

# Alberto Martini

 Something about myself

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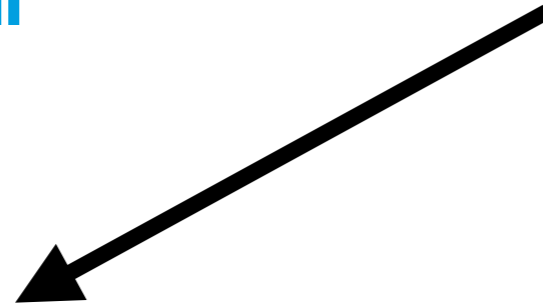
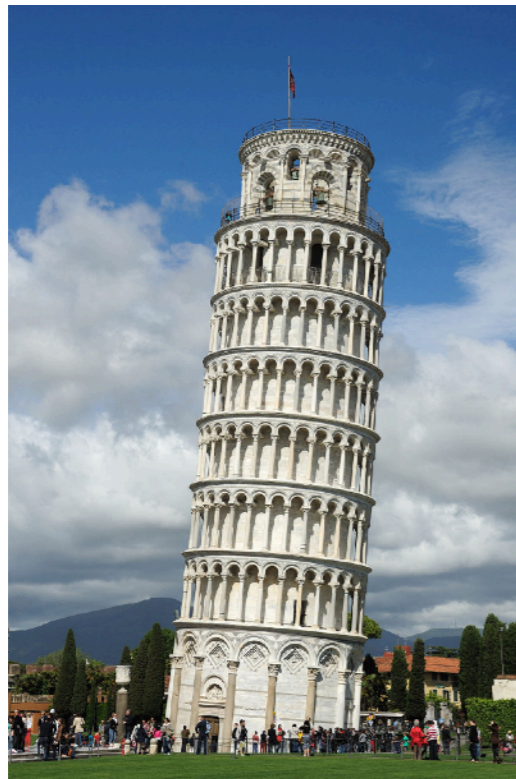
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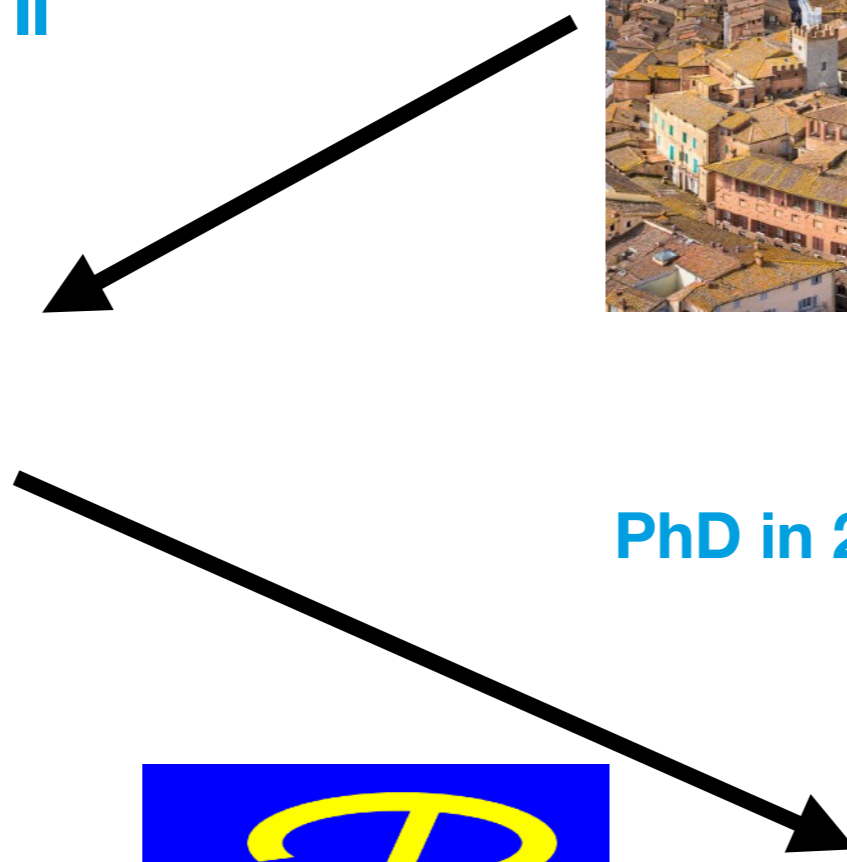
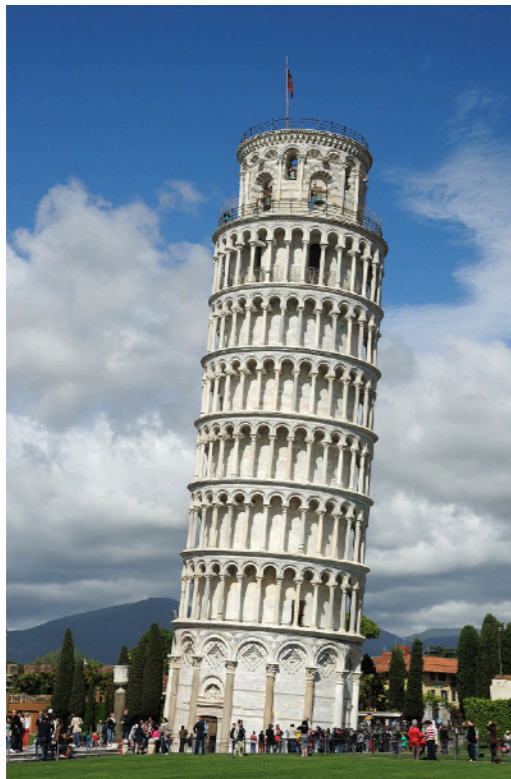
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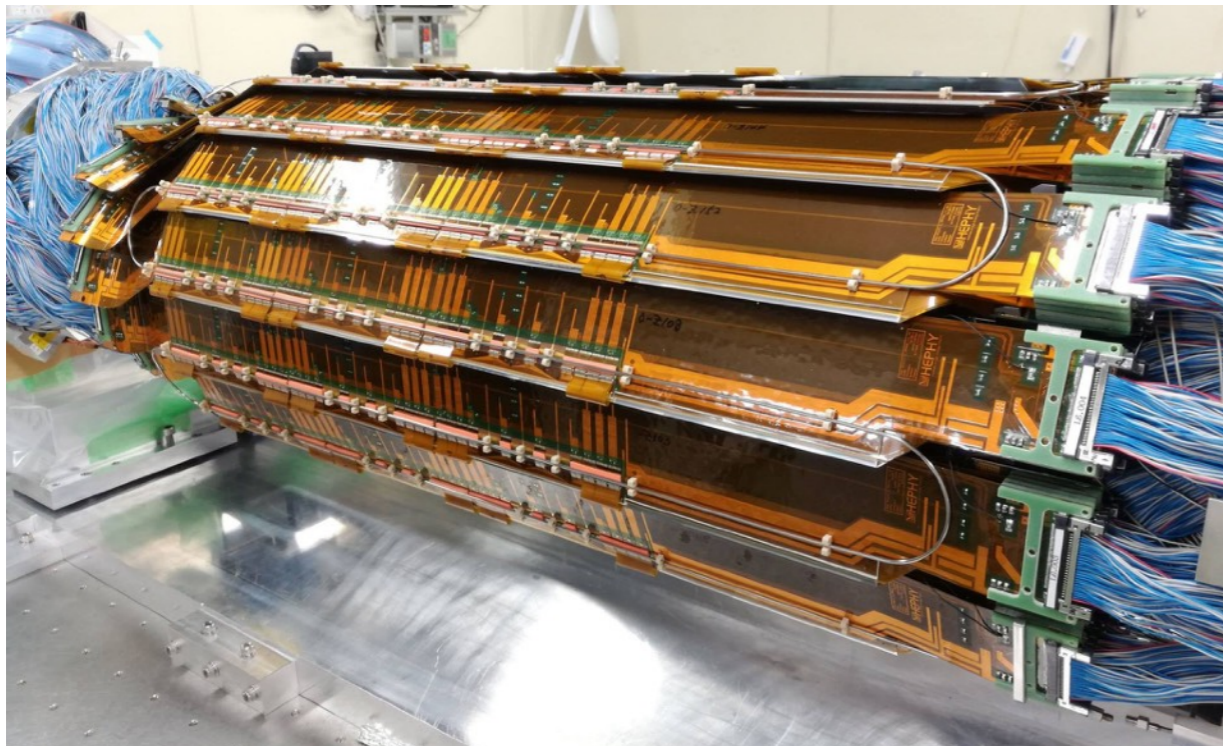
**PhD in 2021:** Università degli Studi **Roma Tre**

