

# CERN's Online PT Language Advanced Teachers Programme

A programme for updating teachers that have participated in the previous CERN's Teachers Programmes

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TÉCNICO  
LISBOA

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# // The problem



## Pandemics...

- Hit hard all CERN's Teachers programmes and Teachers visits to CERN
- Hit hard all the schools, teachers and students activities w/ scientists
- 2020 got us "by surprise", and not really prepared for online alternatives
- Reaction - as programmes for teachers - came in 2021

## The challenge

- Following good examples, propose an attractive ONLINE programme
- Online => Teachers are working at the schools => avoid school hours
- International => different timezones, different school hours
- Online => network issues (in some places), attendance of participants
- How NOT to make it a "2<sup>nd</sup> hand" programme, replacing the standard CERN's Portuguese Language Teachers Programme



## An Advanced Online Programme

- **Advanced: update on the contents and level w.r.t. previous programmes**
- **ONLY for participants of previous Portuguese Language Teachers Programmes and CERN's International Teachers Programmes**
- **[more] Advanced level courses**
- **Not repeating previous sessions, but propose to build from those**
- **No [in-person] visits to CERN Laboratories (or others, for that matter)**
- **...but Virtual Visits possible!**
- **New topics less covered in previous programmes (normal)**
- **Maintain interactions between teachers, between teachers and speakers, a friendly and cooperative atmosphere**

# // The [Advanced] ONLINE Portuguese Language Teachers Programme 2021



- Duration of 34 hours spread along 3 weeks
- Strong focus on Standard Model of Particle Physics
- Other areas well covered
- Sessions for the immediate and long-term future
- Sessions for sharing experiences (post [previous] School)
- Hands-on sessions
- Practice sessions in groups (in Zoom separate rooms)
- Work to be developed by the groups (a classroom plan/activity/etc)
- Presentations of the works prepared by the heterogeneous groups
- “tight control” of presence allows for authorized certification
- Evaluation of the programme by the participants

# // Potential participants

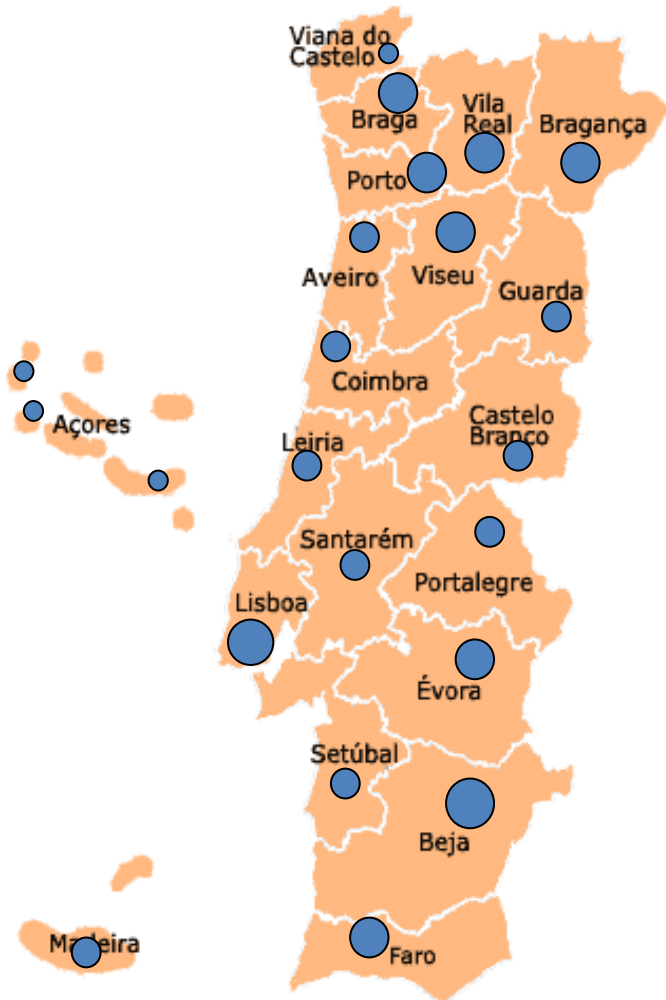
(participants in CERN's Teachers Programmes<sup>(\*)</sup>)



