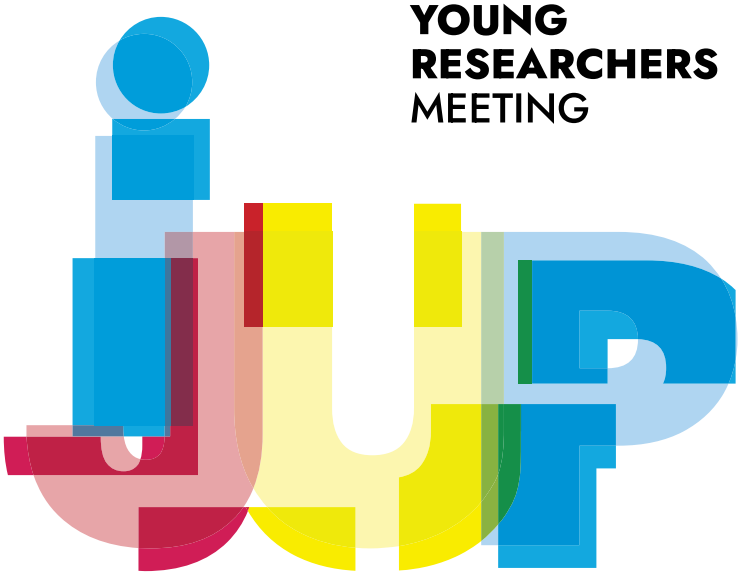
BOOK OF ABSTRACTS

YOUNG RESEARCHERS MEETING



IJUP
4.5.6 MAIO 2022

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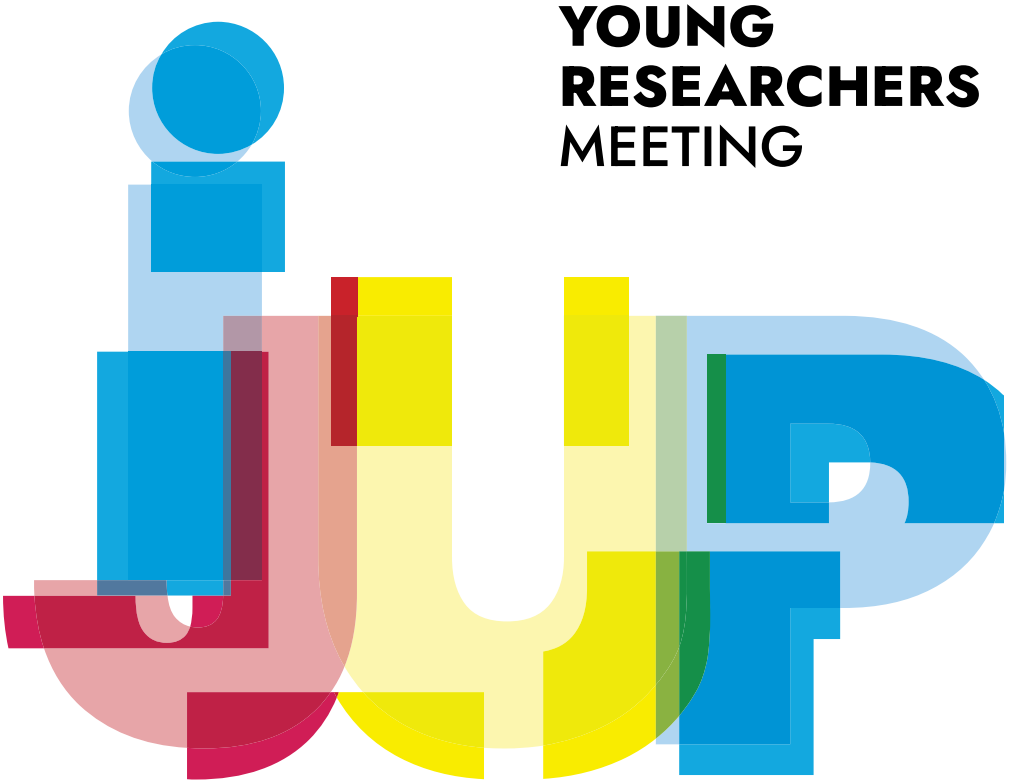
YOUNG RESEARCHERS MEETING



