 23/07/2018, 10:30 - Auditorium

M01
Microscopic Origin of the Valley Hall Effect in Transition Metal Dichalcogenides
Nicolas, Ubrig; Sanghyun, Jo; Marc, Philippi; Davide, Costanzo; Alexey B., Kuzmenko; Alberto F., Morpurgo.
DQMP, Université de Genève, Switzerland.

M02
2D Carbon for Cascaded Spintronic Logic
Friedman, Joseph [1]; Girdhar, Anuj [2]; Heinrich-Barna, Stephen [3]; Chalifoux, Wesley [4]; Leburton, Jean-Pierre [2]; Sahakian, Alan [5].
[1] The University of Texas at Dallas, Richardson, TX, United States; [2] The University of Illinois at Urbana-Champaign, Urbana, IL, United States; [3] Texas Instruments, Inc., Dallas, TX, United States; [4] The University of Nevada at Reno, Reno, NV, United States; [5] Northwestern University, Evanston, IL, United States.

11:00-11:30 Coffee Break

Invited Lecture, 23/07/2018, 11:30 - Auditorium

MI02
Topological and Interaction Effects in Atomically Thin 1D & 2D Materials
Louie, Steven G.
Physics Department, University of California at Berkeley, and Lawrence Berkeley National Lab, Berkeley, United States.

MI03
Quantum Transport in Nanostructured Graphene
Jauho, Antti-Pekka.
Technical University of Denmark, CNG, DTU Nanotech, Denmark.

Oral Contributions II, 23/07/2018, 12:30 - Auditorium

M03
Tunnel spectroscopy of localised quantum states in the barrier of graphene-hBN-graphene transistors
Greenaway, Mark [1]; Vdovin, Evgenii [2]; Ghazaryan, Davit [3]; Misra, Abhishek [3]; Mishchenko, Artem [3]; Cao, Yang [3]; Wang, Zihao [3]; Wallbank, John [3]; Holwill, Matt [3]; Morozov, Sergey [2]; Makarovsky, Oleg [4]; Fromhold, Mark [4]; Patanè, Amalia [4]; Geim, Andre [3]; Fal'ko, Vladimir [3]; Novoselov, Konstantin [3]; Eaves, Laurence [4].
[1] Loughborough University, Loughborough, United Kingdom; [2] IMT and HPM, RAS, Chernogolovka, Russian Federation; [3] University of Manchester, Manchester, United Kingdom; [4] University of Nottingham, Nottingham, United Kingdom.

M04
Anisotropic band structure engineering in graphene via 1D patterned dielectric superlattices
Dietrich, Scott [1]; Forsythe, Carlos [1]; Watanabe, Kenji [2]; Tanaguchi, Takashi [2]; Hone, James [1]; Dean, Cory R. [1].
[1] Columbia University, New York, United States; [2] National Institute for Materials Science, Tsukuba, Japan.

Invited Lecture, 23/07/2018, 13:00 - Auditorium

MI04
Charged topological solitons in zigzag graphene nanoribbons
Brey, Luis; López-Sancho, M. Pilar.
Instituto de Ciencia de Materiales de Madrid-CSIC, Madrid, Spain.

13:30-14:45 Lunch

Invited Lecture, 23/07/2018, 14:45 - Auditorium

MI05
Investigation of The Single and Two Hole Lateral Quantum Dot System
Sachrajda, Andy.
National Research Council of Canada, Ottawa, Canada.

Oral Contributions III, 23/07/2018, 15:15 - Auditorium

M05
Coherent coupling between spin qubits of different codes
Noiri, Akito [1]; Nakajima, Takashi [1]; Yoneda, Jun [1]; Delbecq, Matthieu [2]; Stano, Peter [1]; Otsuka, Tomohiro [3]; Takeda, Kenta [1]; Amaha, Shinichi [1]; Allison, Giles [1]; Kawasaki, Kento [4]; Ludwig, Arne [5]; Wieck, Andreas [5]; Loss, Daniel [6]; Tarucha, Seigo [4].
[1] RIKEN, Wako, Japan; [2] ENS-PSL, Paris, France; [3] Tohoku University, Sendai, Japan; [4] University of Tokyo, Tokyo, Japan; [5] Ruhr-Universität Bochum, Bochum, Germany; [6] University of Basel, Basel, Switzerland.