	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	Total
Datas	10-14/9	1-5/9	30/8-4/9	5-10/9	4-9/9	26-31/8	1-6/9	24-29/8	30/8-4/9	28/8-2/9	3/9-8/9	2/9-7/9	1/9-6/9	
Candid	205	241	191	218	190	250	162	236	187	183	170	181	222	2063
Candid (new)	205	169	78	130	98	165	57	121	96	63	40	48	77	1182
<b>Pt.</b>	<b>43</b>	<b>45</b>	<b>44</b>	<b>45</b>	<b>41</b>	<b>35</b>	<b>34</b>	<b>35</b>	<b>24</b>	<b>22</b>	<b>20</b>	<b>20</b>	<b>20</b>	<b>428</b>
<b>Br.</b>		<b>1</b>	<b>11</b>	<b>20</b>	<b>20</b>	<b>30</b>	<b>31</b>	<b>30</b>	<b>22</b>	<b>20</b>	<b>20</b>	<b>20</b>	<b>20</b>	<b>245</b>
<b>Mz.</b>			<b>5</b>	<b>4</b>	<b>4</b>	<b>4</b>		<b>2</b>	<b>2</b>	<b>1</b>				<b>22</b>
<b>STP</b>				<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>				<b>7</b>
<b>CV</b>				<b>1</b>	<b>1</b>	<b>1</b>		<b>1</b>	<b>1</b>					<b>5</b>
<b>An.</b>					<b>4</b>								<b>2</b>	<b>6</b>
<b>TL</b>					<b>1</b>	<b>3</b>	<b>3</b>		<b>2</b>					<b>9</b>
<b>GB</b>					<b>1</b>									<b>1</b>
<b>Total</b>	<b>43</b>	<b>46</b>	<b>60</b>	<b>71</b>	<b>73</b>	<b>74</b>	<b>69</b>	<b>69</b>	<b>52</b>	<b>44</b>	<b>40</b>	<b>40</b>	<b>42</b>	<b>723</b>