Work: **Belle II**

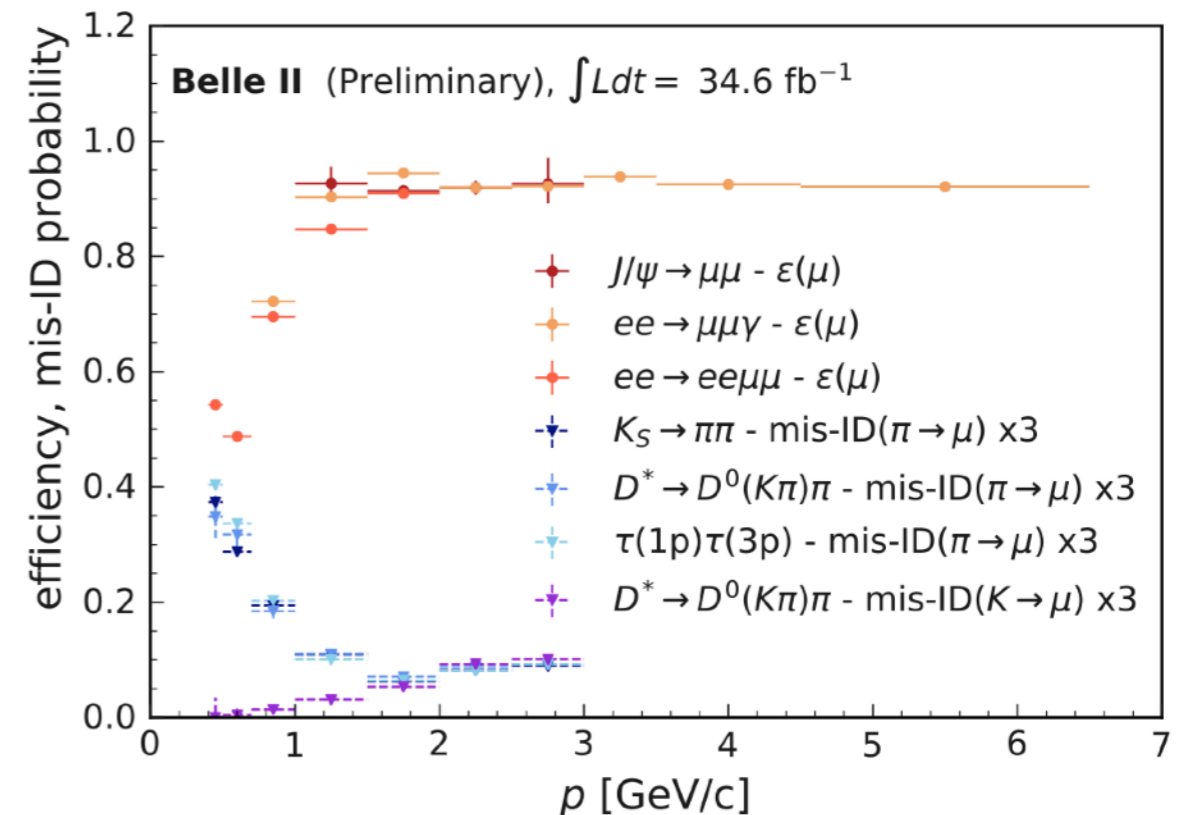


# Some more details

- First electron optimisation using T2 tracker (TOTEM) + CASTOR calorimeter (CMS)
- First sensitivity study @Belle II of TDCPV on  $B^0 \rightarrow K_S^0 \pi^0 \gamma$  (Belle II Ph.Book)
- Mounting, characterisation, test, shipment and simulation of Belle II Silicon Vertex detector
