

## Schedule of HeteroNanoCarb-2017

### Monday 11<sup>th</sup> December 2017

15:00/15:30	Departure Bus from Barcelona Downtown/Airport <a href="http://benasque.org/2017heteronanocarb/#bus">http://benasque.org/2017heteronanocarb/#bus</a>
~20:15	Arrival Bus to Benasque
21:00	Welcome cocktail

### Tuesday 12<sup>th</sup> December 2017

### Wednesday 13<sup>th</sup> December 2017

### Thursday 14<sup>th</sup> December 2017

8:30 - 8:45	Remarks - Anouncements				
8:45-10:50	Session I	8:45-10:50	Session IV	8:45-10:40	Session VII
10:50-11:15	Coffee Break	10:55-11:20	Coffee Break	10:40-11:05	Coffee Break
11:15-13:05	Session II	11:20-13:35	Session V	11:05-13:20	Session VIII
13:05-18:30	Free time	13:35-18:30	Free time	13:20-18:30	Free time
18:30-20:20	Session III	18:30-20:25	Session VI	18:30-20:20	Session IX
20:20-21:45	Poster session / Cocktail	20:25-21:45	Poster session / Cocktail	21:00-...	Conference Dinner

### Friday 15<sup>th</sup> December 2017

8:00	Departure Bus to Barcelona Airport/Downtown <a href="http://benasque.org/2017heteronanocarb/#bus">http://benasque.org/2017heteronanocarb/#bus</a>
~13:00	Arrival Bus to Barcelona Airport

**Tuesday 12<sup>th</sup> December 2017**

8:45 – 10:50	Session - I	Chairs: R. Arenal – V. Meunier & Ph. Lambin
Invited Speaker	8:45 – 10:50	<p><b><i>Interfacial Engineering of Two-Dimensional Nanoelectronic Heterostructures</i></b>                      Mark C. Hersam  <a href="mailto:m-hersam@northwestern.edu">m-hersam@northwestern.edu</a></p>
	9:20 – 9:40	<p><b><i>2D-0D HETEROSTRUCTURES FOR SPINTRONICS</i></b>                      D.L. Mouafo*<sup>1</sup>, F. Godel<sup>2</sup>, B. Dlubak<sup>2</sup>, B. Doudin<sup>1</sup>, P. Seneor<sup>2</sup>, J.F. Dayen<sup>1</sup>*  <a href="mailto:donald.mouafo@ipcms.unistra.fr">donald.mouafo@ipcms.unistra.fr</a></p>
Invited Speaker	9:40 – 10:15	<p><b><i>ELECTRODYNAMICS OF 2D HETEROSTRUCTURES</i></b>                      Luc Henrard  <a href="mailto:luc.henrard@unamur.be">luc.henrard@unamur.be</a></p>
Invited Speaker	10:15 – 10:50	<p><b><i>Controlling the Assembly of 2-D Materials at Interfaces</i></b>                      Alan Dalton  <a href="mailto:A.B.Dalton@sussex.ac.uk">A.B.Dalton@sussex.ac.uk</a></p>
10:50 – 11:15		<b>COFFEE BREAK</b>
11:15 – 13:05	Session - II	Chairs: M. Paillet & P. Legagneux
Invited Speaker	11:15-11:50	<p><b><i>Electrical probing of chains of carbon atoms – On the way to the ultimate 1D conductor ?</i></b>                      F. Banhart, F. Ben Romdhane, A. La Torre, O. Cretu, A. Botello-Mendez, J.-J. Adjizian, J.-C. Charlier  <a href="mailto:florian.banhart@ipcms.unistra.fr">florian.banhart@ipcms.unistra.fr</a></p>
	11:50-12:10	<p><b><i>NO<sub>2</sub> detection from the ppb level up to ppm concentrations using single-walled carbon nanotube (SWCNT)-based field effect transistors</i></b>                      Leandro Sacco, Salomé Forel, Costel-Sorin Cojocaru  <a href="mailto:leandro.sacco@polytechnique.edu">leandro.sacco@polytechnique.edu</a></p>
	12:10-12:30	<p><b><i>Interlayer locking and atomic-scale friction in commensurate small-diameter boron nitride nanotubes</i></b>                      Homin Shin, Keun Su Kim, Benoit Simard, and Dennis D. Klug  <a href="mailto:Homin.Shin@nrc-cnrc.gc.ca">Homin.Shin@nrc-cnrc.gc.ca</a></p>
Invited Speaker	12:30-13:05	<p><b><i>Defect modulated optical conductivity of carbon nanotubes and nanotube hybrids with confined carbynes as novel advanced materials</i></b>                      T. Pichler  <a href="mailto:thomas.pichler@univie.ac.at">thomas.pichler@univie.ac.at</a></p>

