10 years of research and education network Linköping University – Federal University of Bahia

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October 2018

LINKÖPING UNIVERSITY

LiU - UFBA network Leadership

Assoc. Prof. Gueorgui K. Gueorguiev, LiU

Dr. G. K. Gueorguiev completed his *PhD on the structural and electronic properties of carbon- and silicon-based clusters in 2003 at Coimbra University, Portugal, with the exceptional mark "Cum Laude" and following a fellowship from the prestigious Portuguese Instituto Camões*. He is project and research leader (VR, SSF) focusing on the design of nanostructured carbon-based thin films with pre-defined properties and with experimental verification. He is the initiator and leader of the network between LiU and UFBA (STINT, VR-SRL) operating for more than 10 years, generating excellent results in research and education. His research interests expand towards 2D and van der Waals structures (WP leader in FLAG-ERA GRIFONE), and layered compounds. Theoretical approaches include first-principles and effective methods in computational materials science, synthesis techniques involve magnetron sputtering, metal-organic-CVD, atomic-layer deposition.

Assoc. Prof. Roberto Rivelino, UFBA

Dr. R. Rivelino, Background and research interests: Electronic structure methods combined with advanced scientific computing have changed our capacity to perform molecular modeling and simulation studies of fundamental processes in condensed matter physics, chemistry, nanoscience, and biology. These methods provide realistic results with full atomic resolution. Our research efforts are focused on advancing this emerging capability and applying it to important problems in physics and chemistry. For example, we are currently investigating electron transport through low-dimensional materials aiming at efficient nanodevices for spintronic applications. Additionally, we are employing atomistic simulations to investigate finite-temperature dynamics of chemical systems in solution and proton-transfer in biomolecules adsorbed onto metallic or semiconducting surfaces. Using these theoretical approaches, we hope to contribute to the development of theoretical chemistry as well as to boost new experiments in this area of research.

Assoc. Prof. Anelia Kakanakova, LiU

Dr. A. Kakanakova, Expanding a platform for groundbreaking materials in group III nitrides of both scientific and technological relevance derived by metal organic chemical vapor deposition (MOCVD). She has attracted prestigious grants from the Swedish Research Council (VR), and The Sweden's Innovation Agency (VINNOVA), including : *2002 VR Junior Researcher Position Grant*; *2008 VR University Lecturer Position Grant*; *2011 VINNOVA VINNMER Fellowship Grant* with The Cambridge Centre for Gallium Nitride, University of Cambridge, UK. Her present focus is on the development of emerging graphitic-like group III nitrides (*PI and Coordinator of FLAG-ERA JTC project GRIFONE in synergy with the FET Graphene Flagship*).

Abstract

- In ***10 years***, we have built-up ***strong and competitive research and education network in material science*** between ***Linköping University*** *(LiU)* and ***Federal University of Bahia*** *(UFBA)* involving more than 15 members from both research teams with breakthrough achievements in several different hot-topic research lines in materials science, joint supervision of PhD students, exchange research visits and high-level of jointly organized events and excellence seminars

- ***We promoted*** ***Agreement on Academic, Cultural, and Scientific Cooperation*** *between* ***Federal University of Bahia, Salvador, Brazil,*** *and* ***Linköping University, Sweden:***
  - *Signed 23 March 2016 by*

    Prof. João Carlos Salles Pires da Silva, Rector of UFBA and

    Prof. Peter Värbrand, Vice President of Linköping University

- Currently, ***our network is expanding*** by involving excellent research teams from other universities in Brazil including
  - ***University of São Paulo***, ***Federal University of Paraná***, ***Federal University of São Carlos*** and ***Federal University of Santa Maria***

Joint Projects

- **Joint Project (1): STINT 2009-2014**
  - Type of grant: ***Institutional Grant for younger researchers***
  - Title: ***Developing a flexible theoretical approach for designing inherently nanostructured and cluster-assembled materials***
  - Main applicants: ***Gueorgui K. Gueorguiev***, LiU and ***Roberto Rivelino de M. Moreno***, UFBA

