# Short CV

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| *Name* | **Papagelis Konstantinos** |
| *Position* | Professor, Physics Department, Aristotle University of Thessaloniki<br>Erasmus+ Coordinator, New Bilateral Agreements |
| *Personal web-page* | http://osng.physics.auth.gr/; https://www.physics.auth.gr/sections/3/people/240 |
| *Studies* | M.Sc. in "Physics of Materials", Physics Department, AUTh (1998)<br>PhD, Physics Department, Aristotle University of Thessaloniki (2000) |
| *Scientific/Professional Expertise* | • Researcher for 4 years in total at the universities of Sussex (UK), Bristol (UK), Regensburg (Germany) and TU (Berlin).<br>• Contract Lecturer at the Materials Science Department, University of Patras, Greece (2004-2005).<br>• Lecturer (2005-2010) and Assistant Professor (2010-2016) at the Materials Science Department and the Physics Department (2017-2018) of the University of Patras, Greece.<br>• Professor, Physics Department, Aristotle University of Thessaloniki, Greece (2018- ).<br>• Collaborating faculty member at the Institute of Chemical engineering Sciences - Foundation for Research & Technology-Hellas, FORTH/ICE-HT, (2010 -). |
| *Research Activities* | • 135 publications in international refereed journals, 5 book chapters and 2 review articles, Gust editor of a special Journal issue.<br>• > 185 participations in international and national conferences, 40 invited speeches.<br>• > 8000 citations from other researchers.<br>• Organiser of one international conference, 4 Summer Schools, 2 Workshops and 1 Research Meeting. Member of the organizing committee of 4 conferences.<br>• Award of the John S. Latsis Public Benefit Foundation (2011).<br>• Editorial Board Member of the Journal Scientific Reports (Nature Publishing Group) and Nano Express (IOP).<br>• Article reviewer in international scientific journals (ACS Nano, Nano Letters Carbon κ.λ.π.). Evalutor in national and international research projects.<br>• 1 international patent (USA/pending).<br>• Supervisor of 36 undergraduate and 5 (9 member of the advisory comittee) postgraduate diplomas.<br>• Supervisor of 2 awarded PhDs and 4 in progress. Co-supervisor of 3 PhD Thesis.<br>• Principal Investigator in 9 research programs and active participation in 25 ones. Active industrial collaborations with Nanonics (Israel), BIC Violex, CealTech (Norway), Papergo (Greece) AXONAS MB ATEBE (Greece), KOZAT S.A. (Greece) etc. |
| *Research Interests* | • Optical spectroscopy (Raman, Absorption, Reflectivity, Photoluminescence, IR) of two-dimensional crystals (single-, bi-, tri- and multy-layer graphene, BN, $MoS_2$, $WS_2$ etc.) and carbon based-nanomaterials (fullerenes, carbon nanotubes, carbon fibers etc.).<br>• Influence of external stimuli such as temperature (1.8 – 700 K), high-hydrostatic pressure (0-30 GPa), uniaxial or biaxial mechanical strain (up to 2.5%), chemical functionalization or electrochemical doping, on the optical properties of solid-state materials.<br>• Time domain Raman spectroscopy (pump and probe Raman spectroscopy).<br>• Large-scale growth of 2D materials using the mechanical exfoliation and the chemical vapour deposition method. Transfer and manipulation of 2D materials in a wide range of substrates as well as artificial stacking of 2D materials for the |