**Tuesday 12<sup>th</sup> December 2017**

18:30 – 20:20	Session - III	Chairs: M. Hersam & T. Pichler
<b>Invited Speaker</b>	<b>18:30-19:05</b>	<p><b><i>Elastic properties and stability of physisorbed graphene</i></b>                      Philippe Lambin  <a href="mailto:philippe.lambin@unamur.be">philippe.lambin@unamur.be</a></p>
	<b>19:05-19:25</b>	<p><b><i>TERAHERTZ TIME-DOMAIN ROOM-TEMPERATURE GRAPHENE DETECTOR</i></b>                      Pavel Chizhov, Vladimir Bukin, Tommi Kaplas, Cho-Fan Hsieh, Natsuki Nemoto, Konishi Kuniaki, Makoto Kuwata-Gonokami, Petr Obraztsov  <a href="mailto:pvch@inbox.ru">pvch@inbox.ru</a></p>
	<b>19:25-19:45</b>	<p><b><i>67 GHz optoelectronic mixing with graphene coplanar waveguides</i></b>                      P. Legagneux et al.  <a href="mailto:pierre.legagneux@thalesgroup.com">pierre.legagneux@thalesgroup.com</a></p>
<b>Invited Speaker</b>	<b>19:45-20:20</b>	<p><b><i>Graphene Nanoribbon Heterostructures</i></b>                      Pascal Ruffieux  <a href="mailto:pascal.ruffieux@empa.ch">pascal.ruffieux@empa.ch</a></p>
<b>20:20-21:45</b>	<b><i>Poster Session</i></b>	<b><i>Cocktail</i></b>

Wednesday 13<sup>th</sup> December 2017

8:45 – 10:55	Session - IV	Chairs: L. Wirtz & F. Banhart
Invited Speaker	8:45 – 9:20	<b>Functional hybrids of single-walled carbon nanotubes via <math>\pi</math>-preserving covalent attachment</b> Stephanie Reich <a href="mailto:reich@physik.fu-berlin.de">reich@physik.fu-berlin.de</a>
	9:20 – 9:40	<b>Atomic Configuration of Functionalized Carbon Nanotubes</b> Raul Arenal <a href="mailto:arenal@unizar.es">arenal@unizar.es</a>
	9:40 – 10:00	<b>Computational investigation of the translocation of single polypeptide through MoS<sub>2</sub> nanopores from ionic conductance dynamics</b> Maria Daniela Barrios Perez, Patrice Delarue, Patrick Senet, Vincent Meunier, Adrien Nicolai <a href="mailto:alehinad@gmail.com">alehinad@gmail.com</a>
	10:00 – 10:20	<b>Transitional metal dichalcogenides functionalized with porphyrins for energy conversion</b> Rubén Cantón Vitoria, Christina Stangel and Nikos Tagmtarchis <a href="mailto:canton@eie.gr">canton@eie.gr</a>
Invited Speaker	10:20 – 10:55	<b>New insights on doping effect of (single-, double-wall-) carbon nanotubes by iodine</b> Zubair A., Tristant D., Nie C., Monthioux M., et al.* <a href="mailto:marc.monthioux@cemes.fr">marc.monthioux@cemes.fr</a>
10:55 – 11:20		COFFEE BREAK
11:20 – 13:35	Session - V	Chairs: C. Bittencourt & A. Dalton
Invited Speaker	11:20-11:55	<b>LET'S GO: A TRAVEL THROUGH THE WORLD OF GRAPHENE OXIDE</b> Wolfgang K. Maser, Ana M. Benito <a href="mailto:wmaser@icb.csic.es">wmaser@icb.csic.es</a>
	11:55-12:15	<b>TUNING AGGREGATION AND CHARGE TRANSFER OF P3HT NANOPARTICLES BY GO</b> Emin Istif, Javier H. Fernandez, Esteban Urriolabeitia, Anastasios Stergiou, Nikos Tagmatarchis, Giuseppe Fratta, Matthew J. Large, Alan Dalton Ana M. Benito, Wolfgang K. Maser <a href="mailto:eistif@icb.csic.es">eistif@icb.csic.es</a>
	12:15-12:35	<b>Graphene Oxide based heterostructures: A Raman Characterization</b> D. López-Díaz , J.A. Delgado, V. Clerico, M.D. Merchán , E. Diez , M.M. Velázquez <a href="mailto:dld@usal.es">dld@usal.es</a>