- **Joint Project (2): CAPES 2012-2015**
  - Type of grant: ***PDSE scholarships: program for shared PhD between Brazilian and foreign partner***
  - Title: ***Multiscale design of low-dimensional materials for applications in optical nano-devices and nano-electronics***
  - Main applicants: ***Roberto Rivelino de M. Moreno***, UFBA; ***Gueorgui K. Gueorguiev***, LiU; ***Fernando de Brito Mota***, UFBA; and ***Caio M. de Castilho***, UFBA
  - Three scholarships to:
    - *Maria Isabel Oliveira*, recruited at LiU for 12 months
    - *Renato Batista dos Santos* , recruited at LiU for 18 months
    - *Rafael Rodrigues de Queiroz Freitas* , recruited at LiU for 16 months

Joint Projects

- **Joint Project (3): Swedish Research Council (VR) 2014-2018**
  - Type of grant: ***Research Grant***
  - Title: ***Steering AlN as a modern-technology-relevant semiconductor material***
  - Main applicant: ***Anelia Kakanakova***, *LiU* and
    Co-applicant: ***Fernando de Brito Mota***, *UFBA*

- **Joint Project (4): Swedish Research Council (VR) 2015-2018**
  - Type of grant: ***Swedish Research Links***
  - Title: ***Multiscale design of low-dimensional materials for applications in optical nano-devices and nano-electronics***
  - Main applicants: ***Gueorgui K. Gueorguiev***, *LiU* and ***Roberto Rivelino de M. Moreno***, *UFBA*

- **Joint Project (5): CNPq 2015-2018**
  - Type of grant: ***Research Fellowship***
  - Title: ***Computer simulations for low-dimensional materials***
  - Main applicant: ***Roberto Rivelino de M. Moreno***, *UFBA*

Hot topics research in materials science

- *More than 20 joint scientific articles*
- *More than 10 presentations at major international conferences*

Low-dimensional carbon-based systems

THE JOURNAL OF PHYSICAL CHEMISTRY A

Article

pubs.acs.org/JPCA

Exploring Hydrogenation and Fluorination in Curved 2D Carbon Systems: A Density Functional Theory Study on Corannulene

Renato B. dos Santos,*,† Roberto Rivelino,*,† Fernando de B. Mota,*,† and Gueorgui K. Gueorguiev*,‡

J. Phys. Chem. C **2010**, *114*, 16367–16372 16367

Conformational Effects on Structure, Electron States, and Raman Scattering Properties of Linear Carbon Chains Terminated by Graphene-Like Pieces

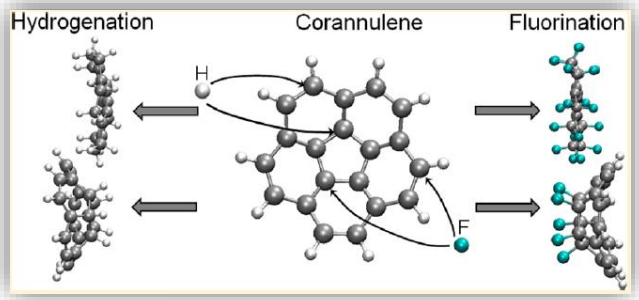
R. Rivelino,* Renato B. dos Santos, and F. de Brito Mota

Instituto de Física, Universidade Federal da Bahia, 40210-340 Salvador, Bahia, Brazil

G. K. Gueorguiev*

Department of Physics, Chemistry and Biology, IFM, Linköping University, SE-58183 Linköping, Sweden

