**Stefano Ippolito, Ph.D.**

2016 Annin Street, Philadelphia, PA | (267) 928-1553 | si368@drexel.edu

**RESEARCH EXPERIENCE\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

Postdoctoral Researcher, **Drexel University** (USA), *Advisor: Prof. Yury Gogotsi* 2022 – Present

Postdoctoral Researcher, **University of Strasbourg** (France), *Advisor: Prof. Paolo Samorì* 2021 – 2022

Long-term experience in production, functionalization and application of 2D materials (graphene, transition metal dichalcogenides, MXenes) in sensing, electronics and optoelectronics.

Knowledge and hands-on experience in microfabrication techniques (optical and electron-beam lithography, etching, lift-off) as well as multiscale characterizations:

- Spectroscopy (Raman, UV-visible, X-ray photoelectron spectroscopy, fluorescence)

- Morphology and structure (scanning electron microscopy, atomic force microscopy, X-ray diffraction)

- Electrical devices (field-effect transistors, phototransistors, photodetectors)

**EDUCATION\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**University of Strasbourg, Institute of Supramolecular Science and Engineering, France**

Ph.D. in Physical Chemistry 2017-2021

Advisor: Prof. Paolo Samorì

Dissertation title: *Defect engineering in 2D semiconductors: fabrication of hybrid multifunctional devices*

Grade: Outstanding

**University of Catania, Department of Chemistry, Italy**

MSc in Chemistry of Materials 2015-2017

Advisor: Prof. Giovanni Marletta

Dissertation title: *Liquid phase exfoliation (LPE) of 2D materials: production, functionalization and multiscale characterization*

Grade: 110/110 cum laude

**University of Catania, Department of Chemistry, Italy**

BSc in Chemistry 2012-2015

Advisor: Prof. Giuseppe Arena

Dissertation title: *Chemical calibration of an ITC nanocalorimeter*

Grade: 110/110 cum laude

**LANGUAGE SKILLS\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

Italian Native

English Fluent

French Good

**DIGITAL SKILLS\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

European Computer Driving License (ECDL)

Microsoft Office: *Word, Access, Power Point, Outlook*

Data Analysis: *Origin, Igor Pro*

Design Software: *CleWin, DesignCAD*

Graphic Software: *Blender, Adobe Illustrator*

**AWARDS & FELLOWSHIPS\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

2022 IUPAC - Solvay International Award for Young Chemists 2022

*Awarded to the best 5 Ph.D. theses in chemical science worldwide*

E-MRS 2021 - Young Research Award 2021

*In recognition of an outstanding paper contributed to Symposium J: “Defect-induced effects in nanomaterials”*

PhD Fellowship - Ministry of Higher Education, Research and Innovation (France) 2017

IDEX Mobility Program for Incoming Master Students (France) 2017

**ORAL PRESENTATIONS\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

E-MRS 2023 Fall Meeting, Warsaw (Poland) (Invited Presentation) 2023

National Congress of Physical Chemistry, Genova (Italy) 2022

E-MRS 2021 Spring Meeting, Virtual Meeting 2021

Graphene Week 2021, Virtual Meeting 2021

Graphene and 2DM Industrial Form, Virtual Meeting 2021

Graphene 2019, Rome (Italy) 2019

E-MRS 2018 Spring Meeting, Strasbourg (France) 2018

Graphene Week 2018, San Sebastian (Spain) 2018

Graphene Winter Study 2018, Obergurgl (Austria) 2018

**TEACHING & OUTREACH EXPERIENCE\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Drexel University, USA**

MXene Course – *Atomic Force Microscopy of MXenes* (Lead Instructor, 75+) 2023

MXene Course – *MXenes for Electronic/Optoelectronic Applications* (Lead Instructor, 75+) 2023

MATE 280 Advanced Materials Laboratory (Instructor, 20+) 2022

**LEADERSHIP EXPERIENCE\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Materials Research Society** – Lead Organizer of the Symposium “*2D Advances in MXenes*” at the 2024 MRS Spring Meeting, Seattle (USA) (200+ attendees)

**Drexel University & University of Strasbourg** – Mentor of PhD, Master and Undergraduate students (10+)

**PUBLICATIONS\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

1. Iryna Roslyk, Ivan Baginskiy, Veronika Zahorodna, Oleksiy Gogotsi, **Stefano Ippolito**, Yury Gogotsi. “Porous Ti3AlC2 MAX phase enables efficient synthesis of Ti3C2Tx MXene”. *International Journal of Applied Ceramic Technology* (2024), DOI: 10.1111/ijac.14671

*Journal IF: 2.100*

1. Roman Rakhmanov, Christopher Eugene Shuck, Jamal Al Hourani, **Stefano Ippolito**, Yury Gogotsi, Gary Friedman. “Ultrathin MXene film interaction with electromagnetic radiation in the microwave range”. *Applied Physics Letters* **123** (20), (2023), 204105

*Journal IF: 3.971*

1. Aaron D Sinnott, Adam Kelly, Cian Gabbett, Jose Munuera, Luke Doolan, Matthias Möbius, **Stefano Ippolito**, Paolo Samorì, Jonathan N Coleman, Graham LW Cross. “Mechanical Properties of Conducting Printed Nanosheet Network Thin Films Under Uniaxial Compression”. *Advanced Materials* (2023), 2306954

*Journal IF: 29.400*

1. **Stefano Ippolito**, Yury Gogotsi. “3D aerogels from hybrid 2D materials: ultralight and flexible superinsulators”. *National Science Review*, **10** (2023), nwad196