M06
Reverse engineering and optimization for controlling the two-interacting spins
Chen, Xi.
Shanghai University, Shanghai, China.

M07
Dispersive readout of adiabatic phases
Kholer, Sigmund.
Instituto de Ciencia de Materiales de Madrid, CSIC, Madrid, Spain.

M08
Optimal feedback control of a single-electron transistor
Timo, Wagner; Johannes C., Bayer; Eddy P., Rugeramigabo; Rolf. J., Haug.
Leibniz Universität, Hannover, Germany.

16:15-16:30 Coffee Break

Invited Lecture, 23/07/2018, 16:30 - Auditorium

MI06

Tem Quantum Computation and Simulation -- Spins Inside
Vandersypen, Lieven M.k.
QuTech and Kavli Institute of Nanoscience, Delft, Netherlands.

Oral Contributions IV, 23/07/2018, 17:00 - Auditorium

M09
Quantum state imaging of atomically precise devices in silicon
Voisin, Benoit [1]; Salfi, Joe [1]; Usman, Muhammad [2]; Bocquel, Juanita [1]; Tankasala, Archana [3]; Johnson, Brett C. [2]; Mccallum, Jeff C. [2]; Rahman, Rajib [3]; Simmons, Michelle Y. [1]; Hollenberg, Lloyd C.l. [2]; Rogge, Sven [1].
[1] CQC2T-UNSW, Sydney, Australia; [2] CQC2T-Uni Melbourne, Melbourne, Australia; [3] Purdue University, West Lafayette, IN, United States.

M10
Type-II Quantum Dots with Topology Driven g-factor Tunability
Llorens, José Manuel [1]; Lopes-Oliveira, Vivaldo [2]; López-Richard, Victor [3]; Cardozo De Oliveira, Edson [3]; Wevior, Lucaz [4]; Ulloa, José María [5]; Teodoro, Marcio D. [3]; Marques, Gilmar E. [3]; García-Cristóbal, Alberto [6]; Quiang-Hai, Guo [7]; Alén, Benito [4].
[1] Institute of Micro and Nanotechnology CSIC, Tres, Spain; [2] Universidade Estadual de Mato Grosso do Sul, Mato Grosso, Brazil; [3] Universidade Federal de Sao Carlos, Sao Paulo, Brazil; [4] Institute of Micro and Nanotechnology CSIC, Tres Cantos, Spain; [5] Institute for Systems based on Optoelectronics and Microtechnology - UPM, Madrid, Spain; [6] Instituto de Ciencia de Materiales (ICMUV), Valencia, Spain; [7] Instituto de Física de Sao Carlos, Sao Paulo, Brazil.

M11
Coherent control of a spin qubit in a frequency-locked loop
Nakajima, Takashi [1]; Kawasaki, Kento [2]; Noiri, Akito [1]; Yoneda, Jun [1]; Stano, Peter [1]; Otsuka, Tomohiro [1]; Takeda, Kenta [1]; Delbecq, Matthieu [3]; Amaha, Shinichi [1]; Allison, Giles [1]; Ludwig, Arne [4]; Wieck, Andreas [4]; Loss, Daniel [5]; Tarucha, Seigo [1].
[1] RIKEN, Saitama, Japan; [2] University of Tokyo, Tokyo, Japan; [3] Ecole Normale Supérieure-PSL Research University, Paris, France; [4] Ruhr-Universität Bochum, Bochum, Germany; [5] University of Basel, Basel, Switzerland.

M12
High resolution Imaging and Nanoanalytics with He and Ne ions
Gnauck, Peter.
Carl Zeiss Microscopy, Oberkochen, Germany.