- Software development + performances studies of the  $\mu$  identification @Belle II
- First Belle II physics publication on  $Z'$  invisibly decaying:  $e^+e^- \rightarrow \mu^+\mu^-(e^\pm\mu^\mp)Z'$
- Analysis search of the LFV  $\tau \rightarrow 3\mu$  decay @Belle II:  $e^+e^- \rightarrow \tau[\rightarrow 3\mu] \tau[\rightarrow 1prong]$

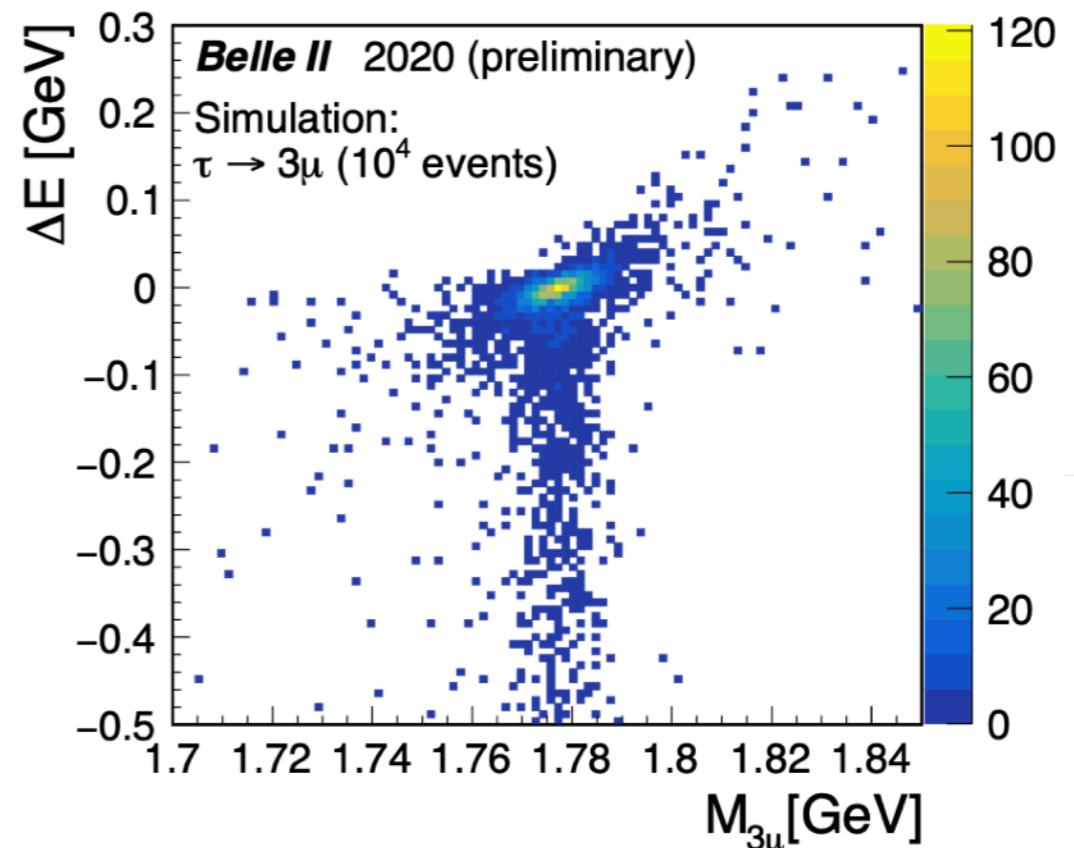
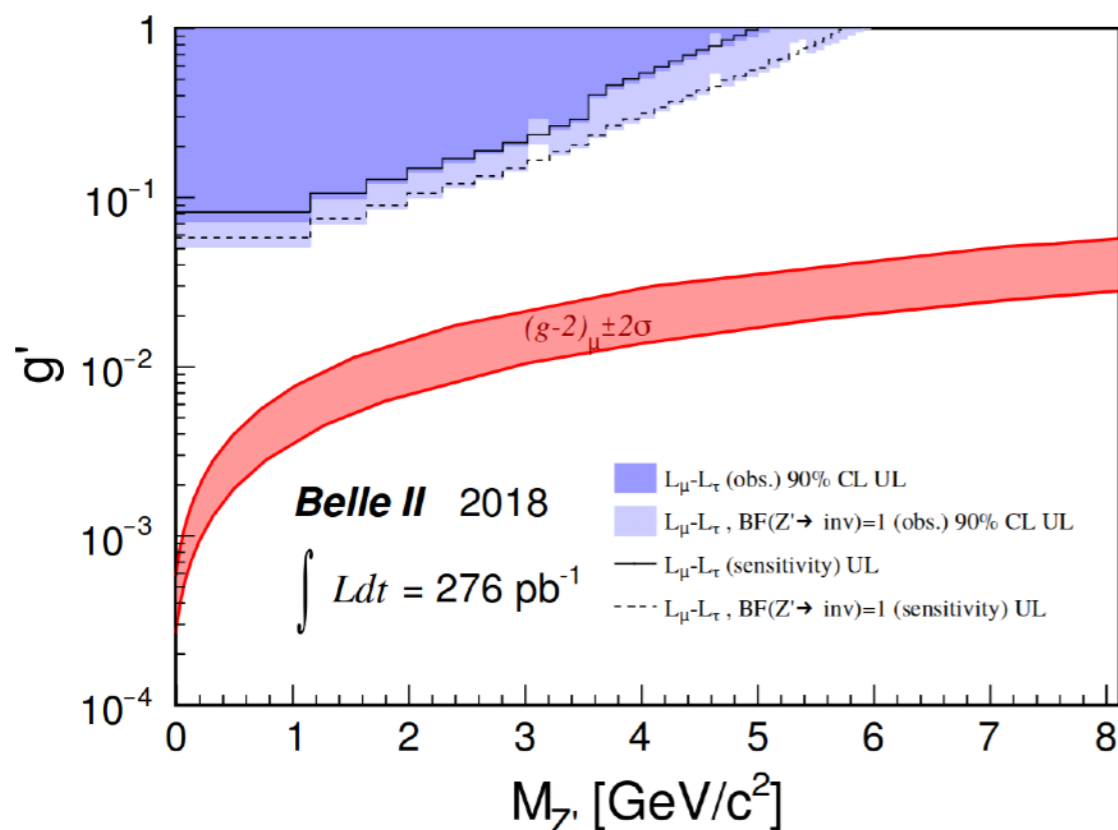


