

Beyond the Flavour Anomalies

1.-3.4.2020

IPPP, Durham University, UK

Topics:

- ◇ Global fits for $b \rightarrow sll$ anomalies
- ◇ Experimental challenges for future measurements
- ◇ Connections to R_D, R_{D^*}, \dots
- ◇ Connections to $b \rightarrow dll$
- ◇ Connections to $b \rightarrow s\nu\nu, b \rightarrow s\tau\tau$
- ◇ Connections to $g - 2, B$ -mixing, CPV,...
- ◇ Connections to high- q^2 physics
- ◇ BSM models to explain anomalies
- ◇ Hadronic corrections

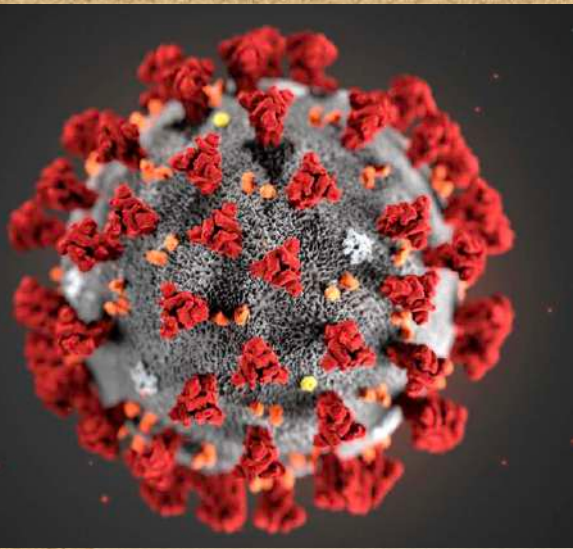
Local Organising Committee:

- Maria Laura Piscopo
- Christos Vlahos
- Alexander Lenz

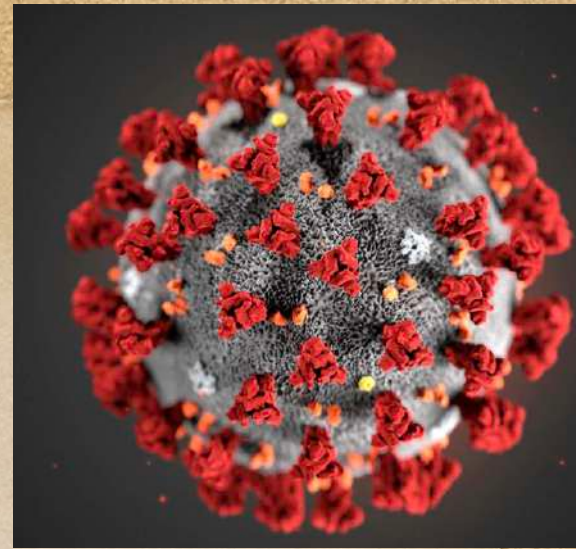
Organising Committee:

- Martin Bauer (IPPP)
- Alexander Lenz (IPPP)
- Michael McCann (Imperial)
- Mitesh Patel (Imperial)
- Kostas Petridis (Bristol)
- Michael Spannowsky (IPPP)





Thanks to all of you for agreeing
to make this event happen
despite these problematic times



We strongly hope all of you/your families/friends are fine

Nevertheless/Because of that we will try to keep up the
good mood, keep things going and make the best out of
the current situation.

In Durham things are still ok

For me the most troublesome development so far was

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So I was immediately
checking my former
PhD student
Matthew Kirk who is
now post-doc in Rome