18:00-19:30 Poster Sessions

19:30h Welcome Reception at Historical CSIC Student Residence

TUESDAY, July 24th

Plenary Lecture, 24/07/2018, 09:00 - Auditorium

TPL01
Magic-Angle Graphene: A New Platform for Strongly Correlated Physics
Pablo Jarillo-Herrero
MIT, USA

Invited Lecture, 24/07/2018, 09:45 - Auditorium

TI01
There is plenty of room at the bottom, but even more in a fractal
Cristiane Morais-Smith
Utrecht University, NL

Oral Contributions V, 24/07/2018, 10:15 - Auditorium

T01
Chiral response of twisted bilayer graphene
Stauber, Tobias [1]; Low, Tony [2]; Gómez-Santos, Guillermo [3].
[1] Material Science Institute, Madrid, Spain; [2] University of Minnesota, Minneapolis, United States; [3] Universidad Autónoma de Madird, Madrid, Spain.

T02
Confining superconductivity in graphene bilayer
Kraft, Rainer [1]; Mohrmann, Jens [1]; Du, Renjun [1]; Selvasundaram, Pranauv [1]; Irfan, Muhammad [2]; Kanilmaz, Nefta [1]; Wu, Fan [1]; Beckmann, Detlef [1]; Von Löhneysen, Hilbert [1]; Krupke, Ralph [1]; Akhmerov, Anton [2]; Gornyi, Igor [1]; Danneau, Romain [3].
[1] Institute of Nanotechnology/Karlsruhe Institute of Technology, Karlsruhe, Germany; [2] Kavli Institute of Nanoscience, TU Delft, Netherlands; [3] Institute of Nanotechnology / Karlsruhe Institute of Technology, Karlsruhe, Germany.

T03
Gate-tunable Room-temperature Ferromagnetism in Two-dimensional Fe_3GeTe_2
Deng, Yujun [1]; Yu, Yijun [1]; Song, Yichen [1]; Zhang, Jingzhao [2]; Wang, Nai Zhou [3]; Wu, Yi Zheng [1]; Zhu, Junyi [2]; Wang, Jing [1]; Chen, Xian Hui [3]; Zhang, Yuanbo [1].
[1] Fudan University, Shanghai, China; [2] the Chinese University of Hong Kong, Hong Kong, China; [3] University of Science and Technology of China, Hefei, China.

11:00-11:30 Coffee Break

Invited Lecture, 24/07/2018, 11:30 - Auditorium

TI02

Non-Reciprocal Transmission and Reflection of a Chirally-Coupled Quantum Dot

Price, David. M.; Hurst, David L.; Bentham, Chris; Makhonin, Maxim M.; Royall, Ben; Clarke, Ed; Kok, Pieter; Wilson, Luke R.; Skolnick, Maurice S.; Fox, Mark.
University of Sheffield, Sheffield, United Kingdom.

TI03

Using fractional quantum Hall states to enhance polariton-polariton interactions

Ravets, Sylvain [1]; Patrick, Knüppel [2]; Stefan Suiza, Faelt [2]; Martin, Kroner [2]; Werner, Wegscheider [2]; Atac, Imamoglu [2].
[1] C2N, Marcoussis, France; [2] ETH Zürich, Zürich, Switzerland.

Oral Contributions VI, 24/07/2018, 12:30 - Auditorium

T04

An orbital angular momentum microlaser with optically controlled chirality

Carlon Zambon, Nicola [1]; St-Jean, Philippe [1]; Milicevic, Marijana [1]; Sagnes, Isabelle [1]; Harouri, Abdelmounaim [1]; Le Gratiet, Luc [1]; Lemaître, Aristide [1]; Ravets, Sylvain [1]; Amo, Alberto [2]; Bloch, Jacqueline [1].
[1] Centre de Nanosciences et de Nanotechnologies (C2N), CNRS, Univ. Paris-Sud, Université Paris-Saclay, Marcoussis, France; [2] Université de Lille, CNRS, UMR 8523 – PhLAM – Physique des Lasers Atomes et Molécules, Lille, France.

T05

Temperature effect on non-equilibrium polariton condensates

Rozas, Elena [1]; Martin, M. Dolores [1]; Tejedor, Carlos [1]; Vina, Luis [1]; Deligeorgis, George [2]; Hatzopoulos, Zacharias [2]; Savvidis, Pavlos G. [2].
[1] Universidad Autonoma de Madrid, Madrid, Spain; [2] FORTH-IESL, Heraklion, Greece.