	12:35-12:55	<b>PHOTOACTIVITY OF ZINC OXIDE NANOPARTICLES AND THEIR HYBRIDS WITH GRAPHENE OXIDE</b> S. Víctor-Román*, A. M. Benito, E.García-Bordeje, W. K. Maser <a href="mailto:svictor@icb.csic.es">svictor@icb.csic.es</a>
	12:55-13:15	<b>Controlled Assembly of Graphene Networks Using Polymer Latex Crystal Templates</b> Manuela Meloni, Sandra Víctor Román, Alice King, Giuseppe Fratta, Mario Peláez Fernández, Sean Paul Ogilvie, Matthew J. Large, Raül Arenal, Ana Benito, Wolfgang Maser and Alan B. Dalton <a href="mailto:m.meloni@sussex.ac.uk">m.meloni@sussex.ac.uk</a>
	13:15-13:35	<b>Photopotential and photocurrent improvement of TiO2 in alkaline media by an electrochemically reduced graphene oxide layer.</b> Javier Hernández-Ferrer, Olga Sanahuja, Sandra Víctor, M <sup>a</sup> Teresa Martínez, Alejandro Ansón-Casaos, Ana M <sup>a</sup> Benito, Wolfgang K. Maser <a href="mailto:jhernandez@icb.csic.es">jhernandez@icb.csic.es</a>

18:30 – 20:25	Session - VI	Chairs: E. Obraztsova & N. Casañ-Pastor
Invited Speaker	18:30-19:05	<b>CORRELATING THE STRUCTURE OF 2D MATERIALS WITH THEIR CATALYTIC ACTIVITY</b> Maya Bar Sadan <a href="mailto:barsadan@bgu.ac.il">barsadan@bgu.ac.il</a>
	19:05-19:25	<b>SG MoS2 hybrid for enhanced electrocatalytic activity</b> Antonia Kagkoura, Dimitrios K. Perivoliotis and Nikos Tagmatarchis <a href="mailto:akagkoura@eie.gr">akagkoura@eie.gr</a>
	19:25-19:45	<b>Functional mats of electrospun MoS2 composite fibres</b> Aline Amorim Graf, Matthew Large, Sean Ogilvie, Jonathan Salvage, Alice King, Alan Dalton <a href="mailto:a.amorim-graf@sussex.ac.uk">a.amorim-graf@sussex.ac.uk</a>
	19:45-20:05	<b>NON-CONJUGATED POLYMER DOTS: SHINING LIGHT ON STRUCTURE AND FLUORESCENCE</b> Lorenzo Vallan, Ana M. Benito, M. Teresa Martínez, Esteban P. Urriolabeitia, Wolfgang K. Maser <a href="mailto:lvallan@icb.csic.es">lvallan@icb.csic.es</a>
	20:05-20:25	<b>Experimental and DFT studies on the functionalisation of 2D nanomaterials with pyrene derivatives</b> Y. Sayed-Ahmad-Baraza, R. Canton-Vitoria, M. Pelaez-Fernandez, B. Anothumakkool, C. Bittencourt, J. Gaubicher, R. Arenal, B. Humbert, N. Tagmatarchis, C. P. Ewels <a href="mailto:Yuman.Sayed-Ahmad@cnsr-immn.fr">Yuman.Sayed-Ahmad@cnsr-immn.fr</a>
20:25-21:45	Poster Session	<b>Cocktail</b>