And I got this reply

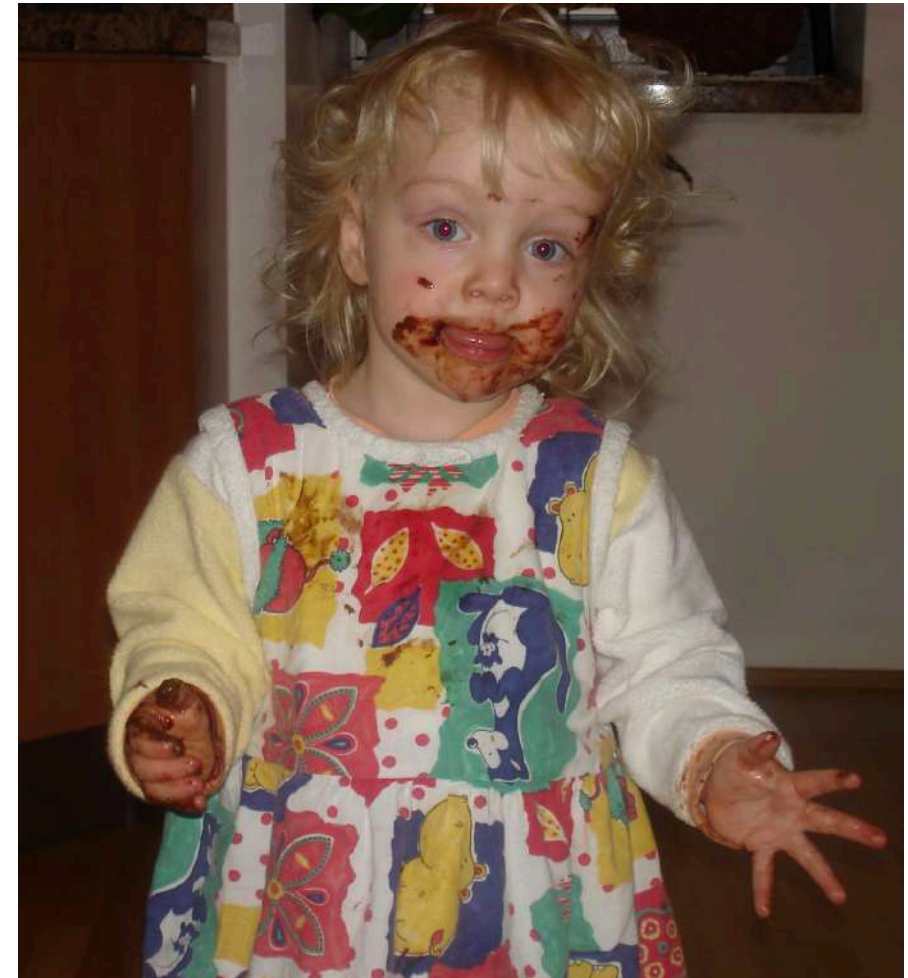
Relief from Rome



May your supermarkets look like that!

The virtual Durham Anomaly workshop

- Please try to commit as much time as possible for the workshop in the next days



- Please contribute to the discussions, think about questions,..., virtual raising of hands
- Please try to switch on the video - as long as the bandwidth is ok

Unfortunately you will miss



Unfortunately you will miss

- Cathedral and Castle since 1986 UNESCO World Heritage
- 1093 work began at Cathedral / 1072 at Castle
- St. Cuthbert - The venerable Bede



Unfortunately you will miss

Victoria Inn



Unfortunately you will miss



**Pirate Cave at Marsden Bay
South of South Shields
roughly 45min by coach**



Virtual Pub

Today: after last talk till 18:30

Tomorrow: After last talk till 18:30

- Sit relaxed with your favourite drink in front of the computer
- Discuss with your colleagues:
 - Physics
 - How will the world change after Corona?
 - Less conferences?
 - Why are sum rules better than lattice? :-)
 - My Barcelona poll about the most interesting future CPV observables

14 Replies from: Andrzej Buras, Sebastian Jäger, Yuval Grosman, Uli Nierste, Marco Ciuchini, Jure Zupan, Gudrun Hiller, Thorsten Feldmann, Zoltan Ligeti, Thomas Mannel, Danny van Dyk, Svjetlana Fajfer, Gino Isidori, Luca Silvestrini

- Mixing induced CPV in charm ||||| ||
- $B \rightarrow K^{(*)} \mu \mu$ and friends: ||||
- Gamma below 1% ||||
- $A_{CP}(D_0 \rightarrow K+K^-), A_{CP}(D_0 \rightarrow \pi+\pi^-)$ ||||
- Sort out penguin pollution for beta, beta_s ||
- $B \rightarrow 3$ bodies ||
- $\epsilon'/\epsilon \rightarrow$ relation to charm due to $SU(2)_L$ ||
- $A_{CP}(D_0 \rightarrow K_S K_S), A_{CP}(D_0 \rightarrow K^* K_S)$ ||
- A_{CP} in rare charm decays $D \rightarrow \pi(\pi) \mu \mu \dots$ ||
- $b \rightarrow c \bar{c} s \rightarrow$ non-leptonic (lifetimes)
- A_{CP} in $c \rightarrow u \gamma$, $\Lambda_{cb} \rightarrow p \gamma$
- S_f in $b \rightarrow s q \bar{q}$ transitions
- A_{SL}

