

Eu**CAPT**

EuCAPT **European Consortium for Astroparticle Theory**



Gianfranco Bertone, 7/12/2023

Early universe	flat ACE	ЭM	Late universe	
$\begin{array}{c} \text{CMB} \\ 67.4^{+0.5} \\ \text{BAO+lensing+BBN} \\ 67.4^{+1.1} \\ -1.2 \end{array}$	SnIA+Tip of the red giants (Freedman et al. 2020) 69.6±1.9		SnIA+Cepheids 74.0 ^{+1.4}	
 Planck (Planck Colla DES+BAO+BBN (Al 			s multiply imaged $73.3^{+1.7}_{-1.8}$	
 SH0ES (Riess et al. H0LiCOW 2019 (thi Late Universe (SH0 	2019) s work)	5.3 σ –	$73.8^{+1.1}_{-1.1}$	
68	70	72	74	
dified from Wang+ 2019	$H_0 \; [{ m kms^{-1}N}]$	$[{ m Mpc}^{-1}]$	And many o	



EuCAPT in 2023





- Launched in 2019
- Central hub at CERN
- Grown in 4 years to:
 - 133 Institutions
 - 1688 individual members
- Represented by:
 - **70** Council Members
 - 11 Steering Committee members

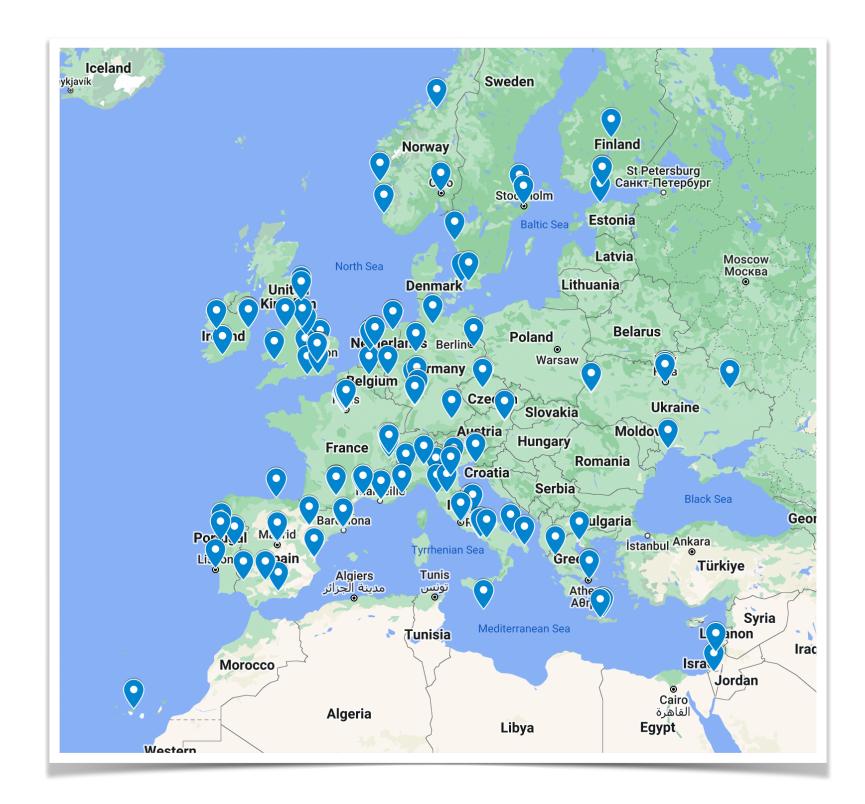


Update: 7 new Institutes, 120 members

No	DE	MPIK	Max Planck Institute for Nuclear Ph	y Saupfercheckweg 1, 69117 Heid	http://www.mpi-hd.mpg.de/	45	Manfred Lindner	lindner@mpi-hd.mpg.de	NEW
No	BG	"St. Kl. Ohridski" U. of Sofia	"St. Kl. Ohridski" University of Sofia, Faculty of Physics	5 James Bourchier Boulevard, Sofia 1164, Bulgaria (Faculty of Physics)	https://www.uni- sofia.bg/index.php/eng	7	Stoytcho Yazadjiev	yazad@phys.uni-sofia.bg	NEW
No	UK	U. of Manchester and Jodrell Bank Centre for Astrophysics and the Particle Physics Group	Department of Physics and Astronomy, University of Manchester (incl. the Jodrell Bank Centre for Astrophysics and the Particle Physics Group)	University of Manchester, Oxford Road, Manchester M13 9PL, United Kingdom	https://www.jodrellbank.manchest er.ac.uk and https://www.hep.manchester.ac.uk		Peter Millington	peter.millington@manchester.ac.uk	NEW
	cz	Institute of Physics in Opava, Silesian University	Institute of Physics in Opava, y Silesian University	Institute of Physics in Opava, Silesian University Bezručovo náměstí 1150/13, 746 01 Opava, Czech Republic	https://www.slu.cz/phys/en/				NEW
Yes	CZ	Institute of Particle and Nuclear Physics, Faculty of Mathematics and Physics, Charles University	Institute of Particle and Nuclear Physics, Faculty of Mathematics and Physics, Charles University	Institute of Particle and Nuclear Physics, Faculty of Mathematics and Physics, Charles University V Holešovičkách 2, 180 00 Prague 8, Czech Republic	https://ipnp.cz/	21	Adam Smetana	adam.smetana@cvut.cz	NEW
	cz	Institute of Experimental and Applied Physics, Czech Technical University in Prague	Institute of Experimental and Applied Physics, Czech Technical University in Prague	Institute of Experimental and Applied Physics, Czech Technical University in Prague Husova 240/5, 110 00 Prague 1, Czech Republic	http://www.utef.cvut.cz/				NEW
No	IL	Ariel University	Ariel University	Ariel University Physics Department, Ariel University, Ramat Hagolan Street, Ariel 40700, Israel	https://www.ariel.ac.il/wp/en/	23	ldo Ben-Dayan	idobd@ariel.ac.il	NEW
No	PT	CFisUC	Centre for Physics of the University of Coimbra (CFisUC)	Centre for Physics of the University of Coimbra (CFisUC) Department of Physics,	https://cfisuc.fis.uc.pt/research.php ?oid=8103799		João G. Rosa	jgrosa@uc.pt	NEW



