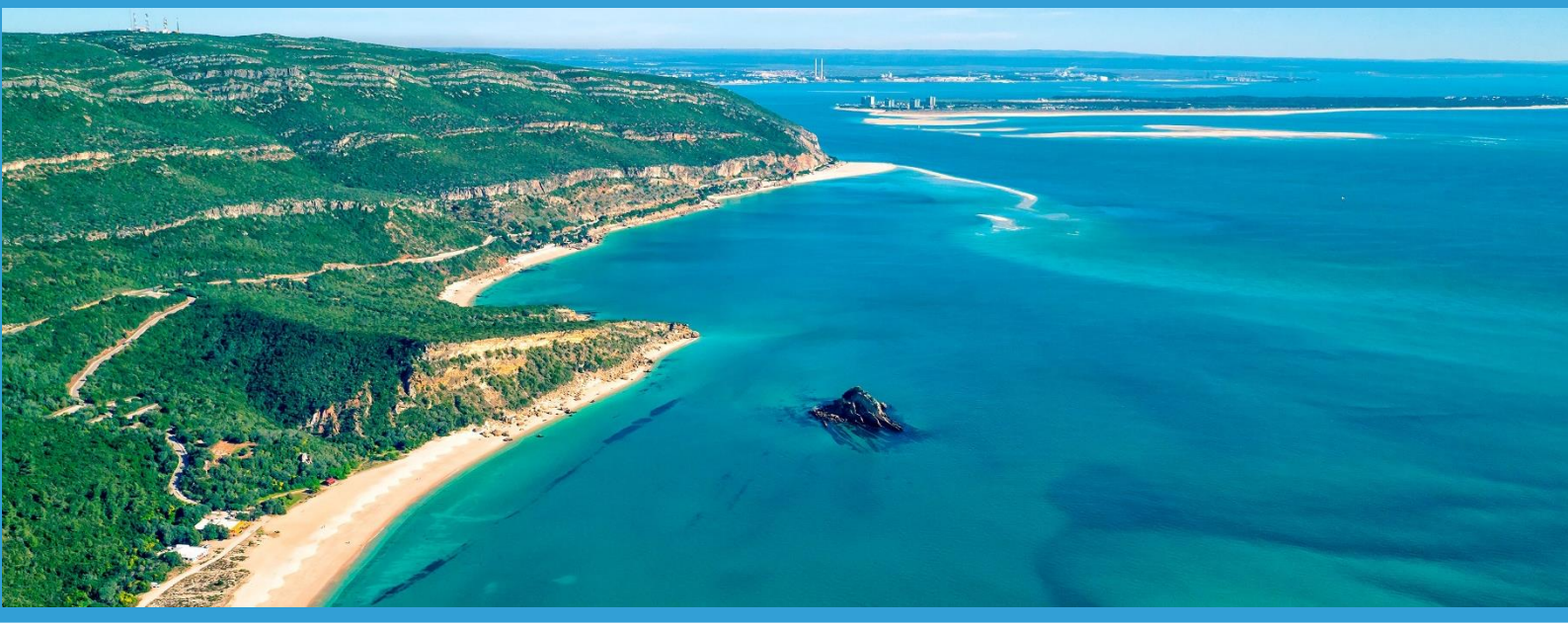
6th PYCHEM

Portuguese Young Chemists Meeting



Book of Abstracts

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Schedule

	Tuesday May 15th	Wednesday May 16th	Thursday May 17th	Friday May 18th	
09:00		**Opening Ceremony**	**PL2** Luisa de Cola		09:00
09:20		**PL1** Chihaya Adachi		**PL3** Jonathan Clayden	09:20
09:50			**IL5** Zita Martins		09:50
10:10		**IL1** Márcia Vilarigues	**OC12** Ana Rita Neves	**IL9** Célia Fonseca-Guerra	10:10
10:15					10:15
10:30		Coffee Break and Poster Session I	Coffee Break and Poster Session II	**OC22** José Pereira	10:30
10:35					10:35
10:50				Coffee Break @ Foyer	10:50
11:25		**IL2** Javier Montenegro	**IL6** Nuno Mateus	**IL10** Nathan McClenaghan	11:25
11:50		**OC1** Massimo Tosolini	**OC13** Carla Pereira	**OC23** Veronica Tona	11:50
12:05		**OC2** Fausto Queda	**OC14** Joana Oliveira	**OC24** Cláudia D. Alves	12:05
12:20		**OC3** Ángel Vidal-Vidal	**OC15** José Pinela	**OC25** João Ravasco	12:20
12:35		**OC4** João F. Borges	**OC16** Joana Azevedo	**OC26** Luca Pisciottani	12:35
12:50		**OC5** João António	**OC17** Catarina Pinto	**OC27** M. Inês P. S. Leitão	12:50
13:05		Lunch	Lunch	Lunch	13:05
14:20		**IL3** Filipe Paz	**IL7** Pol Besenius	**IL11** Ana Rita Duarte	14:20
14:45		**OC6** Márcia Ribeiro	**OC18** Tiago Moreira	**OC28** Micael Silva	14:45
15:00		**OC7** Sílvia Quaresma	**OC19** Noémi Jordão	**OC29** Eduarda S. Morais	15:00
15:15		**OC8** Bárbara L. Oliveira	Coffee Break and Poster Session II	**OC30** Sofia Domingos	15:15
15:30		Coffee Break and Poster Session I		Coffee Break @ Foyer	15:30
16:05			**IL8** Eurico Cabrita	**EYCN** João Borges	16:05
16:20		**IL4** Tiago Rodrigues			16:20
16:30			**OC20** Bruno Medronho	**NEQ/AAC** Márcia Campos	16:30
16:45		**OC9** Miguel M. Santos	**OC21** Ana S. D. Ferreira	**PYCA award**	16:45
17:00	**Welcome Cocktail and Registration**	**OC10** Telma B. Soares			17:00
17:10				**Best Poster Award**	17:10
17:15		**OC11** Rita C. Acúrcio			17:15
17:25				**Closing ceremony**	17:25
17:30			**Conference dinner (until 23:00)**		17:30
17:45		**GQJ Assembly**			17:45

