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Oilseeds	Hussein Abdel-Haleem, USDA-ARS, Maricopa, AZ, USA

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President's Welcome

Welcome to the 35th Annual Conference & Meeting of the Association for the Advancement of Industrial Crops (AAIC 2024). The Association for the Advancement of Industrial Crops (<https://aaic.org/>) is an international, nonprofit educational and scientific organization established to encourage and promote the activities on industrial crops and products. Industrial crops are utilized for non-food and non-feed applications. These plants provide raw materials and products such as energy, starch, oils, fibers and rubber that are used in different industries. Within the AAIC, research include both crop-oriented and bio-based products and materials topics. The theme of this year's conference is - Constructing a Sustainable Future - The Role of Industrial Crops and Products. In 1987, with the publication of the Brundtland Report, environment and development started to be discussed as one single issue and 'sustainable development' has been defined as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs". The Sustainable Development Goals (SDGs) of the 2030 Agenda of the United Nations (UN), are an action plan in force from 2016 to 2030, comprising 17 goals balancing the economic, social, and environmental dimensions. Agriculture and rural development policies form an important contribution towards achieving the 2030 UN agenda for sustainable development and industrial crops and products can help the nations to meet the UN targets. At the Conference, internationally recognized experts will provide five invited plenary talks, 61 oral presentations - including 5 invited keynote speakers, and 38 poster presentations covering a wide range of topics linked with the AAIC Divisions (Oilseeds; Medicinal and Nutraceutical Plants; Fibers and Cellulosic Crops; Natural Rubber and Resin; General Crops and Products). The half-day Field tour on the 2nd September, and the Technical Visit to Valbopan on the 5th September will allow participants to visit industrial crops processing units in Portugal, and the closing awards banquet will provide an opportunity to honor our deserving colleagues. On behalf of the AAIC board of directors and division chairs, thank you for participating at AAIC 2024.

Ana Luisa Fernando

President of the AAIC

20 August 2024

CONFERENCE PROGRAM

SUNDAY, SEPTEMBER 1

4:00-5:30 PM	AAIC Board of Directors Meeting	Malaca Room
6:00-7:00 PM	Registration Desk Open	Foyer
7:30-9:00 PM	Welcome Reception	Tóquio Room

MONDAY, SEPTEMBER 2

PLENARY SESSION*

Moderator: Ana Luisa Fernando

Room: Pequim

8:30-9:00 AM	Registration Desk Open & Poster Set Up		Page #
9:00-9:30	Welcome and Introduction		-
9:30-10:00	J. R. Marques da Silva	Companies environmental, social, and governance scores and the impact on industrial crops development	2
10:00-10:30	Joana Marto	Nature's latest: cutting-edge compounds for cosmetics and dermatology	3
10:30-11:00	Coffee Break		
11:00-11:30	Paulina Faria	The use of bio-fibers to optimize buildings performance	4
11:30-12:00	Raúl Fanguero	Natural Fibers: advanced sustainable solutions	5
12:00-12:30	Elvira Fortunato	From forest to electronics: a sustainable perspective	6
12:30-14:00	Lunch: Restaurant		
14:00-22:00	Conference Field Tour to José Maria da Fonseca cellar with Dinner		

* Plenary sessions are open to the general public, after free-enrollment to ala@fct.unl.pt

Note: Page numbers correspond to the page the abstract is in the book of abstracts

