Juan Pedro Martinez

MSC PHYSICS STUDENT

Department of Physics, School of Engineering, UDELAR Ave Julio Herrera y Reissig 565, 11300 Montevideo, Montevideo department Website: https://juanmartinezalvarez.github.io/ Email: jmartinez@fing.edu.uy LinkedIn: @JuanPedroMartinezAlvarez Date of birth: 18/10/1996

ABOUT ME

After completing my engineering degree (5 years) and working in industry I found my vocation in learning, exploring, and teaching the principles behind the workings of the universe. I am currently in the final stretch of a master's degree in physics in which I am exploring the relationship between the optical properties and the morphology of nanostructures with anisotropic characteristics. I am currently conducting an internship in the ICN2 institute under the supervision of Dr. Javier Rodríguez-Viejo and Dr. Peng Xiao on the electrical and thermal properties of 2D materials. I am looking to delve deeper and acquire the tools required to independently lead projects capable of generating disruptive science.

EDUCATION	
06-2021 to 2024	University of the Republic, Montevideo, Uruguay: Master in engineering-physics
	 Group of Solid State Physics, Department of Physics, School of Engineering Tentative dissertation title: "Study of the optical properties and their correlation with morphology in nanostructured anisotropic materials" Advisors: Dr. Paulo Valente and Dr. Javier Pereyra
03-2015 to 03-2020	University of Montevideo, Montevideo, Uruguay: Industrial
	Engineering School of Engineering Thesis title: "Design of an industrial plant for manufacturing ultra-frozen baked goods" Advisor: dr. Marcelo Castelli
ACADEMIC	
POSITIONS	Professor—Level 1 (Assistant)
07-2021 - Present	Taught lab-based courses in which I had to prepare the experiments, give the lessons and grade the reports of 24 students and introductory physics for first year students.
AWARDS	
2023	ANII outward mobility grant
	Agencia Nacional de Investigacion e Innovación Partial funding for a 6 month research stay at ICN2 institute in Barcelona working in the GTNaM group led by Dr. Javier Rodríguez-Viejo.
2023	CSIC outward mobility grant
	Comisión Sectorial de Investigación Científica Partial funding for a 6 month research stay at ICN2 institute in Barcelona working in the GTNaM group led by Dr. Javier Rodríguez-Viejo.
2022	ANII Master degree Fellowship
	Agencia Nacional de Investigacion e Innovación Monthly stipend to complete Master degree research.
2019	SUSI Fellowship
	US State Department
	6 weeks stay in the US to study entrepreneurship.

PUBLICATIONS	
2023	Crossed polarization optical transmittance spectra as a way of
2023	determining wing thickness of the Episcada Hymenaea translucent
	butterfly
	Martinez, J.P., Fagúndez, P., Pereyra, C.J. et al. Crossed polarization optical transmittance
	spectra as a way of determining wing thickness of the Episcada Hymenaea translucent
CONFEDENCES	
CONFERENCES	
2023	II Meeting of Researchers in Materials Science
	effects, in the Episcada hymenaea translucent butterfly species.
2022	XVII Reunion of the Uruguavan Physics Society 2022 - "José A.
	Ferrari''
	Poster presentation concerning the optical and morphological properties of ZnO nanorods
	sensitized with SnS quantum dots by SILAR.
RESEARCH	
2023 - Present	Electrical and thermal properties of 2D Transition metal
	dichalcogenides (TMDs)
	Thermal Properties of Nanoscale Materials group (GTNaM), ICN2
	explication and deposition of 2D TDMs in substrates. Automated measurement of electrical
	properties for gas and humidity sensing applications,
2020 - Present	Optical and morphological properties of ZnO nanorods sensitized
	with SnS quantum dots
	Group of Solid State Physics, Department of Physics, School of Engineering,
	University of the Republic
	Shift of Brewster angle with surface roughness, the effects of size and amount of SnS in
	light in stratified media.
2022 - Present	Interaction between light and the wings of Episcada hymenaea
	and Saturniidae Heliconisa pagenstecheri
	Group of Solid State Physics, Department of Physics, School of Engineering,
	University of the Republic
	Optical properties of two species autochthonous to Uruguay, the first is a butterfly, the
	second a moth. Relation the physical properties—optical and structural—with biological factors. Determination of effective refractive index absorbance spectra, chemical
	characterization with Raman and FTIR, angle dependent transmittance and polarization
OTHER	conversion effects.
ACTIVITIES	
07-2020 to 08-2021	Assistant of planning and technological development
	CIEMSA, Uruguay
	Road technology and safety.
LANGUAGES	
	Spanish: native OOOOO English: bilingual OOOOOO
	Portuguese: basic

SKILLS





REFERENCES

Dr. Ricardo Marotti	Professor Level 5 (Full Professor) Department of Physics, School of Engineering, University of the Republic Phone: (598) 27142714, internal:15109 Email: khamul@fing.edu.uy
Dr. Claudio Ruibal	Full Professor School of Engineering, University of Montevideo Email: cruibal@um.edu.uy
Dr. Javier Pereyra	Professor Level 3 (Adjunct Professor) Department of Physics, School of Engineering, University of the Republic Phone: (598) 27142714, intern:15202 Email: jpereyra@fing.edu.uy
Dr. Paulo Valente	Professor Level 3 (Adjunct Professor) Department of Physics, School of Engineering, University of the Republic Phone: (598) 27142714, intern:15108 Email: pvalente@fing.edu.uy
Dr. Peng Xiao	Postdoctoral Researcher Catalan Institute of Nanoscience and Nanotechnology Email: peng.xiao@icn2.cat