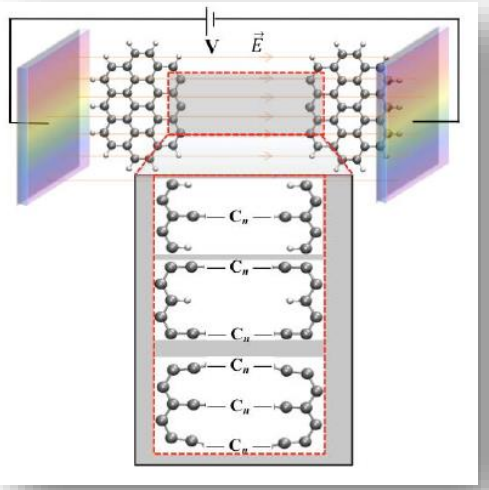
Received: July 16, 2010; Revised Manuscript Received: August 19, 2010



PHYSICAL REVIEW B **84**, 075417 (2011)

Effects of N doping on the electronic properties of a small carbon atomic chain with distinct sp^2 terminations: A first-principles study

Renato B. dos Santos,[1,*] R. Rivelino,[1,†] F. de Brito Mota,[1] and G. K. Gueorguiev[2,‡]



THE JOURNAL OF PHYSICAL CHEMISTRY C

Article

Cite This: *J. Phys. Chem. C* 2017, 121, 26125-26132

pubs.acs.org/JPCC

Electric-Field Control of Spin-Polarization and Semiconductor-to-Metal Transition in Carbon-Atom-Chain Devices

Renato Batista dos Santos,[†,§] Fernando de Brito Mota,[†] Roberto Rivelino,[*,†] and Gueorgui K. Gueorguiev[*,‡]

Emerging 2D group III nitrides

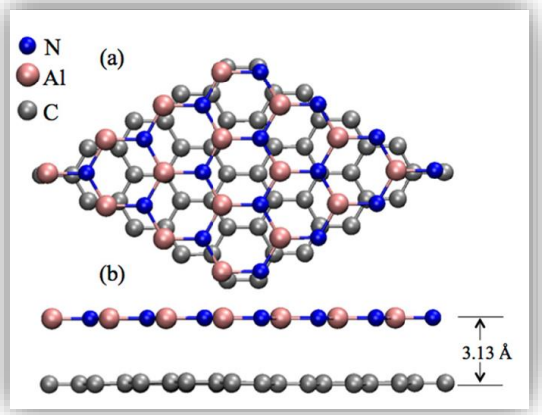
Eur. Phys. J. B (2012) 85: 48
DOI: 10.1140/epjb/e2011-20538-6

THE EUROPEAN PHYSICAL JOURNAL B

Regular Article

Defects in hexagonal-AlN sheets by first-principles calculations

E.F. de Almeida Junior[1], F. de Brito Mota[1,a], C.M.C. de Castilho[1,2], A. Kakanakova-Georgieva[3], and G.K. Gueorguiev[3]



IOP Publishing Nanotechnology
Nanotechnology 27 (2016) 145601 (9pp) doi:10.1088/0957-4484/27/14/145601

Van der Waals stacks of few-layer h-AlN with graphene: an *ab initio* study of structural, interaction and electronic properties

Renato B dos Santos[1,2], F de Brito Mota[1], R Rivelino[1], A Kakanakova-Georgieva[2] and G K Gueorguiev[2]

Our paper was highlighted in Nanotechnology as of 18 March 2018

New knowledge to the rational deposition of (ultra)thin films of group III nitrides

Contents lists available at ScienceDirect

Chemical Physics Letters

journal homepage: www.elsevier.com/locate/cplett

Reactivity of adducts relevant to the deposition of hexagonal BN from first-principles calculations

R.R.Q. Freitas [a,b], G.K. Gueorguiev [b,*], F. de Brito Mota [a], C.M.C. de Castilho [a,c], S. Stafström [b], A. Kakanakova-Georgieva [b]

Dalton Transactions

PAPER

Cite this: *Dalton Trans.*, 2015, **44**, 3356

Feasibility of novel $(H_3C)_nX(SiH_3)_{3-n}$ compounds (X = B, Al, Ga, In): structure, stability, reactivity, and Raman characterization from *ab initio* calculations†