TUESDAY SEPTEMBER 3

CONCURRENT SESSION SESSION I: OILSEEDS DIVISION Room: Pequim A

Moderator: Hussein Abdel-Haleem & Grace Chen			
9:00-9:30 AM	Keynote speaker: Roy A. Scott	Production of industrial crops at a crossroad: how are we positioned for sustainable production to meet current and future demands?	8
9:30-9:45	David Horvath	The pan-genome of <i>Camelina sativa</i> : structural variations, gene-set differences, phylogeny, and markers	9
9:45-10:00	Jinita Sthapit Kandel	Quantitative trait loci for seed size and weight in a camelina biparental population	10
10:00-10:15	Russ W. Gesch	Double cropping with early maturing winter camelina	11
10:15-10:30	Efthymia Alexopoulou	Sowing strategies for camelina in the Mediterranean region	12
10:30-11:30	Coffee Break & Poster Session [Oilseeds] & [Medicinal and Nutraceuticals] Macau Room		
Moderator: Hussein Abdel-Haleem & Russ Gesch			
11:30-11:45	Elena Pagani	Enhancing sustainable camelina cultivation through intercropping: a pathway towards climate neutrality	13
11:45-12:00	Noemi Codina-Pascual	Effect of fertilization source on yield and oil quality of three camelina varieties	14
12:00-12:15	Rossella Mastroberardino	Camelina response to salinity from germination to rosette stage: preliminary implication for Mediterranean regions	15
12:15-12:30	Federica Zanetti	Revealing the physiological and productive responses of camelina to drought stress	16
12:30-12:45	Marisol T. Berti	Do nitrogen rates affect carbon intensity in spring and winter camelina?	17
12:45-13:00	Grace Chen	Mechanisms of hydroxy fatty acid biosynthesis in lesquerella (<i>Physaria fendleri</i>)	18
13:00-14:15	Lunch and Members Business Meeting: Restaurant		

Moderator: Hussein Abdel-Haleem & Grace Chen			
14:15-14:30	Winthrop B. Phippen	Commercialization of pennycress (<i>Thlaspi arvense</i> L.) as a sustainable aviation fuel source	19
14:30-14:45	Hussein Abdel-Haleem	Genetic diversity and population structure of the USDA sesame accessions	20
14:45-15:00	Liv S. Severino	Characterization of fractions of castor meal separated by particle size	21
15:00-16:00	Coffee Break & Poster Session [Fibers and Cellulosics] Macau Room		
16:00-16:15	Efthymia Alexopoulou	Long-term screening trials for castor bean in Greece	22
16:15-16:30	Roque L. Evangelista	Physical, chemical, and thermal properties of <i>Orychophragmus violaceus</i> seeds and oil	23
16:30-16:45	Oilseeds Division Meeting - Division Chair: Hussein Abdel-Haleem		

CONCURRENT SESSION
SESSION II: MEDICINAL AND NUTRACEUTICAL
PLANTS DIVISION
Room: Pequim B

Moderator: Valcho D. Zheljazkov & Hanin Mukhlid			
9:00-9:30 AM	Keynote speaker: <i>Laura De Martino</i>	Harnessing nature's remedies for a green tomorrow; the role of medicinal and aromatic plants	25
9:30-9:45	Valcho D. Zheljazkov	Natural products for control of sprouting in potato	26
9:45-10:00	Hanin Mukhlid	The efficacy of essential oil blends as potato sprout suppressant and natural antimicrobial agents	27
10:00-10:15	Areej Alzarqaa	Essential oils to suppress potato sprouting at room temperature	28
10:15-10:30	Daniela Rosa	Phytotoxic effects of sesquiterpene lactones enriched fractions against weeds and its possible use as a bioherbicide	29
10:30-11:30	Coffee Break & Poster Session [Oilseeds] & [Medicinal and Nutraceuticals] Macau Room		
11:30-11:45	Maria L. Flores-López	Alternative technologies for the extraction of β -carotene from <i>Rhus microphylla</i> fruit	30

11:45-12:00	Maria L. Flores-López	Phytochemical composition and bioactive properties of extracts from <i>Eysenhardtia texana</i> using conventional and deep eutectic solvents	31
12:00-12:15	Tanja Z. Dodoš	Essential oil variability of natural populations of <i>Satureja subspicata</i>	32
12:15-12:30	Carolina V. Domingos	PLA-curcumin biopolymers: shining a light onto potential photodecontaminating materials	33
12:30-12:45	Diana Jasso de Rodriguez	Antifungal activity of extracts from plants of the semiarid zones against <i>Alternaria tenuissima</i> , <i>Fusarium oxysporum</i> , and <i>F. solani</i> , isolated from peach trees	34
12:45-13:00	Nirmal Joshee	Scutellaria: bioactive compounds, medicinal properties, and bioeconomy prospects	35
13:00-14:15	Lunch and Members Business Meeting: Restaurant		
14:15-14:30	Ana Sanches Silva	Exploring crops for food packaging applications	36
14:30-14:45	Srinivasa Rao Mentreddy	Production potential of three high-value medicinal herbs, turmeric, basil, and mountain mint in north Alabama	37
14:45-15:00	Medicinal and Nutraceutical Plants Division Meeting - Division Chair: Valcho D. Zheljaskov		
15:00-16:00	Coffee Break & Poster Session [Fibers and Cellulosics] Macau Room		