PL - Plenary Lecture; **IL -** Invited Lecture; **OC -** Oral Communication; **EYCN -** European Young Chemists Network; **PYCA -** Portuguese Young Chemists Award

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Detailed Schedule

Wednesday, May 16th 2018

09:00-09:20 Opening Ceremony

Session 1 **|** *Chairman: Artur Moro (LAQV@REQUIMTE - Univ. NOVA de Lisboa - FCT)* | *Auditorium*

09:20 **PL1** | Chihaya Adachi (OPERA - Organic Photonics and Electronics Research, Japan)
Control of excitonic processes in organic semiconductors aimed for high performance light emitting devices

10:10 **IL1** | Márcia Vilarigues (Univ. NOVA de Lisboa - FCT, Portugal)
Painting with light – a study on historical recipes

10:35-11:25 Coffee break and Poster Session I (Galeria Municipal do 11)

Session 2 | *Chairman: Beatriz Royo (Univ. NOVA de Lisboa – ITQB)* | *Auditorium*

11:25 **IL2** | Javier Montenegro (CIQUS - University of Santiago de Compostela, Spain)
Supramolecular Tools in Cell Delivery and Synthetic Biology

11:50 **OC1** | Massimo Tosolini (University of Trieste, Italy)
Metal Complexes as Anion Transporters

12:05 **OC2** | Fausto Queda (LAQV@REQUIMTE - Univ. NOVA de Lisboa - FCT, Portugal)
Bacterial Cell Wall Surrogates from Chitosan: a new molecular recognition system

12:20 **OC3** | Angel Vidal-Vidal (University of Vigo, Spain)
High Efficient Capture and Sensing of Quat Herbicides Using Ring-Shaped Nanostructures as Host Systems

12:35 **OC4** | João Filipe Borges (University of Aveiro, Portugal)
Engineering Marine Polysaccharides-based Hollow Multilayered Microcapsules for Enhanced Cellular Uptake

12:50 **OC5** | João Pedro Marante António (iMed.ULisboa - Faculty of Pharmacy, Portugal)
Diazaborines: Boronic acids under disguise for selective inhibition of Human Neutrophil Elastase

13:05-14:20 Lunch

Session 3 | *Chairman: Sandra Gago (LAQV@REQUIMTE – Univ. NOVA de Lisboa - FCT)* | *Auditorium*

14:20	**IL3** | Filipe Alexandre Almeida Paz (University of Aveiro, Portugal) *Chemistry Architecture: Building Functional Metal-Organic Frameworks*
14:45	**OC6** | Márcia Almeida Ribeiro (IST - University of Lisbon, Portugal) *New photoactive pillared MOFs assembled by mechanochemistry for energy applications*
15:00	**OC7** | Sílvia Quaresma (IST – University of Lisbon, Portugal) *BioMOFS: potential systems for biomedical applications*
15:15	**OC8** | Bárbara Luís de Oliveira (University of Lisbon, Portugal) *Sensors Based on Customly Designed Iron(II) Coordination Polymers*

15:30-16:20 Coffee Break and Poster Session I (Galeria Municipal do 11)

Session 4 | *Chairman: Javier Montenegro (CIQUS - University of Santiago de Compostela, Spain)* | *Auditorium*

16:20	**IL4** | Tiago Rodrigues (Instituto de Medicina Molecular, Portugal) *Using artificial intelligence to understand the pharmacology of natural products*
16:45	**OC9** | Miguel Santos (LAQV@REQUIMTE – Univ. NOVA de Lisboa - FCT) *New perspective on osteosarcoma using bisphosphonate-based Ionic Liquids*
17:00	**OC10** | Telma Bezerra Soares (CF-UM-UP – University of Minho, Portugal) *Fluorescent graphene oxide quantum dots as traceable, pH sensitive nanocarriers for an anticancer drug*
17:15	**OC11** | Ana Rita Acúrcio (iMed.ULisboa - Faculty of Pharmacy, Portugal) *New small-molecule immune system modulators towards cancer immunotherapy*