(\*) Only in the CERN's Portuguese Language Teachers Programmes

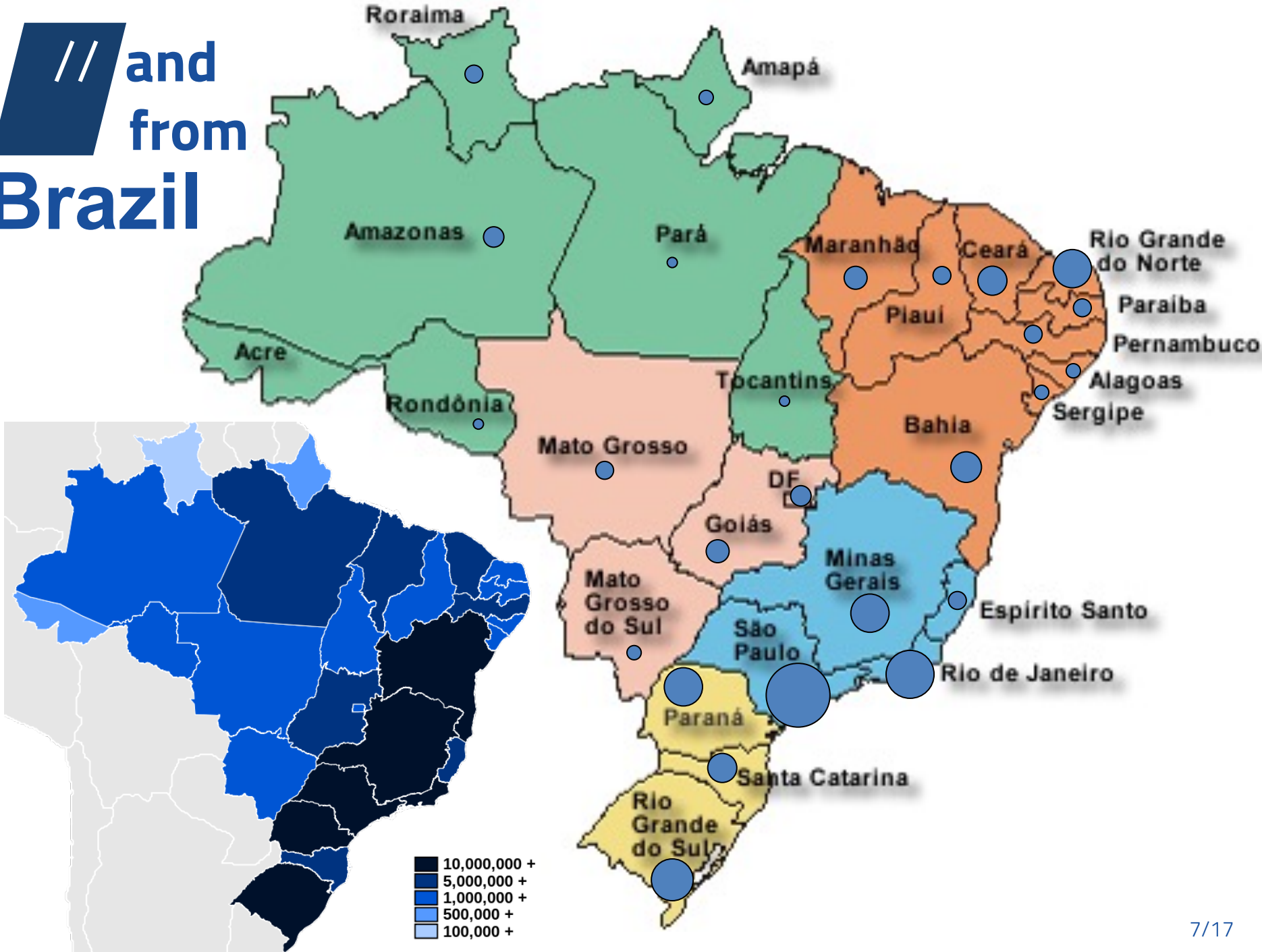
# // CERN PTLTP – Teachers from all over PT



and from PT-Speaking Countries:



# // and from Brazil



# // Participants

(limited to 20 PT+20 BR + 2 AO + 2 MZ + 1 (CV, STP, TL, GB))



- 19 PT Teachers (Portugal)
- 19 BR Teachers (Brazil)
- 2 AO Teachers (Angola)
- 1 MZ Teacher (Mozambique)
- 1 CV Teacher (Cape Verde)

**PT and BR teachers from all  
over the country(ies)**



# // All ONLINE and in Indico



<https://indico.cern.ch/e/PTLTP21Online>

- **02–20 November 2021**
- **18h00–22h00 (15h00–19h00 BRT) or 13h00–17h00 (10h00–14h00 BRT) on [alternate] weekdays**
- **13h00–17h00 (10h00–14h00 BRT) on Saturdays**
- **All [theory] sessions recorded and made available for the participants**
- **Training for Masterclasses**
  - **ALTAS-Z/W,**
  - **CMS-WZH,**
  - **Proton Therapy MC,**
  - **Auger (test)**
- **Virtual Visits to ATLAS, CMS, Sirius (the BR big lightsource laboratory)**

# // [preliminary] Feedback



- Very enriching programme
- Internet issues in some places or at some times
- Availability of participants (2/3 at least required for validation)
- Very intense and high rhythm
- Hands-on sessions very enlightening and useful
- Virtual Visits very successful, entertaining, important
- Too much work to accomplish
- ...but fruitful
- Exhaustive for the speakers/organizers
- Repetition period to be defined  
(not yearly, but maybe every other year)
- Globally a wonderful experience (for everyone involved)



*Planting  
a future*

# Thanks!

(this is a big thanks!)

to all the people collaborating in all these activities!  
...and for your attention!

## Any questions?

You can find me at [abreu@lip.pt](mailto:abreu@lip.pt)