T06

Excitonic states in hBN/TMDC monolayer/hBN van der Waals heterostructures

Cedric, Robert; Emmanuel, Courtade; Marco, Manca; Bo, Han; Shivangi, Shree; Gang, Wang; Fabian, Cadiz; Thierry, Amand; Bernhard, Urbaszek; Xavier, Marie.
CNRS-LPCNO, TOULOUSE, France.

T07

Quantum-correlated photons from semiconductor cavity polaritons

Munoz Matutano, Guillermo [1]; Wood, Andrew [1]; Johnsson, Mattias [1]; Vidal Asensio, Xavier [1]; Baragiola, Ben [1]; Reinhard, Andreas [1]; Lemaitre, Aristide [2]; Bloch, Jaqueline [2]; Amo, Alberto [2]; Nogues, Gilles [3]; Besga, Benjamin [3]; Richard, Maxime [3]; Volz, Thomas [1].
[1] Macquarie University, Sydney, Australia; [2] CNRS, Paris, France; [3] CNRS, Grenoble, France.

13:30-14:45 Lunch

Invited Lecture, 24/07/2018, 14:45 - Auditorium

TI04
Novel and scalable III-V nanostructures for photonics and quantum transport
Fontcuberta I Morral, Anna.
Laboratory of Semiconductor Materials, Institute of Materials, Lausanne, Switzerland.

Oral Contributions VII, 24/07/2018, 15:15 - Auditorium

T08
Magnetotransport of two-dimensional hole gas in undoped GaSb quantum well
Shibata, Kenji [1]; Karalic, Matija [2]; Mittag, Christopher [2]; Lei, Zijin [2]; Tschirky, Thomas [2]; Reichl, Christian [2]; Wegscheider, Werner [2]; Ihn, Thomas [2]; Ensslin, Klaus [2].
[1] Tohoku Institute of Technology, Sendai, Japan; [2] Solid State Physics Laboratory, ETH Zurich, Zurich, Switzerland.

T09
Spatial control of the carrier capture in a $MoSe_2$ monolayer
Rosati, Roberto; Lengers, Frank; Reiter, Doris E; Kuhn, Tilmann.
Institut für Festkörpertheorie and Center for Multiscale Theory and Computation, Universität Münster, Münster, Germany.

T10
Whispering gallery modes in a multiwall MoS2 nanotube optical resonator
Kazanov, Dmitrii [1]; Poshakinskiy, Alexander [1]; Davydov, Valery [1]; Remškar, Maja [2]; Shubina, Tatiana [1].
[1] Ioffe Institute of RAS, Saint Petersburg, Russian Federation; [2] Jožef Stefan Institute, Ljubljana, Slovenia.

T11
Lattice-Matched Epitaxial Graphene Grown on Boron Nitride
Diez Albar, Juan.
University of Nottingham, Nottingham, United Kingdom.

16:15-16:30 Coffee Break

Plenary Lecture, 24/07/2018, 16:30 - Auditorium

TPL02
Ge and Si Nanowires: New Platforms for Spin and Majorana Qubits
Loss, Daniel.
Department of Physics, University of Basel, Basel, Switzerland.

Oral Contributions VIII, 24/07/2018, 17:15 - Auditorium

T12
A 2x2 quantum dot analogue simulator
Dehollain, Juan Pablo [1]; Mukhopadhyay, Uditendu [1]; Reichl, Christian [2]; Wegscheider, Werner [2]; Vandersypen, Lieven [1].
[1] QuTech, TU Delft, Delft, Netherlands; [2] ETH Zürich, Zürich, Switzerland.

T13
Direct measurement on the Kondo cloud length in a quantum dot coupled to a 1D Fabry-Perot interferometer
Borzenets, Ivan [1]; Yamamoto, Michihisa [2]; Chen, Jason [3]; Arne, Ludwig [4]; Wieck, Andreas [4]; Tarucha, Seigo [2].
[1] City University of Hong Kong, Kowloon, Hong Kong; [2] Riken, Tokyo, Japan; [3] The University of Tokyo, Tokyo, Japan; [4] Rurh-University Bochum, Bochum, Germany.