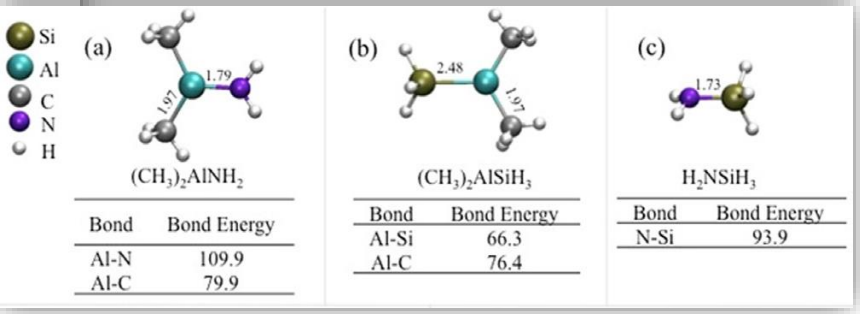
Renato B. dos Santos,*[a,b] R. Rivelino,*[a] F. de Brito Mota,[a] A. Kakanakova-Georgieva[b] and G. K. Gueorguiev*[b]

IOP Publishing

J. Phys. D: Appl. Phys. **48** (2015) 295104 (7pp)

Dopant species with Al–Si and N–Si bonding in the MOCVD of AlN implementing trimethylaluminum, ammonia and silane

R B dos Santos[1,2], R Rivelino[1], F de Brito Mota[1], G K Gueorguiev[2] and A Kakanakova-Georgieva[2]



Bond	Bond Energy
Al-N	109.9
Al-C	79.9

Bond	Bond Energy
Al-Si	66.3
Al-C	76.4

Bond	Bond Energy
N-Si	93.9

LINKÖPING UNIVERSITY

Topological insulators and 2D group III bismides

THE JOURNAL OF PHYSICAL CHEMISTRY C

Article

pubs.acs.org/JPCC

Topological Insulating Phases in Two-Dimensional Bismuth-Containing Single Layers Preserved by Hydrogenation

R. R. Q. Freitas,[†,§,‡] R. Rivelino,[*,†] F. de Brito Mota,[§,†] and C. M. C. de Castilho[*,§,∥]

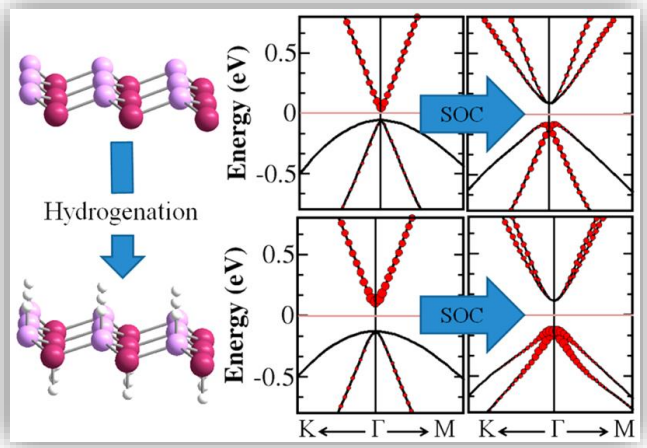
[†]Instituto de Física, Universidade Federal da Bahia, 40170-115 Salvador, Bahia, Brazil

[§]Grupo de Física de Superfícies e Materiais, Instituto de Física, Universidade Federal da Bahia, Campus Universitário da Federação, 40170-115 Salvador, Bahia, Brazil

[∥]Instituto Nacional de Ciência e Tecnologia em Energia e Ambiente (CIENAM) INCT-E&A, Universidade Federal da Bahia, 40170-280 Salvador, Bahia, Brazil

A. Kakanakova-Georgieva[‡] and G. K. Gueorguiev[‡]

[‡]Department of Physics, Chemistry and Biology (IFM), Linköping University, 581 83 Linköping, Sweden



