

# Demeridou E. Ioanna

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## PERSONAL INFORMATION

Address: Satha 8  
Heraklion, Crete, Greece  
Date of birth: 6 June 1989  
Nationality: Greek  
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## RESEARCH INTERESTS

Two Dimensional Materials, Transition Metal Dichalcogenides (TMDs), Mechanical Exfoliation, Photochemical Doping, Interaction of Light and Matter, Raman Spectroscopy, micro-Photoluminescence Spectroscopy, Micro-Differential Reflectance Spectroscopy, Spin Valley Polarization measurements, Cryogenic System.

## EDUCATION

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April 2016 – Present

**University of Crete**

**Department of Physics**, Heraklion, Greece

**PhD candidate**

“Pulsed Laser Induced Doping of Two-Dimensional Crystals” supervised by Dr. Emmanuel Stratakis. Associate Researcher, Inst. of Electronic Structure and Laser (IESL), Foundation for Research and Technology Hellas (FORTH)

PhD supervisory committee: Prof. Ioannis Kominiis, Dr. Emmanuel Stratakis, Prof. George Kioseoglou.

October 2013 – February 2016

**University of Crete**

**Department of Physics**, Heraklion, Greece

**M.Sc.** Microelectronics and Optoelectronics

Modules covered included: Laser Theory and Technology, Applied Quantum Mechanics, Semiconductor devices, Ultrafast photonics, Optoelectronics and Laser, Non-linear Optics.

**Master thesis:** “Photochemical doping of mechanically exfoliated monolayer WS<sub>2</sub>” supervised by Dr. Emmanuel Stratakis. Associate Researcher, Inst. Of Electronic Structure and Laser (IESL), Foundation for Research and Technology Hellas (FORTH)

Master’s supervisory committee: Prof. Costas Fotakis, Prof. George Kioseoglou, Prof. Demetrios Anglos.

October 2007 – February 2013

**University of Crete**

**Department of Physics**, Heraklion, Greece

**B.Sc.** in Physics

Bachelor grade: 6.87/10, Qualification: “Very good” / “Lian Kalos”

Special topics: Quantum Mechanics, Semiconductor Devices, Optoelectronics, Material Physics, Solid State Physics, Mathematics for Physicists, Differential Equations, Laboratories of Laser and Modern Optics.

September 2004 – June 2007

**2<sup>th</sup> General Lyceum of Ptolemaida**, Kozani, Greece

**WORKING EXPERIENCE**

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April 2016 - Present

**“Ultrafast Laser Micro and Nano- Processing” (ULMNP) laboratory and Microelectronics Research Group (MRG)**

Foundation of Research and Technology Hellas (FORTH)  
Inst. Of Electronic Structure and Laser (IESL), Heraklion, Greece

- PhD candidate

Supervisor: Dr. Emmanuel Stratakis

Prof. George Kioseoglou

February 2019 – May 2019

**Master Program: “Nanotechnology for Energy Applications”**

**“Devices Processing Techniques and Characterization Methods”**

Foundation of Research and Technology Hellas (FORTH)  
Inst. Of Electronic Structure and Laser (IESL), Heraklion, Greece

Teaching Assistant, as a PhD student, at the postgraduate course “Advanced photonic characterization of materials for energy applications”

Instructor: Prof. George Kioseoglou, Department of Materials Science and Technology, University of Crete

Dr. Emmanuel Stratakis, Department of Materials Science and Technology, University of Crete

October 2017 – May 2018

**University of Crete**, Department of Physics, Heraklion, Greece

Teaching Assistant, as a PhD student, at the undergraduate course “Advanced Physics Laboratory”

Instructor: Prof. Eleftherios Iliopoulos, Physics Department, University of Crete.

July 2014 – February 2016

**“Ultrafast Laser Micro and Nano- Processing” (ULMNP) laboratory and Microelectronics Research Group (MRG)**

Foundation of Research and Technology Hellas (FORTH)  
Inst. Of Electronic Structure and Laser (IESL), Heraklion, Greece

A full time job working on my master thesis

- Master student

Supervisor: Dr. Emmanuel Stratakis

Prof. George Kioseoglou

Prof. Costas Fotakis

October 2013 – May 2014

**University of Crete**, Department of Physics, Heraklion, Greece

Teaching Assistant, as a master student, at the undergraduate course “Advanced Physics Laboratory”

Instructors: Prof. George Kiriakidis, Physics Department, University of Crete.

Prof. Eleftherios Iliopoulos, Physics Department, University of Crete.

February 2013 – May 2013

**University of Crete**, Department of Physics, Heraklion, Greece

Teaching Assistant, as a graduate student, at the undergraduate course “Physics Laboratory III: Optics”

Instructor: Prof. Petros Rakintzis, Physics Department, University of Crete.

October 2012 – December 2012

**University of Crete**, Department of Physics, Heraklion, Greece

Practical Teaching at the Experimental General Lyceum of Heraklion, at the undergraduate course “Teaching Physics I”

Instructor: Prof. Ilias Perakis, Physics Department, University of Crete.

## CONFERENCES AND SEMINARS

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2013 – Present

Active attendance at physics colloquia and IESL seminars at University of Crete, Physics Dept., and Foundation of Research and Technology Hellas, respectively.