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| | fabrication of heterostructures.<br>• Lattice dynamical calculations (phonomenogical models and first principles), application of group theory in crystalline materials and numerical simulations.<br>• Use of Large Facilities (Synchrotron X-rays and Neutrons) to address key questions in relevant topics of solid-state physics (ESRF, ILL, ISIS, LANSCE etc.).<br>• Fabrication and study of model polymeric nanocomposites with 2D materials as nanoinclusions and thin sheets of randomly entangled carbon nanotubes (buckypapers) with adjustable porosity. |
| *Indicative Relevant publications* | 1. *Structural defects modulate electronic and nanomechanical properties of 2D materials*<br>M. Tripathi, F. Lee, A. Michail, D. Anestopoulos, J.G. McHugh, S.P. Ogilvie, M.J. Large, A. Amorim Graf, P.J. Lynch, J. Parthenios, K. Papagelis, S. Roy, M.M. Rahman, N. M. Pugno, A.K. King, P.M. Ajayan, A.B. Dalton, ACS Nano, in press.<br>2. *Efficient mechanical stress transfer in multilayer graphene by adopting ladder-like architecture*<br>A. P. Sgouros, G. Tsoukleri, G. Kalosakas, C. Androulidakis, N. Delikoukos, S. Signetti, N. M. Pugno, J. Parthenios, C. Galiotis and K. Papagelis, ACS Applied Materials and Interfaces, in press.<br>3. *Biaxial strain engineering of CVD and exfoliated single- and bilayer $MoS_2$ crystals*<br>A. Michail, D. Anestopoulos, N. Delikoukos, J. Parthenios, S. Grammatikopoulos, S. A. Tsirkas, N. N. Lathiotakis, O. Frank, K. Filintoglou and K. Papagelis, 2D Materials 8, 015032 (2021).<br>4. *Doping-induced Stacking Transition in Trilayer Graphene: Implications for Layer Stacking Manipulation*<br>N. Delikoukos, D. Tasis, A. Michail, J. Parthenios, E. N. Koukaras and K. Papagelis, ACS Applied Nano Materials 3(12), 11861-11868 (2020).<br>5. *Mechanical, electrical, and thermal properties of carbon nanotube buckypapers/epoxy nanocomposites produced by oxidized and epoxidized nanotubes*<br>G. Trakakis, G. Tomara, V. Datsyuk, L. Sygellou, A. Bakolas, D. Tasis, J. Parthenios, C. Krontiras, S. Georga, C. Galiotis, K. Papagelis, Materials 13 (19), Article No. 4308, 1-20 (2020).<br>6. *Controlable, eco-friently, synthesis of highly crystalline 2D-MoS2 and clarification of the role of growth-induced strain valence transition and associated lattice collapse in samarium fulleride*, A. Michail, J. Parthenios, D. Anestopoulos, C. Galiotis, M. Christian, L. Ortolani, V. Morandi and K. Papagelis, 2D Materials **5**, 035035 (2018).<br>7. *Mechanical Stability of Flexible Graphene-Based Displays* G. Anagnostopoulos, P.-N. Pappas, Z. Li, I. A. Kinloch, R. J. Young, K. S. Novoselov, C. Y. Lu, N. Pugno, J. Parthenios, C. Galiotis and K. Papagelis, ACS Applied Materials & Interfaces, **8** (34), 22605-22614 (2016).<br>8. *Phonon properties of graphene derived from molecular dynamics simulations* E. N. Koukaras, G. Kalosakas, C. Galiotis and K. Papagelis, Scientific Reports **5**, 129232; doi:10.1038/srep12923 (2015).<br>9. *Embedded trilayer graphene flakes under tensile and compressive loading* G. Tsoukleri, J. Parthenios, C. Galiotis and K. Papagelis, 2D Materials **7**, 024009 (2015).<br>10. *Raman spectroscopy of graphene at high pressure: substrate and pressure transmitting media effects*, K. Filintoglou, N. Papadopoulos, J. Arvanitidis D. Christofilos, O. Frank, M. Kalbac, J. Parthenios, G. Kalosakas, C. Galiotis and K. Papagelis, Physical Review B **88**, 045418 (2013). |

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| | 11. *Elastic properties of crystalline-amorphous core-shell silicon nanowires* S. Khachadorian, K. Papagelis, K. Ogata, S. Hofmann M. R. Phillips and C. Thomsen, Journal of Physical Chemistry C **117**, 4219-4226 (2013). |