EuCAPT Council



- First meeting 4 Oct 2022
- Second meeting 30 May 2023
- Third meeting 10 Oct 2023



António Pestana Morais Enrico Pajer Jackson Levi Said Pedro G. Ferreira Alberto Mariotti Francesca Calore Alejandro Ibarra Paul Saffin Irene Tamborra Valerie Domcke Volodymyr Pelykh Silvia Pascoli Gert Hütsi **Pedro Schwaller** Ely Kovetz Giuseppe Fannizza Jorge Martin Camalich Riotto Antonio Katy Clough Laura Sagunski Pierre Vanhove José Ignacio Illana Paolo PANCI Foteini Oikonomou Carmelo Evoli Harry Desmond David J. E. Marsh (Doddy) Laura Bernard **David Langlois** Jose Alberto Ruiz Cembranos Gabriela Barenboim **Riccardo Catena** Ivonne Zavala Alessio Notari

Alvise Raccanelli Bradley J Kavanagh Sami Nurmi Jessica Turner John Antoniadis José Manuel Carmona Masina Isabella Isabella Masina Alessandra Silvestri Marco Taoso Federico Urban Isabella Masina Walter Winter **Christoph Weniger** Isabella Masina Sébastien Renaux-Petel Philipp Mertsch Ricardo Z. Ferreira Matteo R. Fasiello Masha Chernyakova Arttu Rajantie Marina Migliaccio Ilidio Lopes Tim Linden Paolo Pani Fabio locco Davide Gerosa Emanuela Dimastrogiovanni Alain Blanchard Josef Pradler Gabrijela Zaharijas Željka Marija Bošnjak Julia Becker Tjus Stefano Liberati **Geraint Pratten**

Updates 2

- Funded **exchange program** in 2023:
 - 2 small-scale collaboration meetings at CERN
 - 3 individual visits to other EuCAPT institutions
 - Call heavily oversubscribed

1st EuCAPT BIP Erasmus+ School:

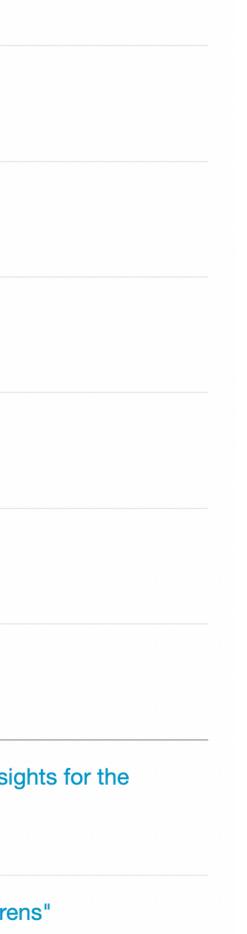
- Blended Intensive Program (in person+virtual)
- Aimed to Master and PhD Students
- Combined scientific programme with "soft skills" training
- Lecturers = world experts from different European institutions
- Worth 3 ECTS credits
- No registration fee + travel support from Erasmus



Updates 3: Virtual Colloquia

June 202	24	
	Jun 11	Antonio Riotto, "Primordial black holes"
May 202	24	
	May 14	Shinji Mukohyama, "Dark energy"
April 202	24	
	Apr 09	Sam Witte, "Axions"
March 2	024	
	Mar 12	Paolo Creminelli, "Inflation"
February	/ 2024	
	Feb 13	Antonella Castellina, "UHECR: recent results"
January	2024	
	Jan 09	Jocelyn Bell Burnell, "Women in Physics"
Decemb	oer 2023	
	Dec 12	Elisa Resconi, "First Associations of High-Energy Neutrinos and Inst Future"
Novemb	er 2023	
	Nov 14	Nicola TAMANINI, "Cosmology with gravitational-wave standard sire





Update 4: Cosmos Prize

- **2 prizes** for best pop science book awarded every year: 1 from scientists, 1 from high school students
- Very successful in Italy
 - Top scientists & communicators involved (Jim Al Khalili, Brian Greene, Sean Carroll, David Spiegelhalter)
 - Thousands of students involved
- Open to all, focus on youth from **disadvantaged backgrounds** In collaboration with Education Ministry, Publishers, Schools,
- National agencies

in France, UK, Sweden, Spain...





Already established in Italy and NL, ongoing discussions with colleagues

Update 5: Individual membership

- Goal: keep updates list of active members and their contact info
- Adapted the individual membership form to account for people moving
- •Every new member (or old member changing affiliation) must fill the form
- Council members keep update list of active members
- •April 2024: Opening of the form
- May 2024: Council approve new Institutes and checks membership





The next director

- After an election procedure that involved the community through:
 - Institutional representatives in the Council (expressed their preferences for candidates)
 - A selection committee = EuCAPT Steering Committee + APPEC GA representatives (A. Haungs)
- Name of new director submitted to the APPEC GA:



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Prof. Silvia Pascoli University of Bologna



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What's next?

- I will step down in January 2024
- Silvia Pascoli's 2.5+2.5 term will start then
- I'll let her tell you more about her vision and strategy in the next GA..



On behalf of EuCAPT, Thank You APPEC!