$0.82 \leq \theta < 1.16$  rad,  $\text{muonID} > 0.9$



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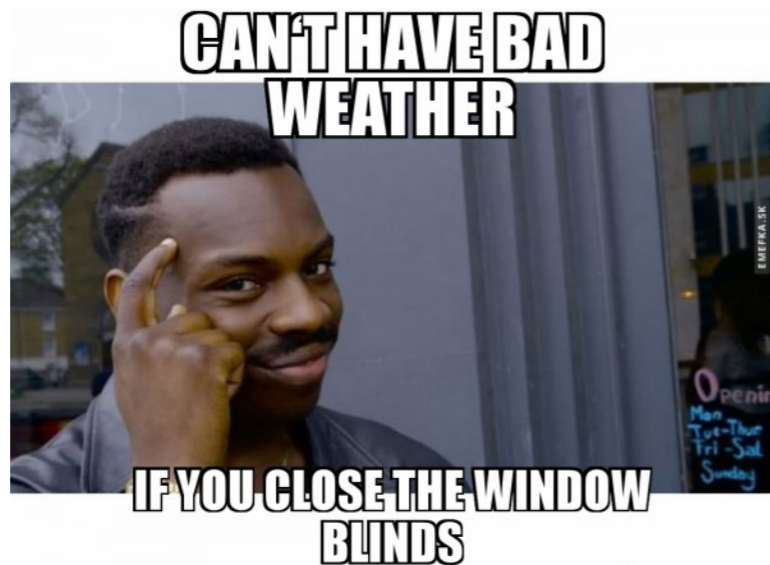
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# What about today?