CONCURRENT SESSION
SESSION III: FIBERS AND CELLULOSIC CROPS
DIVISION
Room: Pequim B

Moderator: Dilpreet Bajwa & Victor Souza			
16:00-16:30	Keynote speaker: Diana P. Ferreira	The potential of multifunctional natural fibers: from macro to nano scale	39
16:30-16:45	Dilpreet S. Bajwa	Application of cellulose nanocrystals to improve thermal energy storage in salt hydrate systems	40
16:45-17:00	Urtė Stulpinaitė	The decomposition of fiber hemp residues in the soil	41
17:00-17:15	Gülşah Balamut Arslan	Utilization of coffee ground waste as furniture material	42

WEDNESDAY, SEPTEMBER 4

CONCURRENT SESSION SESSION IV: NATURAL RUBBER AND RESIN DIVISION

Room: Pequim A

Moderator: Grisel Ponciano & Manuel Carmona			
9:00-9:30 AM	Keynote speaker: Sam Wang	Deficit irrigation on guayule (<i>Parthenium argentatum</i> A. Gray) growth and rubber production	49
9:30-9:45	Guayente Latorre	Pollination tests on guayule (<i>Parthenium argentatum</i> A. Gray) with two species of diptera: <i>Sphaerophoria rueppellii</i> and <i>Lucilia sericata</i>	50
9:45-10:00	Colleen McMahan	Growth characteristics of historically significant manzanar guayule (<i>Parthenium argentatum</i> A. Gray) plants under greenhouse conditions	51
10:00-10:15	Kimberly Ogden	Climate smart guayule (<i>Parthenium argentatum</i> A. Gray)	52
10:15-10:30	Michel Dorget	Guayule (<i>Parthenium argentatum</i> A. Gray) business development	53
10:30-11:30	Coffee Break & Poster Session [Natural Rubber and Resin] & [General Crops and Products] Macau Room		
11:30-11:45	Grace Chen	Shoot regeneration capability and partial self-incompatibility of a <i>Taraxacum kok-saghyz</i> germplasm	54
11:45-12:00	Chaorong Tang	Preliminary evaluation on Russian dandelion (<i>Taraxacum kok-saghyz</i>) germplasms from XinJiang, China and efficient genetic transformation of a high-rubber germplasm	55
12:00-12:15	Kaiye Liu	Genetic dissection and identification of candidate genes for girth and rubber yield in <i>Hevea brasiliensis</i>	56
12:15-12:30	Pedro J. Garcia-Cano	Sesquiterpenes as biomarkers for guayule (<i>Parthenium argentatum</i> A. Gray) genotypes classification	57

13:00-14:15	Lunch: Restaurant		
14:15-14:30	Emilio J. González	Fractionating guayule (<i>Parthenium argentatum</i> A. Gray) essential oil: volatile characterization and antioxidant activity	58
14:30-14:45	Miguel A. de la Cruz-Morcillo	Combination of argentatin A and 5-FU exerts a synergistic effect and induce late apoptosis on the colorectal cancer cell line RKO	59
14:45-15:00	Aniela M. Silva-Nolasco	Argentatins sensitize non-small lung cancer cells (NCL-H1299) resistant to cisplatin treatment	60
15:00-15:15	Natural Rubber and Resin Division Meeting - Division Chair: Grisel Ponciano		
15:15-16:00	Break		
16:00-16:30	Coffee Break		

**CONCURRENT SESSION
SESSION V: FIBERS AND CELLULOSIC CROPS
DIVISION (CONT.)
Room: Pequim B**

Moderator: Dilpreet Bajwa & Victor Souza			
9:00-9:15	Merve Aslan Kadiz	Investigation of crop residues for acoustic panel production	43
9:15-9:30	Burton L. Johnson	Industrial hemp cultivar grain yield performance in North Dakota	44
9:30-9:45	Dilpreet S. Bajwa	Moisture characteristics of biodegradable composite hydromulches for sustainable organic horticulture	45
9:45-10:00	Efthymia Alexopoulou	Comparative yield studies between hemp and kenaf in Greece	46
10:00-10:15	Cássia H. Barbosa	From farm to packaging: incorporating <i>Cynara cardunculus</i> L. leaf extract in whey protein-based biopolymers	47
10:15-10:30	Fibers and Cellulosic Crops Division Meeting - Division Chair: Dilpreet Bajwa		
10:30-11:30	Coffee Break & Poster Session [Natural Rubber and Resin] & [General Crops and Products] Macau Room		