18:00-19:30 Poster Sessions

WEDNESDAY, July 25th

Plenary Lecture, 25/07/2018, 09:00 - Auditorium

WPL01
Majorana Qubits
Leo Kouwenhoven
Microsoft Station Q at Delft University of Technology, The Netherlands

Invited Lecture, 25/07/2018, 09:45 - Auditorium

WI01
Metallization of Rashba wire by superconducting layer in the strong-proximity regime
Klinovaja, Jelena.
Department of Physics, University of Basel, Basel, Switzerland.

WI02
Yu-Shiba-Rusinov states in single atoms and molecules on superconductors
Franke, Katharina J.
Fachbereich Physik, Freie Universität Berlin, Berlín, Germany.

Oral Contributions IX, 25/07/2018, 10:45 - Auditorium

W01
Detection of Majorana non-locality in hybrid dot-nanowire systems
Prada, Elsa [1]; Deng, Mingtang [2]; Vaitiekenas, Saulius [2]; San-Jose, Pablo [3]; Nygard, Jesper [2]; Krogstrup, Peter [2]; Aguado, Ramon [3]; Marcus, Charles [2].
[1] Condensed Matter Physics Center (IFIMAC) and Instituto Nicolás Cabrera, Universidad Autonoma de Madrid, Madrid, Spain; [2] Center for Quantum Devices and Station Q Copenhagen, Niels Bohr Institute, Copenhagen, Denmark; [3] Materials Science Factory, Instituto de Ciencia de Materiales de Madrid, Consejo Superior de Investigaciones Científicas (ICMM-CSIC), Madrid, Spain.

11:00-11:30 Coffee Break

Invited Lecture, 25/07/2018, 11:30 - Auditorium

WI03
Single electron pumps for the revised SI system of units
Schumacher, Hans Werner.
Physikalisch-Technische Bundesanstalt, Braunschweig, Germany.

Oral Contributions X, 25/07/2018, 12:00 - Auditorium

W02
Optomechanical circulator with a planar microcavity
Poshakinskiy, Alexander; Poddubny, Alexander.
Ioffe Institute, St. Petersburg, Russian Federation.

W03
Giant Two-Mode Non-linearity Using a Single Quantum Dot Embedded in a Photonic Wire
Nguyen, Hoai Anh [1]; Grange, Thomas [1]; Reznychenko, Boris [1]; Yeo, Inah [1]; De Assis, Pierre-Louis [1]; Tumanov, Dmitrii [1]; Fratini, Filippo [1]; Malik, Nitin [2]; Dupuy, Emmanuel [2]; Gregersen, Niels [3]; Auffèves, Alexia [1]; Gérard, Jean-Michel [2]; Claudon, Julien [2]; Poizat, Jean-Philippe [1].
[1] Université Grenoble Alpes, Institut Néel, CNRS, Grenoble, France; [2] Université Grenoble Alpes, CEA, INAC-PHELIQS, Grenoble, France; [3] Dept of Photonic Engineering, DTU Fotonik, Kongens Lyngby, Denmark.

W04
Exotic Quantum Dynamics and Interactions in Nanophotonics Structures
González-Tudela, Alejandro.
Max Planck Institute for Quantum Optics, Garching, Germany.

W05
Monolithic Quantum Light Source with Hybrid Pumping
Fuster, David; González, Yolanda; González, Luisa; Alén, Benito.
IMN-CNM, CSIC, Tres Cantos, Madrid, Spain.

W06
Topological phenomena in photonic-crystal superlattices
Bravo-Abad, Jorge.
Universidad Autónoma de Madrid, Madrid, Spain.