17:45-19:00 GQJ Assembly (Fórum Luísa Todi)

Thursday, May 17th 2018

Session 5 | *Chairman: Nathan McClenaghan (Institut des Sciences Moléculaires, France)* | *Auditorium*

09:00 **PL2** | Luisa de Cola (University of Strasbourg, France)
Stimulus responsive and self-assembled materials

09:50 **IL5** | Zita Martins (IST – University of Lisbon, Portugal)
Abiotic formation of the building blocks of life – implications to the origin of life on Earth and elsewhere

10:15 **OC12** | Ana Rita Neves (Faculty of Pharmacy, Portugal)
From the Sea to… the Sea! Antifouling Marine-Inspired Synthetic Steroid Derivatives

10:30-11:25 Coffee break and Poster Session II (Galeria Municipal do 11)

Session 6 | *Chairman: Nuno Basílio (LAQV@REQUIMTE – Univ. NOVA de Lisboa - FCT)* | *Auditorium*

11:25 **IL6** | Nuno Mateus (ICETA/REQUIMTE – University of Porto, Portugal)
ANTHO4SKIN – Recycling anthocyanins from food wastes for cosmetic applications

11:50 **OC13** | Carla Pereira (CIMO - Instituto Politécnico de Bragança, Portugal)
Recovery of Anthocyanins from Sweet Cherry Wastes: Process Modeling and Optimization Using Response Surface Methodology

12:05 **OC14** | Joana Oliveira (ICETA/REQUIMTE – University of Porto, Portugal)
Colour modulation of blue anthocyanin-derivatives. Lignosulfonates as a tool to improve the water solubility of natural blue dyes

12:20 **OC15** | José Pinela (CIMO - Instituto Politécnico de Bragança, Portugal)
Ultra-high Pressure-assisted Extraction of Phenolic Compounds from Watercress: Characterization and Process Optimization

12:35 **OC16** | Joana Azevedo (ICETA/REQUIMTE - University of Porto, Portugal)
Reactivity of cork extracts with (+)-catechin in wine model solutions: Identification of a new family of ellagitannin-derived compounds (corklins)

12:50 **OC17** | Catarina Pinto (CQC - University of Coimbra, Portugal)
The molecules of color in Portuguese postage stamps

13:05-14:20 Lunch

Ultra-high Pressure-assisted Extraction of Phenolic Compounds from Watercress: Characterization and Process Optimization

José Pinela[1,2], M.A. Prieto[1,3], Lillian Barros[1], Ana Maria Carvalho[1], M. Beatriz P.P. Oliveira[2], Jorge A. Saraiva[4], Isabel C.F.R. Ferreira[1]

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Ultra-high pressure (UHP), usually in the range from 100 to 800 MPa, is a novel technology increasingly used in the food industry as a cold pasteurizing method. UHP has also been reported as a good alternative to the conventional methods of extraction of high added-value compounds from plant materials, as it avoids the degradation of thermosensitive molecules and can improve the process efficiency [1-2]. Therefore, this study was carried out to characterize the phenolic profile of watercress (*Nasturtium officinale* R. Br., a fast-growing semiaquatic plant with medicinal properties) [3] and optimize the UHP-assisted extraction of these compounds using the response surface methodology. For this, freeze-dried watercress samples were processed according to a five-level full factorial design combining the independent variables: processing time (*t*, 1.5–33.5 min), pressure (*P*, 0.1–600 MPa) and solvent (*S*, 0–100% ethanol, v/v). The individual and grouped phenolic compounds (analysed by HPLC-DAD-ESI/MS) and the extraction yield were used as response variables. The chromatographic analysis revealed that the phenolic profile was constituted mainly by flavonoids, namely quercetin and isorhamnetin glycoside derivatives, whereas phenolic acids were less abundant. In addition, four kaempferol glycoside derivatives were identified for the first time in this species [5]. The developed theoretical models were successfully fitted to the experimental data and used for extraction optimization. The UHP conditions that maximized the extraction yield (crude extract) and the recovery of phenolic compounds were as follows: *t*= 34 min, *P*= 531 MPa, *S*= 26% and *t*= 3 min, *P*= 600 MPa, *S*= 100%, respectively [2]. In conclusion, the developed extraction process promoted the selective extraction of phenolic compounds from watercress using a green solvent and reduced extraction times.

References

[1] Alexandre, E.M.C.; Araújo, P.; Duarte, M.F.; et al., J Food Sci Technol 2017, 54, 2519-2531.
[2] Pinela, J.; Prieto, M.A.; Barros, L.; et al., Sep Purif Technol 2018, 192, 501-512.
[3] Gill, C.I.R.; Haldar, S.; Boyd, L.A.; et al., Am J Clin Nutr 2007, 85, 504-510.

Acknowledgments

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