IOP Publishing

Nanotechnology

Nanotechnology 27 (2016) 055704 (11pp)

doi:10.1088/0957-4484/27/5/055704

Tuning band inversion symmetry of buckled III-Bi sheets by halogenation

R R Q Freitas[1,2], F de Brito Mota[1], R Rivelino[1], C M C de Castilho[1,3], A Kakanakova-Georgieva[2] and G K Gueorguiev[2]

IOP Publishing

Journal of Physics: Condensed Matter

J. Phys.: Condens. Matter 27 (2015) 485306 (8pp)

doi:10.1088/0953-8984/27/48/485306

Spin-orbit-induced gap modification in buckled honeycomb XBi and XBi_3 (X = B, Al, Ga, and In) sheets

R R Q Freitas[1,2], F de Brito Mota[1], R Rivelino[1], C M C de Castilho[1,3], A Kakanakova-Georgieva[2] and G K Gueorguiev[2]

Low-dimensional silicon boride systems

PHYSICAL REVIEW B 86, 195416 (2012)

Metallic behavior in low-dimensional honeycomb SiB crystals: A first-principles prediction of atomic structure and electronic properties

Anders Hansson,* F. de Brito Mota,† and Roberto Rivelino‡
Instituto de Física, Universidade Federal da Bahia, 40210-340 Salvador, Bahia, Brazil
(Received 8 May 2012; revised manuscript received 5 September 2012; published 14 November 2012)

Chemical Physics Letters 679 (2017) 127–131

Contents lists available at ScienceDirect

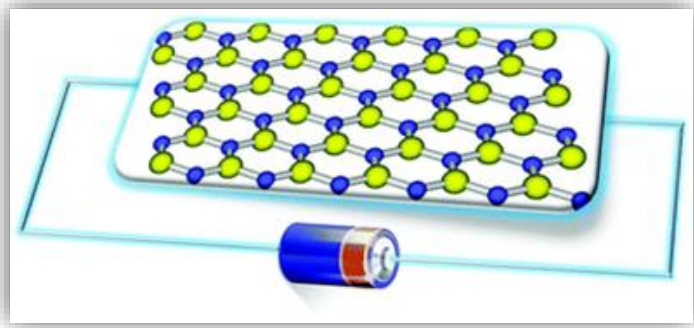
Chemical Physics Letters

journal homepage: www.elsevier.com/locate/cplett

Research paper

Towards a metal-semiconductor transition in two dimensions

Anders Hansson, F. de Brito Mota, R. Rivelino *
Instituto de Física, Universidade Federal da Bahia, 40210-340 Salvador, Bahia, Brazil



PCCP

PAPER

View Article Online
View Journal | View Issue

Cite this: *Phys. Chem. Chem. Phys.*, 2014, 16, 14473

Unusual electronic properties and transmission in hexagonal SiB monolayers

Anders Hansson, Fernando de B. Mota and Roberto Rivelino*

Si-based nanostructured materials

THE JOURNAL OF PHYSICAL CHEMISTRY C

Article

pubs.acs.org/JPCC

Optical Properties and Quasiparticle Band Gaps of Transition-Metal Atoms Encapsulated by Silicon Cages

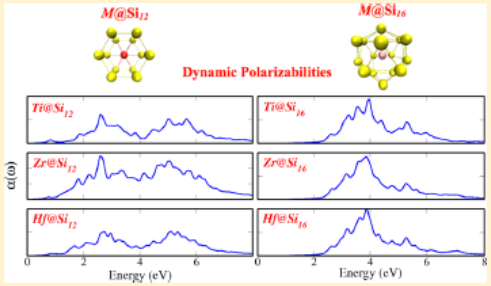
M. I. A. Oliveira,[†,‡] R. Rivelino,*[,†] F. de Brito Mota,[†] and G. K. Gueorguiev*[,‡]

[†]Instituto de Física, Universidade Federal da Bahia, 40210-340 Salvador, Bahia, Brazil

[‡]Department of Physics, Chemistry and Biology (IFM), Linköping University, S-581 83 Linköping, Sweden