W07
Light Emission from direct bandgap Silicon-Germanium
Dijkstra, Alain [1]; Ren, Yizhen [1]; Fadaly, Elham [1]; Verheijen, Marcel [1]; Gagliano, Luca [1]; Koelling, Sebastian [1]; Finley, Jonathan [2]; Botti, Silvana [3]; Haverkort, Jos [1]; Bakkers, Erik [1].
[1] Eindhoven University of Technology, Eindhoven, Netherlands; [2] Walter Schottky Institut, Technische Universität München, Munich, Germany; [3] Friedrich-Schiller University of Jena, Jena, Germany.

13:30-14:30 Lunch

14:30 Segovia Tour

THURSDAY, July 26th

Plenary Lecture, 26/07/2018, 09:00 - Auditorium

THPL01
Coherent Coupling of a Single Spin to a Single Photon
Petta, Jason.
Princeton University, Department of Physics, Princeton, United States.

Invited Lecture, 26/07/2018, 09:45 - Auditorium

THI01
Quantum dots made from semiconductor nanowires and nanolayers for quantum information processing
Xu, Hongqi.
Beijing Key Laboratory of Quantum Devices and Key Laboratory for the Physics and Chemistry of Nanodevices, Peking University, Beijing, China.

Oral Contributions XI, 26/07/2018, 10:15 - Auditorium

TH01
Deterministic assembly of a spin-photon interface based on a semiconductor quantum dot
Millet, Clément; Hilaire, Paul; Loredo, Juan; Anton, Carlos; Somaschi, Niccolo; Harouri, Abdelmounaim; Lemaitre, Aristide; Sagnes, Isabelle; Krebs, Olivier; Kimura, Daniel; Senellart, Pascale; Lanco, Loic.
Centre de Nanosciences et de Nanotechnologies, Marcoussis, France.

TH02
Input-output theory for spin-photon coupling in Si double quantum dots
Benito, Mónica [1]; Mi, Xiao [2]; Taylor, Jacob M. [3]; Petta, Jason R. [2]; Burkard, Guido [1].
[1] University of Konstanz, Konstanz, Germany; [2] Princeton University, Princeton, United States; [3] NIST, College Park, United States.

TH03
Fast long-range state transfer in quantum dot arrays via shortcuts to adiabaticity
Ban, Yue [1]; Chen, Xi [2]; Platero, Gloria [1].
[1] Instituto de ciencia de materiales de madrid, ICMM-CSIC, MADRID, Spain; [2] Department of Physics, Shanghai University, Shanghai, China, SHANGHAI, China.

11:00-11:30 Coffee Break

Invited Lecture, 26/07/2018, 11:30 - Auditorium

THI02
Topological Physics in HgTe-based Quantum Devices
Molenkamp, Laurens.
Würzburg University, Würzburg, Germany.

Oral Contributions XII, 26/07/2018, 12:00 - Auditorium

TH04
Evaluation of Josephson Vortex Core Size Induced in Corbino-geometry Josephson Junctions
Matsuo, Sadashige [1]; Tateno, Mizuki [1]; Sato, Yosuke [1]; Ueda, Kento [1]; Takeshige, Yusuke [1]; Kamata, Hiroshi [1]; Lee, Joon Sue [2]; Shojaei, Borzoyeh [2]; Palmstrøm, Christopher J. [2]; Tarucha, Seigo [1].
[1] The university of Tokyo, Bunkyo-ku, Japan; [2] University of California, CA, United States.

TH05
Topological protection of surface states from exceptional points in Weyl and nodal line semimetals
Rafael, Molina; José, González; Enrique, Benito-Matías.
Instituto de Estructura de la Materia - CSIC, Madrid, Spain.

TH06
Generation and manipulation of Majorana states in hybrid 2D Josephson junctions with ferromagnetic-insulators
Virtanen, Pauli [1]; Bergeret, Sebastian [2]; Strambini, Elia [1]; Giazotto, Francesco [1]; Braggio, Alessandro [1].
[1] NEST, Istituto Nanoscienze-CNR and Scuola Normale Superiore, Pisa (Italy), Italy; [2] Centro de Fisica de Materiales (CFM-MPC), Centro Mixto CSIC-UPV/EHU, Donostia International Physics Center (DIPC), San Sebastian (Spain), Spain.