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TÍTULO | *TITLE*

Livro de Resumos do 15.º Encontro de Investigação Jovem da U.Porto

Universidade do Porto

Vice-reitor para a investigação, inovação e internacionalização

Professor Doutor Pedro Rodrigues

ijup@reit.up.pt

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PROGRAMA
PROGRAM

ONLINE **EVENT LINK** (CLICK HERE)

	MAY, 4TH	MAY, 5TH
08:00 - 18:00		
09:00 - 10:30	**PARALLEL ORAL SESSIONS I**	**PARALLEL ORAL SESSIONS VI**
	A1 – Mathematics	A1 – Biological Sciences IV
	A2 – Architecture I	A2 – Engineering I
	A3 – Chemistry I	A3 – Physics II
	A4 – Environment I	A4 – Language & Communication
	A5 – AgroFood I	A5 – Health Sciences VI
	A6 – Health Sciences I	A6 – Psychology & Sciences of Education I
10:30 - 10:40	Break	
10:40 - 12:00	**PARALLEL ORAL SESSIONS II**	**PARALLEL ORAL SESSIONS VII**
	A1 – Health Sciences II	A1 – Biological Sciences V
	A2 – Architecture II	A2 – Engineering II
	A3 – AgroFood II	A3 – Chemistry II
	A4 – Environment II	A4 – Geo-Politics I
	A5 – Physics I	A5 – Health Sciences VII
		A6 – Psychology & Sciences of Education II
12:00 - 12:20	Break	
12:20 - 13:40	**PARALLEL ORAL SESSIONS III**	**PARALLEL ORAL SESSIONS VIII**
	A1 – Economics & Management	A1 – Biological Sciences VI
	A2 – Biological Sciences I	A2 – Engineering III
	A3 – Architecture III	A3 – Geo-Politics II
	A4 – Chemistry III	A4 – Health Sciences VIII
	A5 – Sport Sciences I	A5 – Health Sciences IX
	A6 – Health Sciences III	A6 – Psychology & Sciences of Education III
13:40 - 14:30	Lunch Break	
14:30 - 16:00	**PARALLEL ORAL SESSIONS IV**	**PARALLEL ORAL SESSIONS IX**
	A1 – Arts I	A1 – Biological Sciences VII
	A2 – Biological Sciences II	A2 – Engineering IV
	A3 – Sport Sciences II	A3 – Law and Criminology I
	A4 – Chemistry IV	A4 – Health Sciences X
	A5 – Architecture IV	A5 – Heritage & History I
	A6 – Health Sciences IV	A6 – Psychology & Sciences of Education IV
16:00 - 16:10	Break	
16:10 - 17:40	**PARALLEL ORAL SESSIONS V**	**PARALLEL ORAL SESSIONS X**
	A1 – Astronomy & Physics	A1 – Law and Criminology II
	A2 – Arts II	A2 – Health Sciences XI
	A3 – Sport Sciences III	A3 – Psychology & Sciences of Education V
	A4 – Biological Sciences III	A4 – Heritage & History II
	A5 – Health Sciences V	

RECTORATE OF THE UNIVERSITY OF PORTO

MAY, 6TH	
08:30 - 09:00	*Opening of the secretariat for all participants*
09:00 - 10:00	**POSTER SESSION I**
10 min	Coffee-break
10:10 - 11:00	**POSTER SESSION I**
11:00 - 11:15	Break
11:15 - 12:00	**POSTER SESSION II**
10 min	Coffee-break
12:10 - 13:15	**POSTER SESSION II**
13:15 - 15:00	Lunch Break
15:00 - 18:00	**CLOSING SESSION AND CELEBRATION OF THE 15-YEARS ANNIVERSARY OF IJUP**

ENCONTRO INVESTIGAÇÃO JOVEM

IJUP
4.5.6 MAIO 2022
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15.ª EDIÇÃO

Diversity of copper tolerant and antibiotic resistant *Klebsiella pneumoniae* clones in poultry production using inorganic or organic copper feed formulations