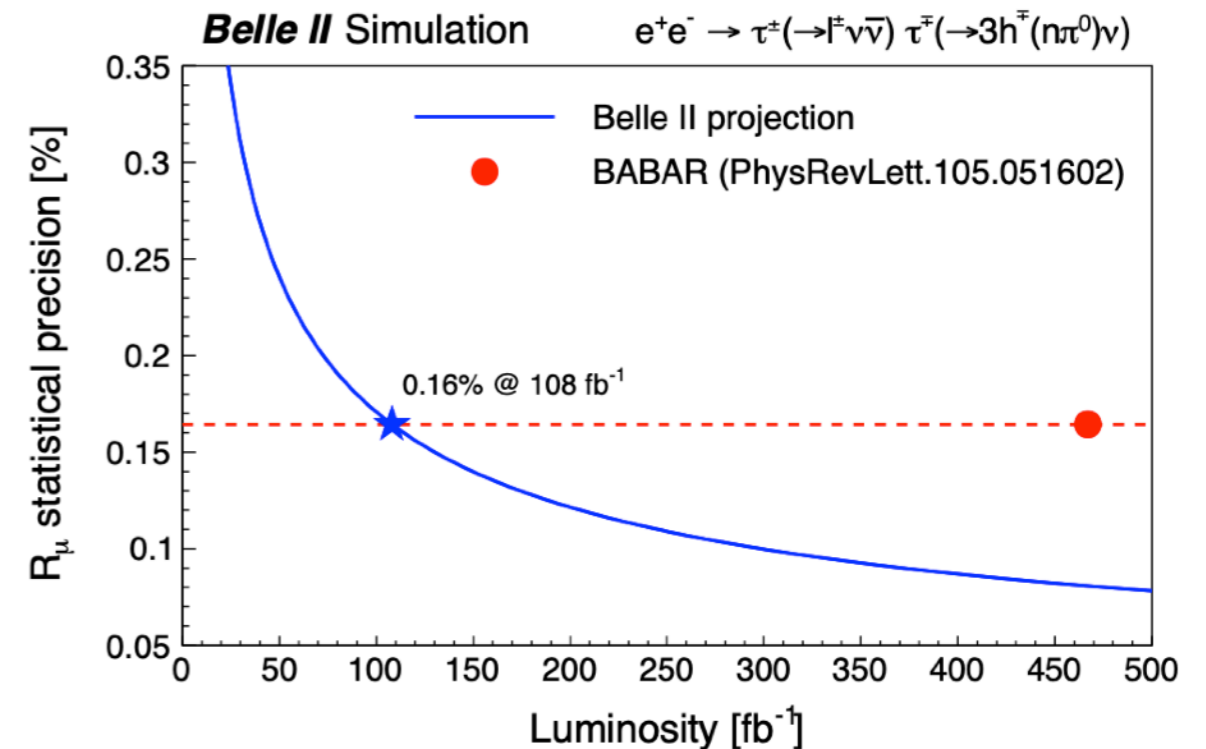
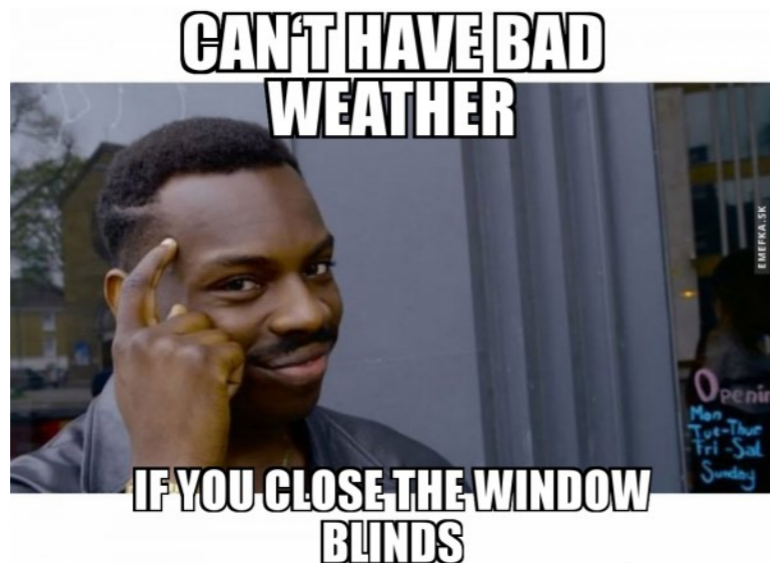
I arrived in the “sunny” Hamburg in April 2021 → fellow of the Belle II experiment



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- **$\tau$  physics:**

- $\tau \rightarrow 3\mu/e + \text{LFUV}$  measure of  $R_\mu = \frac{BF[\tau^- \rightarrow \mu^- \bar{\nu}_\mu \nu_\tau]}{BF[\tau^- \rightarrow e^- \bar{\nu}_e \nu_\tau]}$

decays + CP violation in  $\tau \rightarrow K_S^0 \pi \nu$

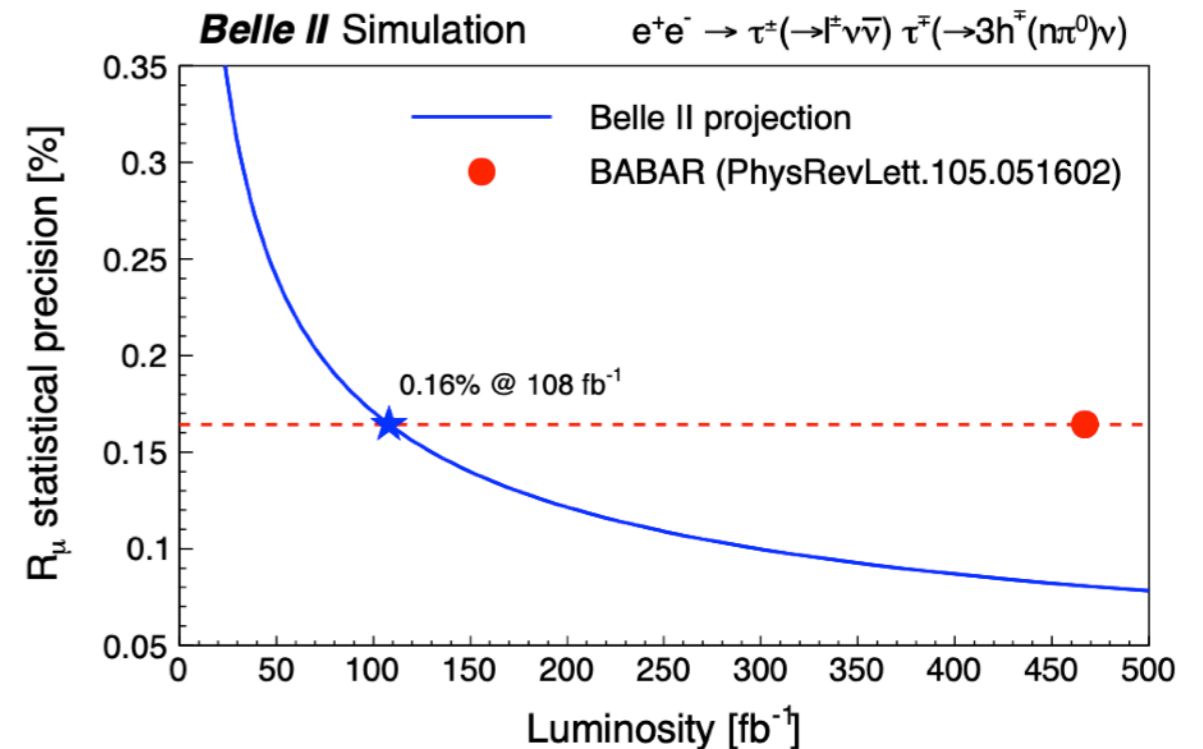
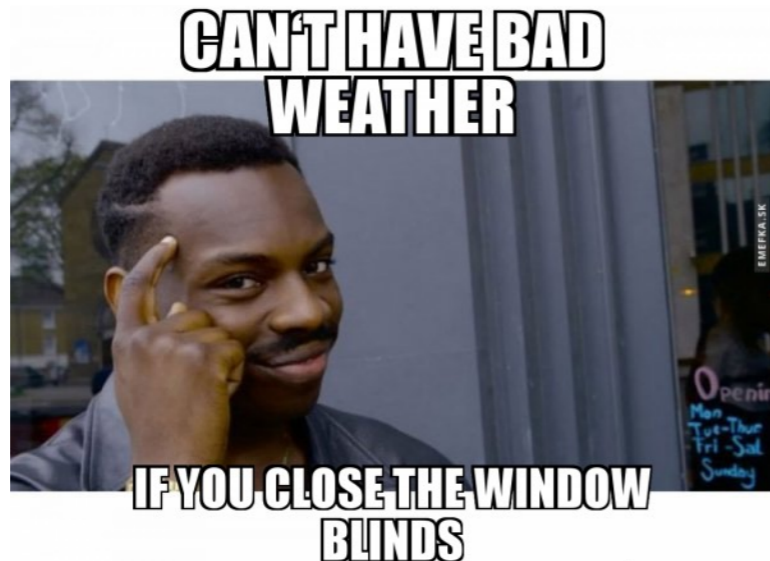
- Serving as **MC manager** → taking care of producing MC for the collaboration.. sometimes it is really tough!



