

La deutsche vita A German in Rome

Otto Eberhardt

My way to KSETA

1985 born in Munich

2010 Diplom in Regensburg

Thesis: Can a 4th fermion family exist?

$$\mathcal{L}_{SM4} = -\frac{1}{4}F_a^{\mu\nu}F_{\mu\nu}^a + (D_\mu\Phi)^\dagger(D^\mu\Phi) - V(\Phi) + \sum_{n=1}^4 \left[\bar{\psi}_n^L i \not{D}_L \psi_n^L + \bar{\psi}_n^R i \not{D}_R \psi_n^R - \sum_{m=1}^4 \left(Y_{mn} \bar{\psi}_m^L \Phi \psi_n^R + \text{h.c.} \right) \right]$$

My time at KIT

2011-2013 PhD student at KIT

Thesis: There is no 4th fermion family.
Can a 2nd Higgs family exist?

$$\mathcal{L}_{\text{SM}4} = -\frac{1}{4}F_a^{\mu\nu}F_{\mu\nu}^a + (D_\mu\Phi)^\dagger(D^\mu\Phi) - V(\Phi) + \sum_{n=1}^4 \left[\bar{\psi}_n^L i \not{D}_L \psi_n^L + \bar{\psi}_n^R i \not{D}_R \psi_n^R - \sum_{m=1}^4 \left(Y_{mn} \bar{\psi}_m^L \Phi \psi_n^R + \text{h.c.} \right) \right]$$

$$\mathcal{L}_{\text{2HDM}4} = -\frac{1}{4}F_a^{\mu\nu}F_{\mu\nu}^a + (D_\mu\Phi_i)^\dagger(D^\mu\Phi_i) - V(\Phi_1, \Phi_2) + \sum_{n=1}^3 \left[\bar{\psi}_n^L i \not{D}_L \psi_n^L + \bar{\psi}_n^R i \not{D}_R \psi_n^R - \sum_{m=1}^3 \left(Y_{mn} \bar{\psi}_m^L \Phi \psi_n^R + \text{h.c.} \right) \right]$$

Postdocs after KSETA

2013-2016 INFN Rome «La Sapienza»

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

HEPfit

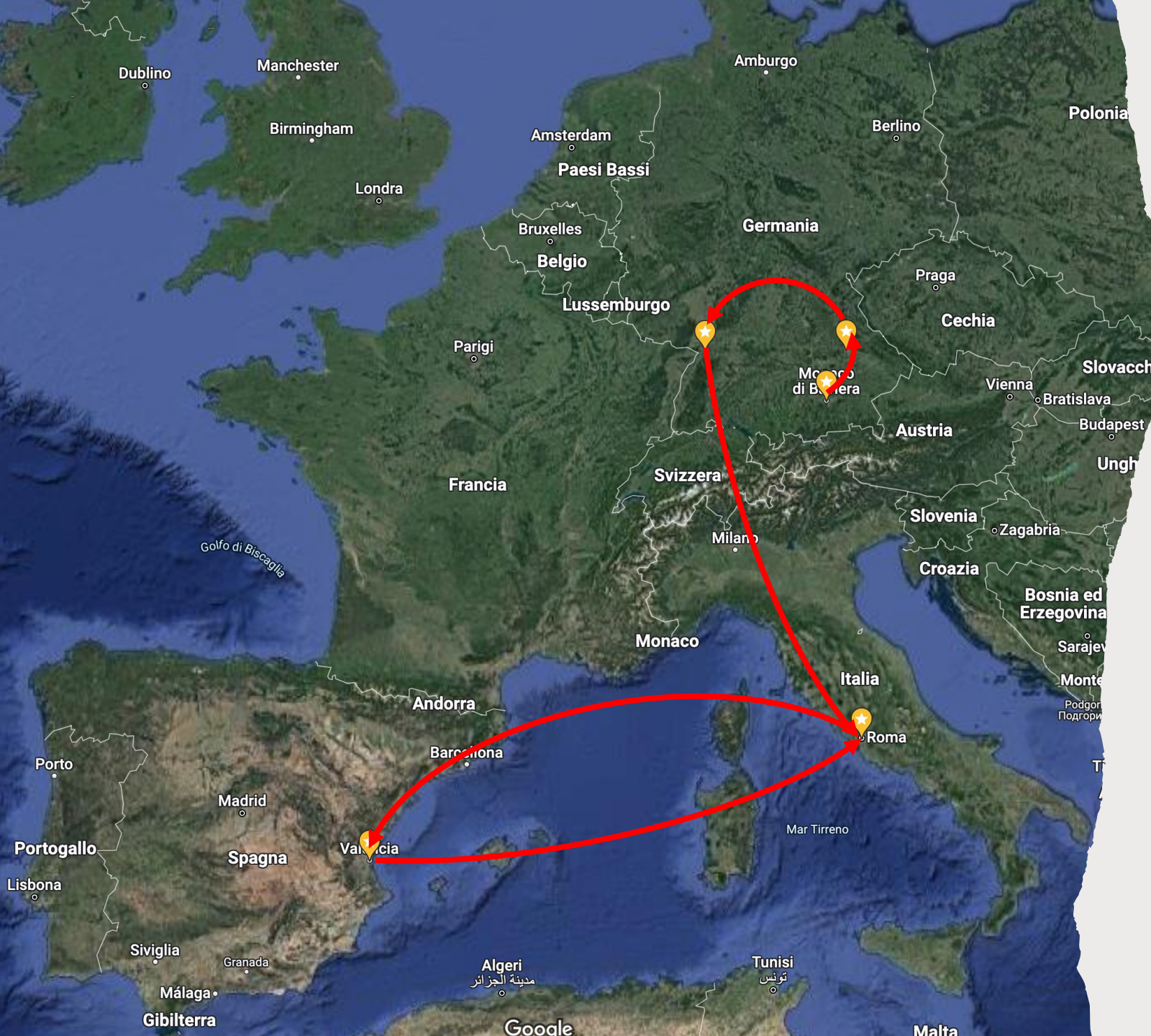
2016-2018 IFIC Valencia

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

$$\text{SM} + (1,3)_1 + (1,3)_0 \\ + \text{custodial symmetry}$$

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





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
($>55 \text{ GW} \cong 55$ 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!