Supporting Information

ABSTRACT: Semiconductors assembled upon nanotemplates consisting of metal-encapsulating Si cage clusters ($M@Si_n$) have been proposed as prospective materials for nanodevices. To make an accurate and systematic prediction of the optical properties of such $M@Si_n$ clusters, which represent a new type of metal−silicon hybrid material for components in nanoelectronics, we have performed first-principles calculations of the electronic properties and quasiparticle band gaps for a variety of $M@Si_{12}$ (M = Ti, Cr, Zr, Mo, Ru, Pd, Hf, and Os) and $M@Si_{16}$ (M = Ti, Zr, and Hf) clusters. At first stage, the electronic structure calculations have been performed within plane-wave density functional theory in order to predict equilibrium geometries, polarizabilities, and optical absorption spectra of these endohedral cagelike clusters. The quasiparticle calculations were performed within the *GW* approximation, which predict that all of these systems are semiconductors exhibiting large band gaps. The present results have demonstrated that the independent-particle absorption spectra of $M@Si_n$, calculated within the local density or generalized gradient approximations to density functional theory, are dramatically influenced by many-body effects. On average, the quasiparticle band gaps were significantly increased, in comparison with the independent-particle gaps, giving values in the 2.45−5.64 eV range. Consequently, the inclusion of many-body effects in the electron−electron interaction, and going beyond the mean-field approximation of independent particles, might be essential to realistically describe the optical spectra of isolated $M@Si_n$ clusters, as well as their cluster-assembled materials.



Biomolecules adsorbed on metal surfaces

THE JOURNAL OF PHYSICAL CHEMISTRY C

Article

pubs.acs.org/JPCC

Energy Barrier Reduction for the Double Proton-Transfer Reaction in Guanine–Cytosine DNA Base Pair on a Gold Surface

R. R. Q. Freitas,[†,‡] R. Rivelino,*[,†] F. de B. Mota,[†] G. K. Gueorguiev,[‡] and C. M. C. de Castilho*[,†,§]

[†]Instituto de Física, Universidade Federal da Bahia, 40170-115 Salvador, Bahia Brazil

[‡]Department of Physics, Chemistry and Biology, IFM, Linköping University, 58183 Linköping, Sweden

[§] Instituto Nacional de Ciência e Tecnologia em Energia e Ambiente–INCT&EA, Campus Universitário da Federação, Universidade Federal da Bahia, 40170-280 Salvador, Bahia Brazil

S *Supporting Information*

ABSTRACT: We investigate, by means of first-principles calculations, the impact of a gold surface on the proton-transfer of the guanine–cytosine (GC) DNA base pair. Our calculations employ density functional improvements to correct van der Waals interactions and properly treat a weakly bound GC pair at an Au(111) surface. We adopted the simultaneous double proton-transfer (SDPT) mechanism proposed by Löwdin, which may lead to a spontaneous mutation in the structure of DNA from specific tautomerization involving the base pairs. Our calculated differences in the energetics and kinetics of the SDPT in the GC pair, when in contact with an inert gold surface, indicate a reduction of about 31% in the activation energy barrier of the GC/Au(111) tautomeric equilibrium. This finding gives strong evidence that tautomerism of DNA base pairs, binding to a noble surface, may be indeed relevant for the assessment of a possible point mutation, which could be induced by the presence of gold nanoparticles during DNA replication.