CONCURRENT SESSION
SESSION VI: GENERAL CROPS AND PRODUCTS
DIVISION
Room: Pequim B

Moderator: Efthymia Alexopoulou & Mariusz Stolarski			
11:30-12:00	Keynote speaker: Nicolai David Jablonowski	Investigating marginal soils for improved and sustainable crop production in a unique research field infrastructure	62
12:00-12:15	Efthymia Alexopoulou	Cultivation of energy crops on polluted lands for bioenergy production	63
12:15-12:30	Alexandro Ferreira	Evaluation of innovative cropping system in marginal hill area in north Italy	64
12:30-12:45	Efthymia Alexopoulou	Producing lignocellulosic feedstock by cultivated selected lignocellulosic crops on lignite mining areas for advanced biofuels production	65
12:45-13:00	Bruno Barbosa	Opportunities and constraints associated with the production of energy crops in contaminated soils – identification of pathways to a green economy	66
13:00-14:15	Lunch: Restaurant		
14:15-14:30	Alicia Sanchez-Gorostiaga	Promoting the sustainable cultivation of <i>Cistus ladanifer</i> L. for bioeconomic growth in demographically challenged areas	67
14:30-14:45	Mariusz Jerzy Stolarski	Production and cascading use of perennial industrial crops biomass	68
14:45-15:00	Long Li	Intercropping with pulse crops increases micronutrient acquisition and controls rust disease on maize	69
15:00-15:15	G. E. Ogden	Development of lab-scale guayule bagasse pyrolyzer	70
15:15-15:30	Magdalena Borzęcka	Digital tools in the bioeconomy	71
15:30-15:45	Mariana Abreu	How GIS tools can help to identify marginal soils for the bioenergy sector in mainland Portugal	72

15:45-16:00	General Crops and Products Division Meeting Division Chair: <i>Efthymia Alexopoulou</i>
16:00-16:30	Coffee Break

16:30-18:00	AAIC Board Meeting – Malaca Room
19:00-22:00	AAIC Awards Banquet and Members Business Meeting - Tóquio Room

THURSDAY, SEPTEMBER 5

9:00-20:00	Conference Technical Visit to Valbopan, Famalicão da Nazaré with Lunch
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POSTER SESSION

Room: Macau

OILSEEDS			p. #
1	James V. Anderson	Seed traits and mapping of associated quantitative trait loci in camelina recombinant inbred lines	74
2	DeMichael D. Winfield	Lubricant properties of <i>Orychophragmus violaceus</i> seed oil and its estolides	75
3	Mary E. Phippen	Creation of pennycress (<i>Thlaspi arvense</i> L.) calibrations for near infrared spectroscopy analysis	76
4	Laura Frederick Marek	Camelina germplasm in the United States USDA gene bank and notable accessions	77
5	Mariusz Jerzy Stolarski	Camelina seed and oil yield from selected intercropping systems in Poland	78
6	Marcelo Abias	Sustainable production of biofuels – environmental and economic prospects of cultivating crambe in contaminated soils	79
7	Federica Zanetti	Response of carinata to contrasting sowing dates	80
8	Federica Zanetti	<i>Camelina sativa</i> as winter intermediate crop preceding summer food crops	81
9	Marisol T. Berti	Salinity tolerance for seed germination and vigor in spring and winter camelina	82
MEDICINAL AND NUTRACEUTICAL PLANTS			
10	Katja Thiele	New medicinal plants and active ingredients from Saxony-Anhalt	83
11	Valtcho D. Zheljazkov	Evaluation of novel hemp selections	84
12	Arianne Schnabel	New medicinal plants and active ingredients from Saxony-Anhalt the potential of rosemary and sage	85
13	Ines G. Mollet	Dietary lignans as potential nutraceuticals against neural damage induced by high fat western diet	86
14	Ivanka Semerdjieva	Biological activities and phytochemical composition of Balkans endemic species <i>Pinus Peuce</i> Griseb. from Bulgaria	87
15	Diana Jasso de Rodriguez	Effect of semi-desert plants extracts as biostimulants in root and aerial growth of <i>Capsicum annum</i> L. and <i>C. chinensis</i> Jacq. seedlings	88