TH07
Field control of surface states in topological materials
Diaz Fernandez, Alvaro; Del Valle Navarro, Natalia; Dominguez-Adame Acosta, Francisco.
Universidad Complutense de Madrid, Madrid, Spain.

Invited Lecture, 26/07/2018, 13:00 - Auditorium

THI03
Topology- and geometry-driven effects in advanced micro- and nanoarchitectures
Fomin, Vladimir.
IFW Dresden, Dresden, Germany.

13:30-14:45 Lunch

Invited Lecture, 26/07/2018, 14:45 - Auditorium

THI04
From epitaxy to science and processing technologies of novel van der Waals crystals
Patanè, Amalia.
School of Physics and Astronomy The University of Nottingham, Nottingham, United Kingdom.

Oral Contributions XIII, 26/07/2018, 15:15 - Auditorium

TH08
A Platform for Edgeless and Purely Gate-Defined Nanostructures in InAs Quantum Wells
Christopher, Mittag; Matija, Karalic; Zijin, Lei; Thomas, Tschirky; Werner, Wegscheider; Thomas, Ihn; Klaus, Ensslin.
ETH Zürich, Zürich, Switzerland.

TH09
Electronic and spintronic properties of colloidal PbS nanosheets
Ramin Moayed, Mohammad Mehdi [1]; Bielewicz, Thomas [1]; Zöllner, Martin Sebastian [2]; Noei, Heshmat [3]; Stierle, Andreas [3]; Herrmann, Carmen [2]; Klinke, Christian [1].
[1] Institute of Physical Chemistry, University of Hamburg, Hamburg, Germany; [2] Institute of Inorganic Chemistry, University of Hamburg, Hamburg, Germany; [3] DESY NanoLab, Deutsches Elektronensynchrotron DESY, Hamburg, Germany.

TH10
Patterned dielectric superlattices on van der Waals 2D materials
Forsythe, Carlos [1]; Zhao, Xiaodong [2]; Taniguchi, Takashi [3]; Watanabe, Kenji [3]; Pasupathy, Abhay [1]; Moon, Pilkyung [4]; Koshino, Mikito [5]; Kim, Philip [6]; Dean, Cory [1].
[1] Columbia University, New York, United States; [2] Fudan University, Shanghai, China; [3] National Institute for Materials Science, Tsukuba, Japan; [4] NYU-ECNU, Shanghai, China; [5] Osaka University, Toyonaka, Japan; [6] Harvard University, Cambridge, United States.

TH11
***Layertronics* – the layer localization control of topological states in bilayer graphene with a gate voltage**
Ayuela, Andres [1]; Jaskolski, Wlodzimierz [2]; Pelc, Marta [3]; Bryant, Garnett [4]; Chico, Leonor [5].
[1] *Centro de Fisica de Materiales, CFM-MPC CSIC-UPV/EHU, San Sebastian, Spain;* [2] *Nicolaus Copernicus University, Institute of Physics, Torun, Poland;* [3] *Donostia International Physics Center, San Sebastian, Spain;* [4] *National Institute of Standards and Technology, Gaithersburg, United States;* [5] *Instituto de Ciencias de Materiales de Madrid, Madrid, Spain.*

16:15-16:30 Coffee Break

Invited Lecture, 26/07/2018, 16:30 - Auditorium

THI05
2D semiconductors for Nanoscale Biology
Leburton, Jean-Pierre; Aditya, Sarathy; Nagendra, Athreya.
University of Illinois, Urbana, Il 61801, United States.

Oral Contributions XIV, 26/07/2018, 17:00 - Auditorium

TH12
All-thermal transistor based on stochastic switching
Sánchez, Rafael [1]; Thierschmann, Holger [2]; Molenkamp, Laurens W. [3].
[1] *Universidad Autónoma de Madrid, Madrid, Spain;* [2] *TU Delft, Delft, Netherlands;* [3] *Universität Würzburg, Würzburg, Germany.*

TH13
Anomalous Joule law in the adiabatic dynamics of a normal-superconductor quantum dot
Lopez, Rosa.
IFISC, Palma de Mallorca, Spain.