PhD students, senior researchers and exchange research visits

- *More than 30 exchange research visits*
- *PhD courses at UFBA and LiU*

- Dr. ***Maria Isabel Almeida Oliveira***, UFBA-IFM, *Optical absorption of Silicon-based nanostructures: Ab initio simulations including many body effects by the GW approximation*, ***defended 24 April 2014*** (12 months at LiU)
- Dr. ***Renato Batista dos Santos***, UFBA-IFM, *Ab initio study of low-dimensional materials: from one-dimesnional carbon chains to 2D systems similar to graphene*, ***defended 18 December 2015*** (18 months at LiU)
- Dr. ***Rafael Rodriguês Freitas***, UFBA-IFM, *Structural, electronic and toplogical properties of 2D systems containing bismuth*, ***defended 05 August 2016*** (16 months at LiU)
- Dr. ***Edward Almeida Jr.***, UFBA-IFM, *Theoretical studies of the structural and electronic properties od 2D materials based on hexagonal Aluminum Nitride (h-AlN)*, ***defended 12 August 2016*** (4 months at LiU)
- Dr. ***Cecilia Goyenola***, IFM, *Nanostructured carbon-based thin films: prediction and design*, ***defended 16 October 2015*** (1 month at UFBA)
- Dr. ***Paulo Medeiros***, IFM, *Electronic properties of complex interfaces and nanostructures*, ***defended 05 June 2015*** (Master student at UFBA, PhD student at LiU)

Jointly organized events and excellence seminars

XIII Encontro da SBPMat
João Pessoa
2014
September 28 to October 02

Brazil MRS Meeting
Realização
SBPMat Brazil-MRS
Sociedade Brasileira de Pesquisa em Materiais

Simpósios

Symposium: Beyond Graphene - Low-dimensional systems based on graphene and III-nitrides

Scope of the Symposium:
Tailored low-dimensional systems based on graphene and with the possibility of integrating other 2D networks, III-Nitrides included (AlN, BN, GaN, etc), become implicit part of perceived graphene-based applications. Specifically, III-Nitrides is a material system that, besides the low-dimensional systems understood as 2D networks, accommodates low-dimensional systems in the fashion of quantum wells in epitaxial structures for optoelectronic applications. An emerging aspect of the interconnection between graphene and III-Nitrides is related to the deposition of III-Nitrides epitaxial structures on graphene-based templates. The scope of the symposium is then to advance the knowledge on graphene-like structures, III-Nitrides and other 2D systems either as individual as well as complementary systems and also in the context of their various interconnections.

Abstracts will be solicited in (but not limited to) the following areas:

- Theoretical modeling of growth, structural evolution, controllable incorporation of defects and doping of graphene;
- Tailored low-dimensional carbon-based nano-units, nano-ribbons and nano-wires, including modeling, experimental growth and functionalization;
- Theoretical modeling of growth, structural evolution, controllable incorporation of defects and doping of 2D networks beyond graphene, including III-Nitrides;
- Deposition of graphene and 2D networks beyond graphene;
- Aspects of epitaxial growth of III-Nitrides: quantum well structures and graphene templates;
- Modeling of gas-phase chemistry, surface reactions and interfaces involved in the deposition on/of graphene and III-Nitrides and their assembly;
- Electronic and mechanical properties of graphene, III-Nitrides and other 2D networks;
- Excited state properties (optical and magnetic) of graphene, III-Nitrides and other 2D networks.

Symposium Organizers:

1. **Prof. Caio M.C. de Castilho**
   Universidade Federal da Bahia, UFBA, Brazil
2. **Prof. Fernando de Brito Mota**
   Universidade Federal da Bahia, UFBA, Brazil
3. **Assoc. Prof. Gueorgui K. Gueorguiev**
   Linköping University, Sweden
4. **Assoc. Prof. Anelia Kakanakova-Georgieva**
   Linköping University, Sweden

Apoio

CNPq Conselho Nacional de Desenvolvimento Científico e Tecnológico
CAPES
FAPESP

Symposium Organizers:

1. **Prof. Caio M.C. de Castilho**
   Universidade Federal da Bahia, UFBA, Brazil
2. **Prof. Fernando de Brito Mota**
   Universidade Federal da Bahia, UFBA, Brazil
3. **Assoc. Prof. Gueorgui K. Gueorguiev**
   Linköping University, Sweden
4. **Assoc. Prof. Anelia Kakanakova-Georgieva**
   Linköping University, Sweden




The XIII SBPMat comprised of 19 Symposia involving topics as synthesis of new materials, computer simulations, carbon and graphene nanostructures, energy storage systems, surface engineering, innovation and technology transfer in materials research;
and attracted more than 1000 participants