Thursday 14<sup>th</sup> December 2017

8:45 – 10:40	Session - VII	Chairs: L. Henrard & P. Ruffieux
Invited Speaker	8:45 – 9:20	<b><i>Excitons in layered materials: Rydberg-Series, Davydov-splitting in multi-layers, phonon- assisted optical absorption, and resonant Raman spectroscopy</i></b> k Ludger Wirtz, Fulvio Paleari, Thomas Galvani, Sven Reichardt, Henrique Miranda, Hakim Amara, François Ducastelle <a href="mailto:ludger.wirtz@uni.lu">ludger.wirtz@uni.lu</a>
	9:20 – 9:40	<b><i>Stability and Phonon Anharmonicity of Black and Blue Phosphorus</i></b> Damien Tristant, Andrew Cupo and Vincent Meunier <a href="mailto:tristd@rpi.edu">tristd@rpi.edu</a>
	9:40 – 10:00	<b><i>OPTOELECTRONIC PROPERTIES IN ATOMICALLY THIN MoxW(1-x)S2 FLAKES VIA LOW-LOSS EELS</i></b> Mario Pelaez-Fernandez, Kazu Suenaga, Raul Arenal <a href="mailto:mariopf@unizar.es">mariopf@unizar.es</a>
	10:00 – 10:20	<b><i>Coaxial plasmonic nanowires for remote sensing</i></b> D. Funes-Hernando, J.Y. Mevellec, B. Humbert, M. Peláez-Fernández, R. Arenal, J.L. Duvail <a href="mailto:daniel.funes@cnsr-imn.fr">daniel.funes@cnsr-imn.fr</a>
	10:20 – 10:40	<b><i>Breathe, shear, repeat... lattice vibration signatures of 2D materials</i></b> Vincent Meunier <a href="mailto:vincent.meunier@physics.org">vincent.meunier@physics.org</a>
10:40 – 11:05		COFFEE BREAK
11:05 – 13:20	Session - VIII	Chairs: M. Monthioux & M. Bar Sadan
Invited Speaker	11:05-11:40	<b><i>Plasma Fluorination of Carbon Nanomaterials</i></b> Carla Bittencourt <a href="mailto:carla.bittencourt@umons.ac.be">carla.bittencourt@umons.ac.be</a>
	11:40-12:00	<b><i>GRAPHENE AEROGEL WITH UNIDIRECTIONAL PORES OF TAILORED SIZE AND ITS APPLICATION AS HYDROPHOBIC ABSORBENT AND AS SUPPORT FOR CATALYTICALLY ACTIVE NANODIAMONDS</i></b> Enrique García-Bordejé, Sandra Victor-Román, Ana M. Benito, Wolfgang Maser <a href="mailto:jegarcia@icb.csic.es">jegarcia@icb.csic.es</a>
	12:00-12:20	<b><i>Synthesis of nanodiamonds by hydrodynamic cavitation</i></b> Ponomareva E.A., Dushenko N.V., Voropaev S.A., Dnestrovskii A.Yu., Skinev V.M. <a href="mailto:katerinaii@inbox.ru">katerinaii@inbox.ru</a>

	12:20-12:40	<b><i>Molybdenum carbide – graphite-matrix composites with high thermo-mechanical performance</i></b> J. Guardia-Valenzuela, A. Bertarelli, F. Carra, N. Mariani, S. Bizzaro, R. Arenal <a href="mailto:jorge.guardia.valenzuela@cern.ch">jorge.guardia.valenzuela@cern.ch</a>
	12:40-13:00	<b><i>Synthesis and characterization of a new conducting nanostructured carbon-based trihybrid as a neural bioelectrode material</i></b> N.M. Carretero, M.P. Lichtenstein, C. Suñol, J. Moral-Vico, E. Pérez, N. Casañ-Pastor <a href="mailto:eperez@icmab.es">eperez@icmab.es</a>
	13:00-13:20	<b><i>Fluorescently Labelled Carbon Nano-Onions For Cellular Imaging and Diagnostic Applications</i></b> Stefania Lettieri, Adalberto Camisasca, Marta d'Amora, Alberto Diaspro and Silvia Giordani <a href="mailto:stefania.lettieri@iit.it">stefania.lettieri@iit.it</a>

18:30 – 20:20	Session - IX	Chairs: S. Reich & W. Maser
Invited Speaker	18:30-19:05	<b><i>Applications of single-wall carbon nanotubes separated over conductivity type</i></b> E.D. Obraztsova, V. A. Eremina, A.I. Chernov, P.V. Fedotov, A.A. Tonkikh, V.I. Tsebro, E.A. Obraztsova, D.V. Rybkovskiy <a href="mailto:elobr@mail.ru">elobr@mail.ru</a>
	19:05-19:25	<b><i>ELECTROCHEMICAL TREATMENT OF METALLIC- AND SEMICONDUCTING- ENRICHED SINGLE-WALLED CARBON NANOTUBES FILMS</i></b> A. Santidrián, J. Hernández-Ferrer, A.M. Benito, W.K. Maser, A. Ansón <a href="mailto:asantidrian@icb.csic.es">asantidrian@icb.csic.es</a>
	19:25-19:45	<b><i>Role of Hydrogen in High-yield Growth of Boron Nitride NT (BNNT) and Synthesis of BNNT-metal/ceramic Hybrids</i></b> Keun Su Kim, Martin Couillard, Homin Shin, Christopher Kingston, and Benoit Simard <a href="mailto:KeunSu.Kim@nrc-cnrc.gc.ca">KeunSu.Kim@nrc-cnrc.gc.ca</a>
Invited Speaker	19:45-20:20	<b><i>Raman and Photoluminescence investigation of Individual Freestanding Double-Walled Carbon Nanotube</i></b> M. Paillet, D.I. Levshov, R. Parret, H.-N. Tran, T. Michel, T.T. Cao, V.C. Ngyen, R. Arenal, V.N. Popov, S.B. Rochal, J.-L. Sauvajol, A.-A. Zahab <a href="mailto:matthieu.paillet@umontpellier.fr">matthieu.paillet@umontpellier.fr</a>
21:00		<b><i>Congress Dinner</i></b>