TH15
Magnetic quantum ratchet effect in CdTe-based lateral superlattices
Stefan, Hubmann [1]; Philipp, Faltermeier [1]; Grigory, Budkin [2]; Vasily, Bel'kov [2]; Leonid, Golub [2]; Eugenius, Ivchenko [2]; Zbigniew, Adamus [3]; Grzegorz, Karczewski [3]; Tomasz, Wojtowicz [3]; Dmitry, Kozlov [4]; Dieter, Weiss [1]; Sergey, Ganichev [1].
[1] *University of Regensburg, Regensburg, Germany;* [2] *Ioffe Institute, St. Petersburg, Russian Federation;* [3] *Institue of Physics, Polish Academy of Sciences, Warsaw, Poland;* [4] *A. V. Rzhanov Institute of Semiconductor Physics, Novosibirsk, Russian Federation.*

18:00-19:30 Poster Sessions

20:30 Conference Dinner at Pedro Larumbe Restaurant

FRIDAY, July 27th

Plenary Lecture, 27/07/2018, 09:00 - Auditorium

FPL01
Quantum Computing in Silicon
Simmons, Michelle Y.
University of New South Wales; Centre of Excellence for Quantum Computation and Communication Technology, Kensington; Sydney, Australia.

Invited Lecture, 27/07/2018, 09:45 - Auditorium

FI01
Versatile Spin Control with Triple Quantum Dots: Hybrid Spin Qubit, QND, and Coherent Entanglement Transfer
Seigo Tarucha
Department of Applied Physics School of Engineering, The Univ. Tokyo

FI02
Semiconductor quantum dot based quantum electronics
Kim, Dohun.
Department of Physics and Astronomy, Seoul National University, Seoul, Korea (Democratic People's Republic).

Oral Contributions XV, 27/07/2018, 10:45h - Auditorium

F01
Entanglement control and magic angles for acceptor qubits in Si
Abadillo-Uriel, Jose Carlos [1]; Salfi, Joe [2]; Hu, Xuedong [3]; Rogge, Sven [2]; Calderon, Maria Jose [1]; Culcer, Dimitrie [4].
[1] Instituto de Ciencia de Materiales de Madrid, Madrid, Spain; [2] School of Physics and Centre for Quantum Computation and Communication Technology, Sydney, Australia; [3] University of Buffalo, Buffalo, United States; [4] School of Physics and Australian Research Council Centre of Excellence in Low-Energy Electronics Technologies, Sydney, Australia.

11:00-11:30 Coffee Break

Plenary Lecture, 27/07/2018, 11:30 - Auditorium

FPL02
Interlayer Excitons and Magneto-Exciton Condensation in van der Waals Heterostructures
Kim, Philip.
Harvard University, Cambrigde, United States.

Oral Contributions XVI, 27/07/2018, 12:15 - Auditorium

F03
Enhanced direct exciton emission in single multiwall nanotubes of transition metal dichalcogenides
Shubina, Tatiana [1]; Davydov, Valery [1]; Belyaev, Kirill [1]; Smirnov, Alexandr [1]; Toropov, Alexey [1]; Poshakinskiy, Alexandr [1]; Rybkovskiy, Dmitry [2]; Remškar, Maja [3]; Mintairov, Alexandr [1]; Fathipour, Sara [4]; Seabaugh, Alan [4]; Gil, Bernard [5].
[1] Ioffe Institute of RAS, Saint Petersburg, Russian Federation; [2] Skolkovo Institute of Science and Technology, Moscow, Russian Federation; [3] Jožef Stefan Institute, Ljubljana, Slovenia; [4] University of Notre Dame, Notre Dame, United States; [5] CNRS-Université de Montpellier, Montpellier, France.

F04
Controllable symmetry transition for the circular photogalvanic effect in monolayer $MoSe_2$.
Quereda, Jorge.
Zernike Institute for Advanced Materials, Groningen, Netherlands.

Invited Lecture, 27/07/2018, 12:45 - Auditorium

FI03
Quantum Dots in 2D Materials: Progress, Challenges, and Opportunities
Moody, Galan.
National Institute of Standards & Technology, Boulder, United States.

13:15 Closing