13 December 2019

**Poster Presentation**, Forth Your Night, 13 December 2019, FORTH, Heraklion, Crete, Greece.

G. Kourmoulakis, **I. Demeridou**, A. Papadopoulos, G. M. Maragkakis, I. Paradisanos, L. Mouchliadis, S. Psilodimitrakopoulos, G. Kioseoglou and E. Stratakis

“Non-Linear Optical Imaging and Spectroscopic Diagnostics of 2D Transition Metal Dichalcogenides”

15-16 October 2019

**Poster Presentation**, 12<sup>th</sup> Forth Retreat 2019, ICE-HT, Patras, Greece.

- **I. Demeridou**, I. Paradisanos, Yuanyue Liu, N. Pliatsikas, P. Patsalas, S. Germanis, N. T. Pelekanos, W. A. Goddard III, G. Kioseoglou, E. Stratakis

“Carrier density tuning in WS<sub>2</sub> monolayers via photochlorination”

- **I. Demeridou**, A. Papadopoulos, G. Kourmoulakis, G. M. Maragkakis, I. Paradisanos, L. Mouchliadis, S. Psilodimitrakopoulos, G. Kioseoglou and E. Stratakis

“Non-Linear Optical Imaging and Spectroscopic Diagnostics of 2D Transition Metal Dichalcogenides”

- I. Konidakis, K. Savva, A. S. Sarkar, E. Serpetzoglou, **I. Demeridou** and E. Stratakis

“Laser assisted methods for Materials Synthesis: From biomolecular sensors to flexible electronic applications”

11-14 September 2019

**Oral Presentation**, XXXIV-SSM Panhellenic Conference on Solid State Physics & Materials Science, Patras, Greece.

**Best Oral Presentation Award**

“Carrier density tuning in WS<sub>2</sub> monolayers via photochlorination”

24-28 September 2018

**Poster Presentation**, NanoBio2018, 1<sup>st</sup> International Conference on Nanotechnologies and Bionanoscience, Heraklion Crete, Greece.

**I. Demeridou**, I. Paradisanos, A. Papadopoulos, G. Kourmoulakis, L. Mouchliadis, S. Psilodimitrakopoulos, G. Kioseoglou, E. Stratakis.

“Characterization & Non-Linear Optical Imaging of 2D Transition Metal Dichalcogenides”.

**Member of Conference Organizing committee**

9-13 July 2018

**Poster Presentation**, 2<sup>nd</sup> NFFA-Europe Summer School, Basovizza Campus, Area Science Park, Trieste (Italy).

13-14 October 2017

**Poster Presentation**, Conference, Foundation of Research and Technology Hellas (FORTH), Heraklion, Greece.

I. Paradisanos, K. Savva, **I. Demeridou**, G. Kourmoulakis, D. Labrinoudakis, L. Mouchliadis, S. Psilodimitrakopoulos, G. Kioseoglou, E. Stratakis.

“Characterization & Laser synthesis of 2D Transition Metal Dichalcogenides”.

25-29 September 2017

**Oral Presentation**, Graphene Week, Athens, Greece.

**I. Demeridou**, I. Paradisanos, G Kioseoglou, E. Stratakis. “Photochemical Doping in exfoliated WS<sub>2</sub> Monolayer”.

1-2 November 2016

2<sup>nd</sup> Greek Workshop of Two Dimensional Materials, Foundation of Research and Technology Hellas (FORTH), Heraklion, Greece.

25-28 October 2016

**Poster Presentation**, 2<sup>nd</sup> Israel-Greece Joint Meeting on Nanotechnology and BioNanoscience, Foundation of Research and Technology Hellas (FORTH), Heraklion, Greece.

I. Paradisanos, **I. Demeridou**, N. Pliatsikas, S. Germanis, P. Patsalas, N. Pelekanos, C. Fotakis, E. Kymakis, G., Kioseoglou, E. Stratakis. “Spatial Nonuniformity and Photochemical Doping in exfoliated WS<sub>2</sub> Monolayers”.

## SKILLS

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### EXPERIMENTAL QUALIFICATIONS & CHARACTERIZATION TECHNIQUES

- Mechanical exfoliation of Two Dimensional materials
- Development of optical setup used for Photochemical Doping
- Cryogenic System
- Raman Spectroscopy
- Micro-Photoluminescence Spectroscopy
- Micro-Differential Spectroscopy
- Spin-Valley Polarization measurements

### LANGUAGES

Greek (Native)

English – Fluent. Owner of “Examination for the Certificate of Competency in English Competency (ECCE), Level:B2” , University of Michigan.

### COMPUTER SKILLS

Computation in Windows and Linux (Unix) environment.

Knowledge of Origin Lab, Microsoft Word, Excel, Power-point, FORTRAN 77 programming language.

Owner of ECDL diploma: MICROSOFT CERTIFICATE APPLICATION SPECIALIST, professional 2007, (Word, Excel, Outlook).

## PUBLICATIONS

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September 2018

Demeridou, I., Paradisanos, I., Liu, Y., Pliatsikas, N., Patsalas, P., Germanis, S., Pelekanos, N.T., Goddard III, W.A., Kioseoglou, G., Stratakis, E. (2018). Spatially selective reversible charge carrier density tuning in WS<sub>2</sub> monolayers via photochlorination. 2D Materials, 6(1), 015003.

## REFEREES

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Dr. Emmanuel Stratakis, Associate Researcher, Ultrafast Laser Micro and Nano- Processing (ULMNP), Inst. Of Electronic Structure and Laser (IESL), Foundation of Research and Technology Hellas (FORTH), Heraklion Crete, Greece.

e-mail address: [stratak@iesl.forth.gr](mailto:stratak@iesl.forth.gr)

Professor George Kioseoglou, Department of Materials Science and Technology, Heraklion Crete, Greece.

e-mail address: [gnk@materials.uoc.gr](mailto:gnk@materials.uoc.gr)