16	Dennise Anahi Carrillo-Lomeli	Extraction and characterization of polysaccharides from <i>Opuntia</i> species for application as coating solutions	89
17	Juliana Navarro-Rocha	Optimization of extraction of <i>T. mastichina</i> , <i>S. rosmarinus</i> and <i>J. communis</i> and their antifungal and antioxidant properties to the food industry	90
FIBER & CELLULOSIC CROPS			
18	Efthymia Alexopoulou	Comparison of kenaf growth and productivity in polluted versus clean field cultivations	91
19	Ana Luisa Fernando	Environmental impact assessment of low indirect land use change (ILUC) industrial crops to bioenergy, fuels and bioproducts	92
20	Carla Dias	Valorization of lignocellulosic residues as a source for lignin production	93
21	Muhammad Aqeel	Advances in microencapsulation of fertilizers: enhancing nutrient efficiency and sustainable agriculture	94
22	Lisa Mersmann	Green safety analysis	95
NATURAL RUBBER AND RESIN			
23	Katja Thiele	Maximize rubber yield by identifying optimal sowing and harvest times of rubber dandelion (<i>Taraxacum kok-saghyz</i>)	96
24	Miguel A. de la Cruz-Morcillo	Assessment of argentatins' cytotoxic activity against prostate cancer cell line (DU-145)	97
25	Iván Rodríguez	Guayulin A: new potential active ingredient in cosmetics from guayule (<i>Parthenium argentatum</i> A. Gray)	98
26	Miguel A. de la Cruz-Morcillo	Effect of argentatins on adipogenesis in inflammatory conditions	99
27	Von Mark V. Cruz	Ultrasonic treatment increases guayule (<i>Parthenium argentatum</i> A. Gray) seed germination	100
GENERAL CROPS AND PRODUCTS			
28	Maria L. Flores-López	Antioxidant and antimicrobial potential of extracts from <i>Myrtillocactus geometrizans</i>	101
29	Ana V. Charles-Rodríguez	Bioestimulant effect of plant extracts from arid areas on chili seeds	102
30	Ana V. Charles-Rodríguez	Bioactive profile of <i>Eysenhardtia texana</i> leaf extracts using deep eutectic solvents (DES): characterization and optimization	103

31	Juliana Navarro-Rocha	Selection of adapted varieties of hemp (<i>Cannabis sativa</i> L.) to grain production in Spain	104
32	Ana Paula Ramos	Characterization and pre-treatment of olive mill by-products and effluents for development of biorefinery solutions	105
33	Carolina Rodrigues	Prickly pear (<i>Opuntia spp.</i>): a versatile resource for novel food packaging solutions	106
34	Berta Cumbane	Impact of organic amendments and symbiotic microorganisms on eucalyptus growth in Aljustrel mining park	107
35	Pedro V. Mauri	Camelina and chickpea intercropping: soil improvement, weed control and moisture maintenance	108
36	João R. A. Pires	Bioequip project: new technologies for the extraction of bioactives and production of biocomposites and their associated equipment	109
37	Jorge Costa	Thermochemical conversion of crop residues in the province of Huíla, Angola. Is it possible to replace the firewood usage in every household?	110
38	Malgorzata Wydra	Development of digital tool for the support for sustainable use of industrial crops in rural areas	111

