Diogo Estevão Pereira Pinto

Education

2012-2015	BSc in Physics - Faculty of Sciences, University of Lisbon
2015-2017	MSc in Physics - Faculty of Sciences, University of Lisbon <i>Thesis supervisors: Dr. Nuno Araújo and Prof. Margarida Telo da Gama.</i> Thesis title: <i>"Adsorption of colloidal particles on mobile rafts".</i>
2017-2022	PhD in Physics - Faculty of Sciences, University of Lisbon Supervisors: Dr. Nuno Araújo and Prof. Margarida Telo da Gama. Thesis title: "Collective dynamics of flexible active particles on substrates: from cells to tissues".
Research	
Jul-Sept 2015	ERASMUS+ summer internship Under the supervision of Prof. Eduardo Garcia. Internship developed at the Astroparticles and Nuclear Physics Group, University of Zaragosa, Spain. Research subject: "Dark Matter Searches in Underground Laboratories".
2015-2016	Internship Under the supervision of Dr. Nuno Araújo. Internship developed at the Center for Theoretical and Computational Physics, Faculty of Sciences, University of Lisbon, Portugal. Research subject: "Computer simulations of colloids self-organization: from nonequilibrium to relaxation towards equilibrium". With financial support from the Portuguese Foundation for Science and Technology (FCT) under Contract no. IF/00255/2013.
2016-2017	MSc student <i>Under the supervision of Dr. Nuno Araújo and Prof. Margarida Telo da Gama.</i> MSc student at the Center for Theoretical and Computational Physics, Faculty of Sciences, University of Lisbon, Portugal.
2017-2021	 PhD student Under the supervision of Dr. Nuno Araújo and Prof. Margarida Telo da Gama. PhD student at the Center for Theoretical and Computational Physics, Faculty of Sciences, University of Lisbon, Portugal. With financial support from the Portuguese Foundation for Science and Technology (FCT) under the individual fellowship no. SFRH/BD/131158/2017.
Aug-Dec 2018	Internship <i>Under the supervision of Prof. M. Lisa Manning.</i> Internship in the group of Lisa Manning, University of Syracuse, USA.
2022-Present	Postdoctoral Researcher <i>Under the supervision of Prof. John Russo.</i> Research developed at the University of Rome <i>"La Sapienza"</i> under the European Research Council Grant DLV-759187.

Publications

1. "Kinetic control of the coverage of oil droplets by DNA-functionalised colloids", Darshana Joshi, Dylan Bargtail, Alessio Caciagli, Jerome Burelbach, Zhongyang Xing, André S. Nunes, **Diogo E. P. Pinto**, Nuno A. M. Araújo, Jasna Bruijc, and Erika Eiser, Sci. Adv. **2**, e1600881 (2016).

2. "*Random sequential adsorption on mobile patches*", **Diogo E. P. Pinto** and Nuno A. M. Araújo, Phys. Rev. E 98, 012125 (2018).

3. *"The Cell Adaptation Time Sets a Minimum Length Scale for Patterned Substrates"*, **Diogo E. P. Pinto**, Gonca Erdemci-Tandogan, M. Lisa Manning and Nuno A. M. Araújo, Byophys. J. **119**, 2299 (2020).

4. *"Hierarchical structure of the energy landscape in the Voronoi model of dense tissue"*, **Diogo E. P. Pinto**, Daniel M. Sussman, Margarida M. Telo da Gama and Nuno A. M. Araújo, Phys. Rev. Res. **4**, 023187 (2022).

5. "Cell motility in confluent tissues induced by substrate disorder", **Diogo E. P. Pinto**, Margarida M. Telo da Gama and Nuno A. M. Araújo, Phys. Rev. Res. **4**, 023187 (2022).

"Modeling the effect of disorder in the collective dynamics of cell tissues".

Seminars

May 2017	Physics department seminar Faculty of Sciences, University of Lisbon, Portugal. "Adsorption of colloidal particles on mobile rafts".
November 2018	Soft Matter group seminar University of Syracuse, USA. "Physics@CFTC: Assembling colloidal crystals on oil droplets".
September 2021	Physics department seminar
	Faculty of Sciences, University of Lisbon, Portugal.

Oral communications

January 2017	Flowing Matter 2017 Porto Portugal
	"Kinetic of the adsorption of DNA-coated colloidal particles on mobile rafts".
July 2017	Ciência 2017
	Lisbon, Portugal.
	"Kinetics of the adsorption of DNA-coated colloidal particles on mobile patches".
January 2018	Flowing Matter 2018
	Lisbon, Portugal.
	"Kinetics of the adsorption of DNA-coated colloidal particles on mobile patches".
June 2018	13º Encontro Nacional de Química-Física e 2º Simpósio de Química Computacional
	Faro, Portugal. "Kinetics of the adsorption of DNA-coated colloidal particles on mobile patches".
August 2020	CMD2020GEFES
	Madrid, Spain (Online).
	"The cell response time sets a minimum length scale for epithelial tissues on patterned substrates".
	Joint conference of the Condensed Matter Divisions of the European Physical Society and the
	Spanish Royal Physics Society.
March 2022	3^{rd} Condensed Matter Physics National Conference
	Lisbon, Portugal.
	"The cell adaptation time sets a minimum length scale for patterned substrates".

Posters

December 2017	Dynamics of self-organization: from colloids to biomaterials Workshop Barcelona, Spain. "Adsorption of DNA-coated colloidal particles on mobile patches". Co-authors: Margarida M. Telo da Gama and Nuno A. M. Araújo.
May 2019	2 nd Portuguese Condensed Matter Physics Meeting Porto, Portugal. "Dynamics of epithelial tissues on patterned substrates".
	Co-aunors: Gonca Eraemci-tanaogan, M. Lisa Manning ana Nuno A. M. Araujo.
July 2021	 11th Liquid Matter Conference Prague, Czech Republic (Online). "The cell response time sets a minimum length scale for epithelial tissues on patterned substrates". Co-authors: Gonca Erdemci-Tandogan, M. Lisa Manning and Nuno A. M. Araújo.
June 2022	From Water To Colloidal Water Rome, Italy. "Self-assembly of finite size capsules using SAT-assembly". Co-authors: Petr Šulc, Francesco Sciortino and John Russo Awarded Soft Matter poster prize by the Royal Society of Chemistry.

Teaching experience

Teaching assistant at the Faculty of Sciences, University of Lisbon, Portugal

Fall 2016: Experimental Physics II (laboratory), Optics and Electromagnetism (laboratory) *Spring 2017*: Physics for Computer Science (exercises) *Fall 2017*: Numerical Methods (exercises) *Spring 2018*: Electromagnetism (exercises) *Spring 2019*: Electromagnetism (exercises) *Fall 2019*: Numerical Methods (exercises) *Fall 2020*: Numerical Methods (exercises)

Computational skills

Programming languages

C/C++: Have developed codes from scratch and also contributed to *github* repositories. Have used for teaching.

Python: Have developed codes from scratch. Have used for teaching. *MATLAB:* Have written simple data processing codes.

Contributions

cellGPU: Major contribution done to the CellGPU code, designed to perform GPU-accelerated simulations of Voronoi and vertex models of cells (https://doi.org/10.1016/j.cpc.2017.06.001).

Additional Information

Referee

Physical Review E, International Journal of Modern Physics C, The Journal of Chemical Physics.