# La deutsche vita A German in Rome

Otto Eberhardt

#### Manchester Dublino Polonia Birmingham Londra Lussemburgo Cechia Parigi Slovacch Mc Co di B era . Bratislava\_\_/ Francia agabria Bosnia ed Erzegovina Italia Andorra Roma Porto Madrid Mar Tirreno Portogallo. Spagna Lisbona o Siviglia Tunisi Gibilterra Google

# My way to KSETA

1985 born in Munich

#### **2010 Diplom in Regensburg**

Thesis: Can a 4th fermion family exist?

$$\begin{split} \mathcal{L}_{\mathsf{SM4}} &= -\frac{1}{4} F_{a}^{\mu\nu} F_{\mu\nu}^{a} + (D_{\mu} \Phi)^{\dagger} (D^{\mu} \Phi) - V(\Phi) \\ &+ \sum_{n=1}^{\mathbf{4}} \left[ \bar{\psi}_{n}^{L} i \not D_{L} \psi_{n}^{L} + \bar{\psi}_{n}^{R} i \not D_{R} \psi_{n}^{R} - \sum_{m=1}^{\mathbf{4}} \left( Y_{mn} \bar{\psi}_{m}^{L} \Phi \psi_{n}^{R} + \text{h.c.} \right) \right] \end{split}$$

#### Amburgo Manchester Dublino Berlino Birmingham Amsterdam Paesi Bassi Londra Germania Bruxelles Belgio Praga Lussemburgo Cechia Slovacci McCood di Borera Vienna ∘ Bratislava\_ **Budapest** Austria Ungl vizzera Slovenia Zagabria Croazia Bosnia ed Erzegovina Monaco Italia Barcellona Porto Madrid Mar Tirreno Portogallo. Spagna Lisbona Siviglia **Tunisi Gibilterra** Google

## My time at KIT

#### 2011-2013 PhD student at KIT

Thesis: There is no 4th fermion family.

Can a 2nd Higgs family exist?

$$\mathcal{L}_{\mathsf{SM4}} = -\frac{1}{4} F_{a}^{\mu\nu} F_{\mu\nu}^{a} + (D_{\mu} \Phi)^{\dagger} (D^{\mu} \Phi) - V(\Phi)$$

$$+ \sum_{n=1}^{4} \left[ \bar{\psi}_{n}^{L} i \not \!\!{D}_{L} \psi_{n}^{L} + \psi_{n}^{R} i \not \!\!{D}_{R} \psi_{n}^{R} - \sum_{m=1}^{4} \left( Y_{mn} \bar{\psi}_{m}^{L} \Phi \psi_{n}^{R} + \text{h.c.} \right) \right]$$

$$\begin{split} \mathcal{L}_{\text{2HDM4}} &= -\frac{1}{4} F_{a}^{\mu\nu} F_{\mu\nu}^{a} + (D_{\mu} \Phi_{i})^{\dagger} (D^{\mu} \Phi_{i}) - V(\Phi_{1}, \Phi_{2}) \\ &+ \sum_{n=1}^{3} \left[ \bar{\psi}_{n}^{L} i \not \!\!\!D_{L} \psi_{n}^{L} + \bar{\psi}_{n}^{R} i \not \!\!\!D_{R} \psi_{n}^{R} - \sum_{m=1}^{3} \left( Y_{mn} \bar{\psi}_{m}^{L} \Phi \psi_{n}^{R} + \text{h.c.} \right) \right] \end{split}$$

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### Postdocs after KSETA

#### 2013-2016 INFN Rome «La Sapienza»

SM + 
$$(1,2)_{\frac{1}{2}}$$
 + custodial  $Z_2$ 

**HEPfit** 

#### 2016-2018 IFIC Valencia

SM + 
$$(1,2)_{\frac{1}{2}}$$

SM + 
$$(1,3)_1$$
 +  $(1,3)_0$   
+ custodial symmetry

SM + 
$$(8,2)_{\frac{1}{2}}$$

#### Amburgo Manchester **Berlino** Birmingham Amsterdam Paesi Bassi Londra Germania Bruxelles Belgio Praga Lussemburgo Cechia Parigi Slovacci Mc di B era Vienna Bratislava\_ Austria Svizzera Francia Slovenia <sup>l</sup> ∘Zagabria-Croazia Bosnia ed **Erzegovina** Roma Porto Portogallo. Spagna Lisbona Siviglia **Tunisi** Gibilterra

### Private sector

2019-2020 Data science consultant in Rome

2020-now Data scientist at Enel in Rome
Battery models
Project optimization

#### Some facts about Enel:

- the largest European utility
- more than 65000 employees
- present in 30 countries
- 70 million customers
- one of the largest renewable energy producers
   (>55 GW ≅ 55 nuclear power plants)

Ask me if you have questions about how to become a data scientist or about life in the most beautiful city in the world!