Anelia Kakanakova was Chair of a Plenary session

2016
BRAZIL-SWEDEN
Excellence Seminar

SACF Swedish Academic Collaboration Forum · CAPES · Ministério da Educação · Brasil Pátria Educadora · CNPq Conselho Nacional de Desenvolvimento · Ministério da Ciência, Tecnologia e Inovação · Brasil Pátria Educadora

Session 2
Novel Functional Materials & Nanotechnology

Geurgui Guerguiev

Mail:
gekos@ifm.liu.se

Web:
www.ifm.liu.se/materialphysics/thinfilm/staff/gueorgui-gueorguiev/index.xml

Position: Senior University Lecturer (Associate Professor) in Computational Material Science

University (or other affiliation): Linköping University

Title of presentation: Design of nanostructured and layered materials

Keywords: Carbon, silicon, thin films, layered materials, III-Nitrides, bismuthides, borides, DFT, CVD, magnetron sputtering

Background and research interests: Dr. Gueorguiev completed his PhD on the structural and electronic properties of carbon- and silicon-based clusters in 2003 at Coimbra University, Portugal, with the exceptional mark "Cum Laude" and following a fellowship from the prestigious Portuguese Instituto Camões. Presently, he is project- and research leader (VR, SSF) focusing on the design of nanostructured carbon-based thin films with pre-defined properties and with experimental verification. He is the initiator and leader of a scientific network between LiU and Federal University of Bahia (STINT, VR-SRL) operating for more than 7 years, involving 15 team members from both institutions and generating excellent research and education results (so far 5 Brazilian PhD students jointly supervised at long-term research visits at LiU). His research interests expand towards 2D and van der Waals structures (WP leader in FLAG-ERA GRIFONE), layered compounds. Theoretical approaches include first-principles and effective methods in computational materials science, synthesis techniques involve magnetron sputtering, metal-organic-CVD, atomic-layer deposition.

Roberto Rivelino de Melo Moreno

Mail:
rivelino@ufba.br

Web:
www.siclam.ufba.br

Position: PhD in Physics

University (or other affiliation): Federal University of Bahia

Title of presentation: What is so interesting and challenging in the flatland?

Keywords: Electronic structure, atomistic simulation, molecular spectroscopy, molecular modeling, topological insulator, optical properties

Background and research interests: Electronic structure methods combined with advanced scientific computing have changed our capacity to perform molecular modeling and simulation studies of fundamental processes in condensed matter physics, chemistry, nanoscience, and biology. These methods provide realistic results with full atomic resolution. Our research efforts are focused on advancing this emerging capability and applying it to important problems in physics and chemistry. For example, we are currently investigating electron transport through low-dimensional materials aiming at efficient nanodevices for spintronic applications. Additionally, we are employing atomistic simulations to investigate finite-temperature dynamics of chemical systems in solution and proton-transfer in biomolecules adsorbed onto metallic or semiconducting surfaces. Using these theoretical approaches, we hope to contribute to the development of theoretical chemistry as well as to boost new experiments in this area of research.

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@nanogrupo

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EVENTOS

Workshop on

2D and layered materials: from honeycomb sheets to nanocomposites

11-13 April 2017 Catussaba Business, Salvador, Bahia, Brazil

Organizers:

Assoc. Prof. Gueorgui K. Gueorguiev (Chairman) Department of Physics, Chemistry and Biology (IFM), Linköping University(LiU), Linköping, Sweden;

and

Assoc. Prof. Roberto Rivelino (Vice-chairman) Instituto de Física, Universidade Federal da Bahia (IFUFBA), 40170-115 Salvador, Bahia, Brazil

The workshop was attended by researchers and students from Federal University of Bahia and Linköping University, but also by leading researchers from Federal University of Paraná, Federal University of São Carlos (São Paulo state), and Federal University of Santa Maria (Rio Grande do Sul state)

New research synergies

- *Recognition of the achievements of the LiU-UFBA network and its potential*