Magalhães, Mafalda, UCIBIO/REQUIMTE and Associate Laboratory i4HB - Institute for Health and Bioeconomy. Laboratory of Microbiology, Faculty of Pharmacy, Porto University, Porto, Portugal; Faculty of Nutrition and Food Sciences, Porto University, Porto, Portugal; Faculty of Sciences, Porto University, Porto, Portugal
Almeida, Marisa, UCIBIO/REQUIMTE and Associate Laboratory i4HB - Institute for Health and Bioeconomy. Laboratory of Microbiology, Faculty of Pharmacy, Porto University, Porto, Portugal; Abel Salazar Biomedical Sciences Institute, Porto University, Porto, Portugal
Paiva, Sofia, UCIBIO/REQUIMTE and Associate Laboratory i4HB - Institute for Health and Bioeconomy. Laboratory of Microbiology, Faculty of Pharmacy, Porto University, Porto, Portugal; Faculty of Nutrition and Food Sciences, Porto University, Porto, Portugal
Rebelo, Andreia, UCIBIO/REQUIMTE and Associate Laboratory i4HB - Institute for Health and Bioeconomy. Laboratory of Microbiology, Faculty of Pharmacy, Porto University, Porto, Portugal
Peixe, Luísa, UCIBIO/REQUIMTE and Associate Laboratory i4HB - Institute for Health and Bioeconomy. Laboratory of Microbiology, Faculty of Pharmacy, Porto University, Porto, Portugal
Novais, Ângela, UCIBIO/REQUIMTE and Associate Laboratory i4HB - Institute for Health and Bioeconomy. Laboratory of Microbiology, Faculty of Pharmacy, Porto University, Porto, Portugal
Novais, Carla, UCIBIO/REQUIMTE and Associate Laboratory i4HB - Institute for Health and Bioeconomy. Laboratory of Microbiology, Faculty of Pharmacy, Porto University, Porto, Portugal
Antunes, Patrícia, UCIBIO/REQUIMTE and Associate Laboratory i4HB - Institute for Health and Bioeconomy. Laboratory of Microbiology, Faculty of Pharmacy, Porto University, Porto, Portugal; Faculty of Nutrition and Food Sciences, Porto University, Porto, Portugal

Abstract

Copper-Cu is widely used as an inorganic trace mineral in feed (ITMF) of food-producing animals. We aim to assess if poultry farms using ITMF are reservoirs of Cu tolerant-CuT and multidrug resistant-MDR *Klebsiella pneumoniae*-Kp clones comparing with those using the alternative Cu-organic feed (OTMF). Kp (n=100) from 18 broiler flocks (9 OTMF/9 ITMF; 7-farms) were studied (2019/2020). Pooled feces-P (2 days+pre-slaughter broilers), environment (feed-F/soil-S/water-W) and meat-M samples were plated in SCAI/SCAI+colistin with/without previous enrichment. CuT (silA gene) was studied by PCR and agar dilution (MIC range: 0.25-36mM/anaerobiosis); antibiotic susceptibility by disk-diffusion/microdilution; and clonality by FTIR spectroscopy, wzi sequencing and MLST. Fisher exact test was applied. Kp were from P-n=85 (all farms/16 flocks-8 OTM+8 ITM), environment-n=11 and M-n=4 of ITMF/OTMF flocks (50% each). They showed similar antibiotics resistant rates, independently of ITMF/OTMF use, associated with a high MDR (86% vs 76%). Resistance to clinically relevant ciprofloxacin (68% vs 62%), colistin (52% vs 66%) and cefotaxime/ceftazidime (4%/10% vs 2%/10%; 2 ESBL) were found in ITMF/OTMF Kp. Similar rates (72% vs 64%) of CuT (n=68; silA; MIC>16mM) were found in Kp of ITMF/OTMF flocks. Kp were from 30 clones (12 spread in more than one farm), with KL64 (n=7/4 farms/P+S; ST147), KL106 (n=18/1 farm/P+W; ST11) and KL109 (n=23/3 farms/P+M; ST631/ST2039) as the most frequent, regardless of ITMF/OTMF. Other relevant clones were KL12 (n=4/2farms/P; ST46), KL19 (n=5/2farms/P+M; ST1/ST15), KL22 (n=4/2 farms/P+F+S+M), KL27 (n=2/1 farm/F; ST392) and KL146 (n=5/2 farms/P; ST15). A high diversity of CuT/MDR Kp clones was detected, independently of ITMF/OTMF. Further studies are needed to clarify the origin and persistence of clinically-relevant Kp and their selection drivers throughout poultry production towards food safety and sustainability.

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