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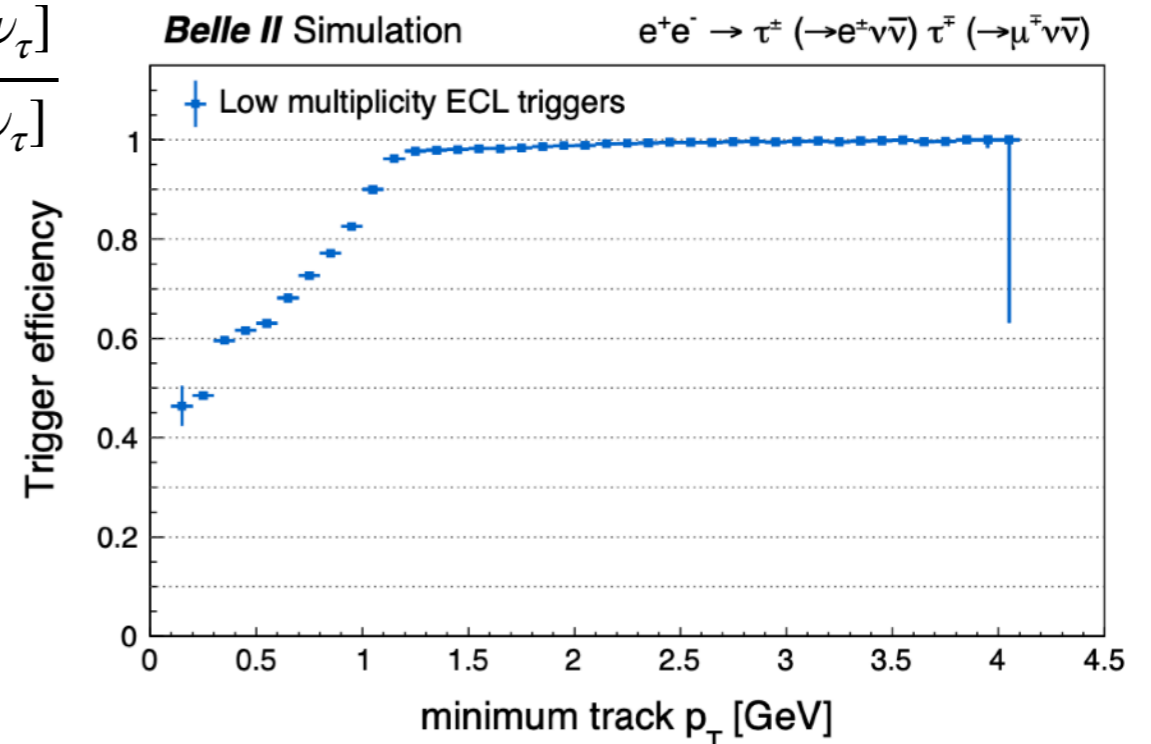