CONFERENCE VENUE

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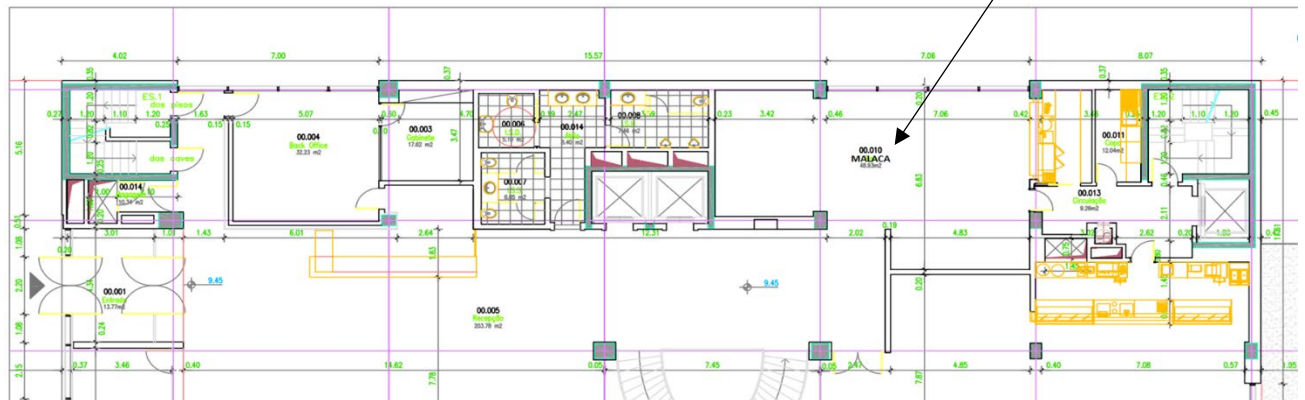
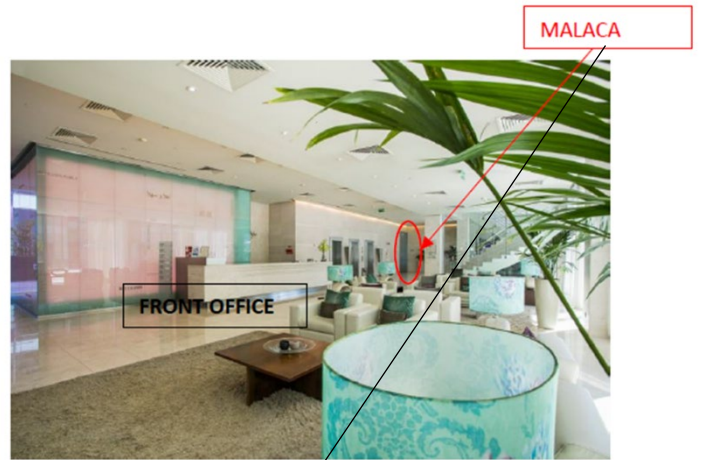
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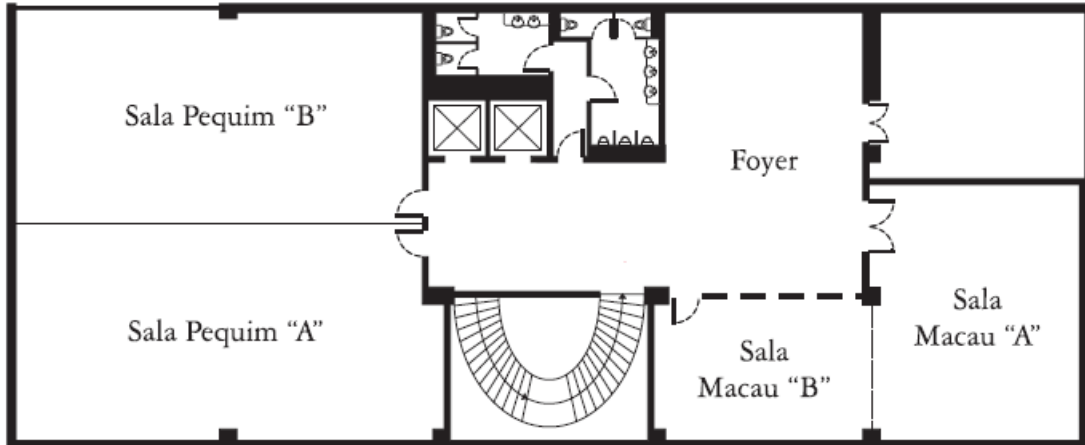
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1ST FLOOR . MALACA ROOM



0 FLOOR . PEQUIM ROOM, MACAU ROOM, FOYER



-1 FLOOR . TÓQUIO ROOM, RESTAURANT