*Journal IF: 23.178*

1. Mohit Saraf, Benjamin Chacon, **Stefano Ippolito**, Robert W. Lord, Mark Anayee, Ruocun (John) Wang, Alex Inman, Christopher E. Shuck, Yury Gogotsi. “Enhancing Charge Storage of Mo2Ti2C3 MXene by partial oxidation”. *Advanced Functional Materials*, **34** (2023), 2306815

*Journal IF: 19.924*

1. **Stefano Ippolito**, Francesca Urban, Wenhao Zheng, Onofrio Mazzarisi, Cataldo Valentini, Adam G. Kelly, Sai Manoj Gali, Mischa Bonn, David Beljonne, Federico Corberi, Jonathan N. Coleman, Hai I. Wang, Paolo Samorì. “Unveiling charge transport mechanisms in electronic devices based on defect-engineered MoS2 covalent networks”. *Advanced Materials*, **35** (2023), 2211157

*Journal IF: 29.400 Citations: 8*

1. Hazel Lin, Shiyuan Peng, Shi Guo, Baojin Ma, Matteo Andrea Lucherelli, Cathy Royer, **Stefano Ippolito**, Paolo Samorì, Alberto Bianco. “2D materials and primary human dendritic cells: a comparative cytotoxicity study”. *Small*, **18** (2022) 2107652

*Journal IF: 15.153 Citations: 7*

1. **Stefano Ippolito**, Paolo Samorì. “Defect engineering strategies toward controlled functionalization of solution‐processed transition metal dichalcogenides”. *Small Science*, **2** (2022) 2100122

*Journal IF: 12.700 Citations: 25*

1. **Stefano Ippolito**, Adam G. Kelly, Rafael Furlan de Oliveira, Marc-Antoine Stoeckel, Daniel Iglesias, Ahin Roy, Clive Downing, Zan Bian, Lucia Lombardi, Yarjan Abdul Samad, Valeria Nicolosi, Andrea C. Ferrari, Jonathan N. Coleman, Paolo Samorì. “Covalently interconnected transition metal dichalcogenide networks via defect engineering for high-performance electronic devices”. *Nature Nanotechnology*, **16** (2021) 592–598

*Journal IF: 40.523 Citations: 79*

1. Haixin Qiu, **Stefano Ippolito**, Agostino Galanti, Zhaoyang Liu, Paolo Samorì. “Asymmetric dressing of WSe2 with (macro)molecular switches: fabrication of quaternary-responsive transistors”. *ACS Nano*, **15** (2021) 10668–10677

*Journal IF: 18.027 Citations: 12*

1. Iwona Janica, Daniel Iglesias, **Stefano Ippolito**, Artur Ciesielski, Paolo Samorì. “Effect of temperature and exfoliation time on the properties of chemically exfoliated MoS2 nanosheets”. *Chemical Communications*, **56** (2020) 15573-15576

*Journal IF: 6.065 Citations: 12*

1. Hazel Lin, Ding‐kun Ji, Matteo Andrea Lucherelli, Giacomo Reina, **Stefano Ippolito**, Paolo Samorì, Alberto Bianco. “Comparative effects of graphene and molybdenum disulfide on human macrophage toxicity”. *Small*, **16** (2020) 2002194

*Journal IF: 15.153 Citations: 30*

1. Daniel Iglesias, **Stefano Ippolito**, Artur Ciesielski, Paolo Samorì. “Simultaneous non-covalent bi-functionalization of 1T-MoS2 ruled by electrostatic interactions: towards multi-responsive materials”. *Chemical Communications*, **56** (2020) 6878-6881

*Journal IF: 6.065 Citations: 7*

1. Yuda Zhao, **Stefano Ippolito**, Paolo Samorì. “Functionalization of 2D materials with photosensitive molecules: from light-responsive hybrid systems to multifunctional devices”. *Advanced Optical Materials*, **7** (2019) 1900286

*Journal IF: 10.050 Citations: 51*

1. Rafael Furlan de Oliveira, Pietro Antonio Livio, Verónica Montes‐ García, **Stefano Ippolito**, Matilde Eredia, Pablo Fanjul‐Bolado, María Begoña González García, Stefano Casalini, Paolo Samorì. “Liquid-gated transistors based on reduced graphene oxide for flexible and wearable electronics”. *Advanced Functional Materials*, **29** (2019) 1905375

*Journal IF: 19.924 Citations: 51*

1. **Stefano Ippolito**, Artur Ciesielski, Paolo Samorì. “Tailoring the physicochemical properties of solution-processed transition metal dichalcogenides via molecular approaches”. *Chemical Communications*, **55** (2019) 8900-8914

*Journal IF: 6.065 Citations: 27*

1. Amparo Ruiz Carretero, Youssef Atoini, Tianyan Han, Alessandra Operamolla, **Stefano Ippolito**, Cataldo Valentini, Serena Carrara, Stephan Sinn, Eko Adi Prasetyanto, Thomas Heiser, Paolo Samorì, Gianluca Farinola, Luisa De Cola. “Charge transport enhancement in supramolecular oligothiophene assemblies using Pt(II) centers as a guide”. *Journal of Materials Chemistry A*, **7** (2019) 16777-16784

*Journal IF: 14.511 Citations: 8*

1. Mohamed El Garah\*, Simone Bertolazzi\*, **Stefano Ippolito\***, Matilde Eredia, Iwona Janica, Georgian Melinte, Ovidiu Ersen, Giovanni Marletta, Artur Ciesielski, Paolo Samorì. “MoS2 nanosheets via electrochemical lithium-ion intercalation under ambient conditions”. *FlatChem*, **9** (2018) 33-39

*Journal IF: 5.829 Citations: 46*