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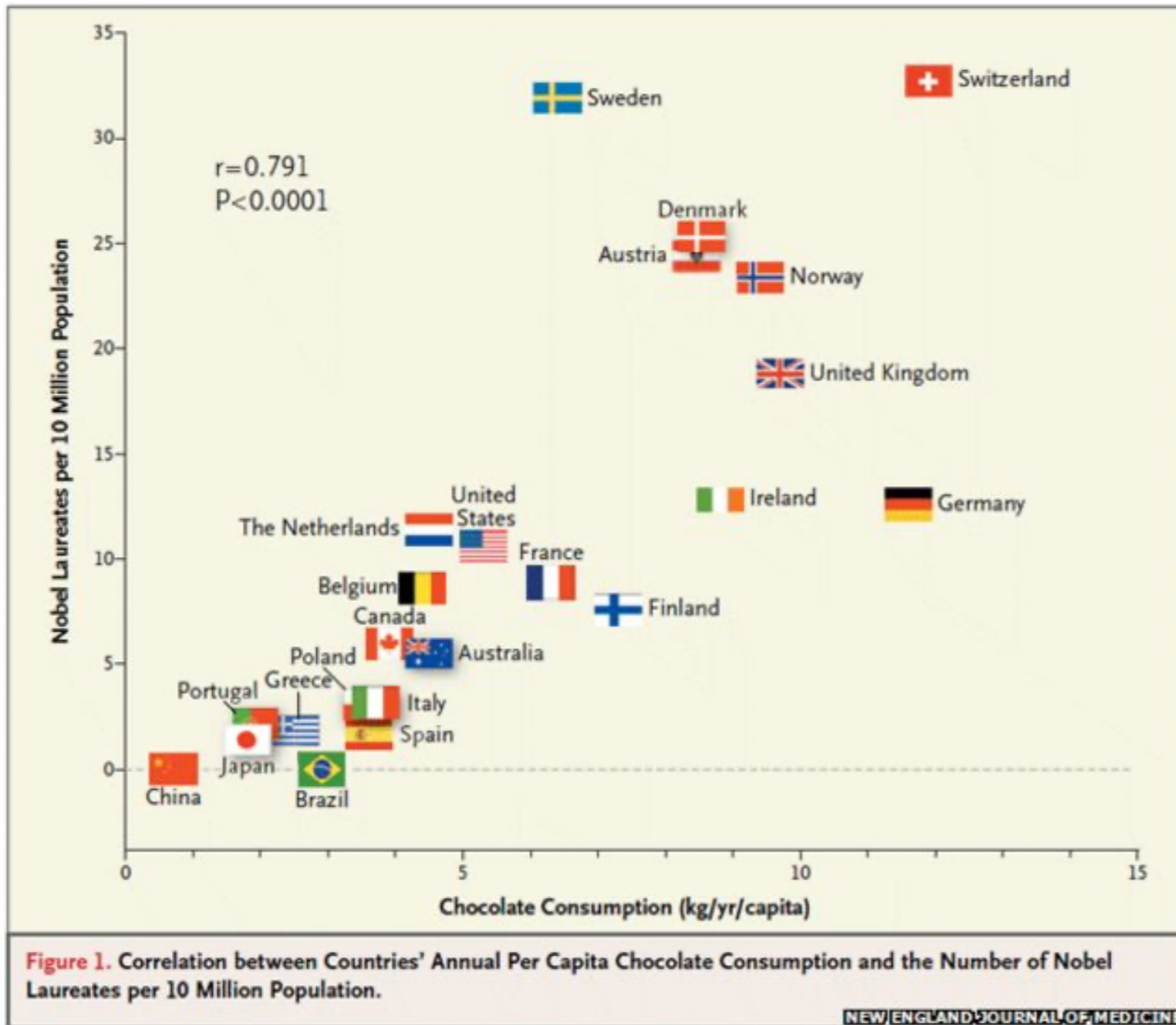
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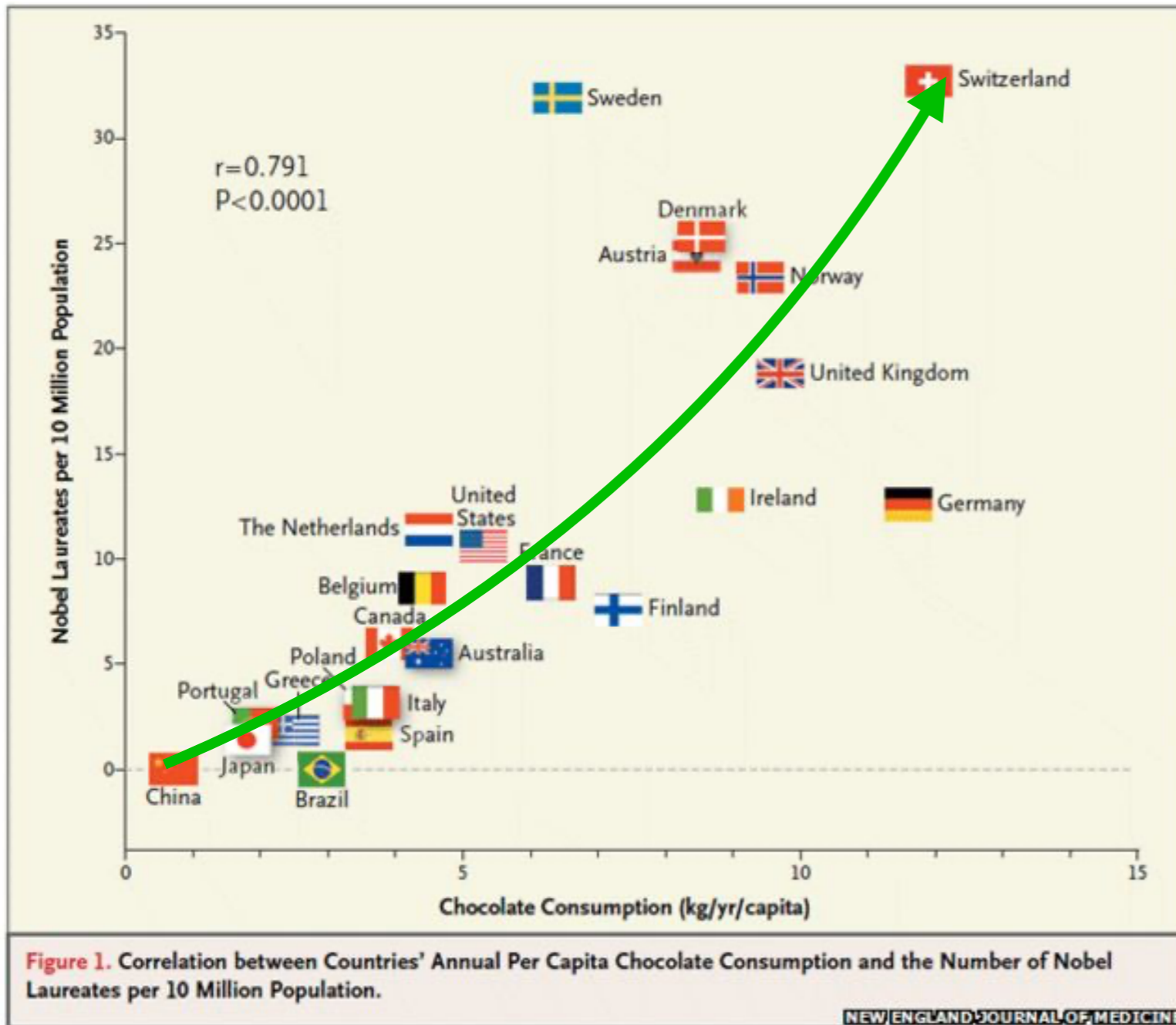
- **Trigger and PID** performances + development



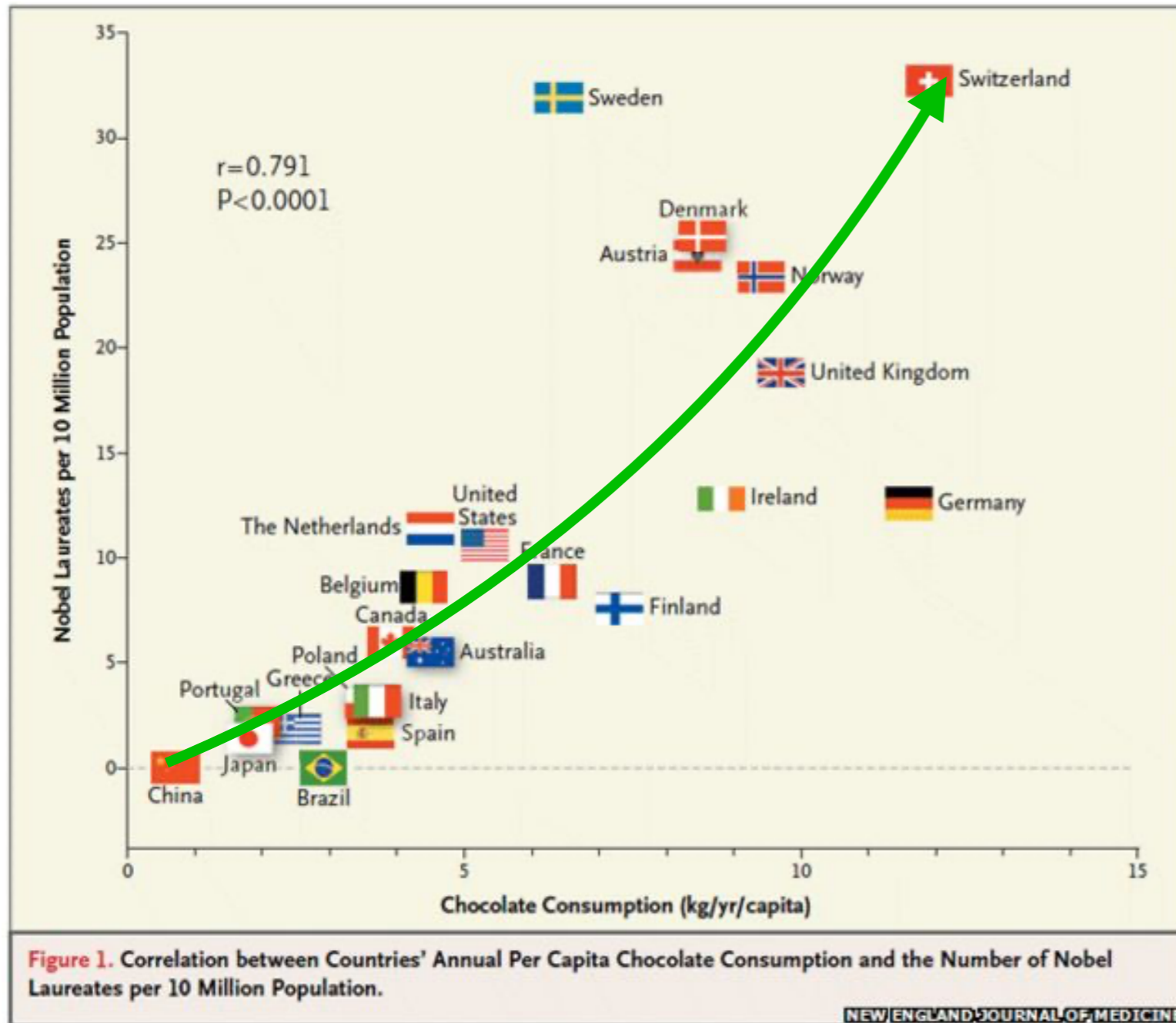
# My favourite plot



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# My favourite plot



I wish you all a lot of  
chocolate

