

# Future of collider searches for Dark Matter at the LPC workshop

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FNAL - July27, 2017



# Welcome

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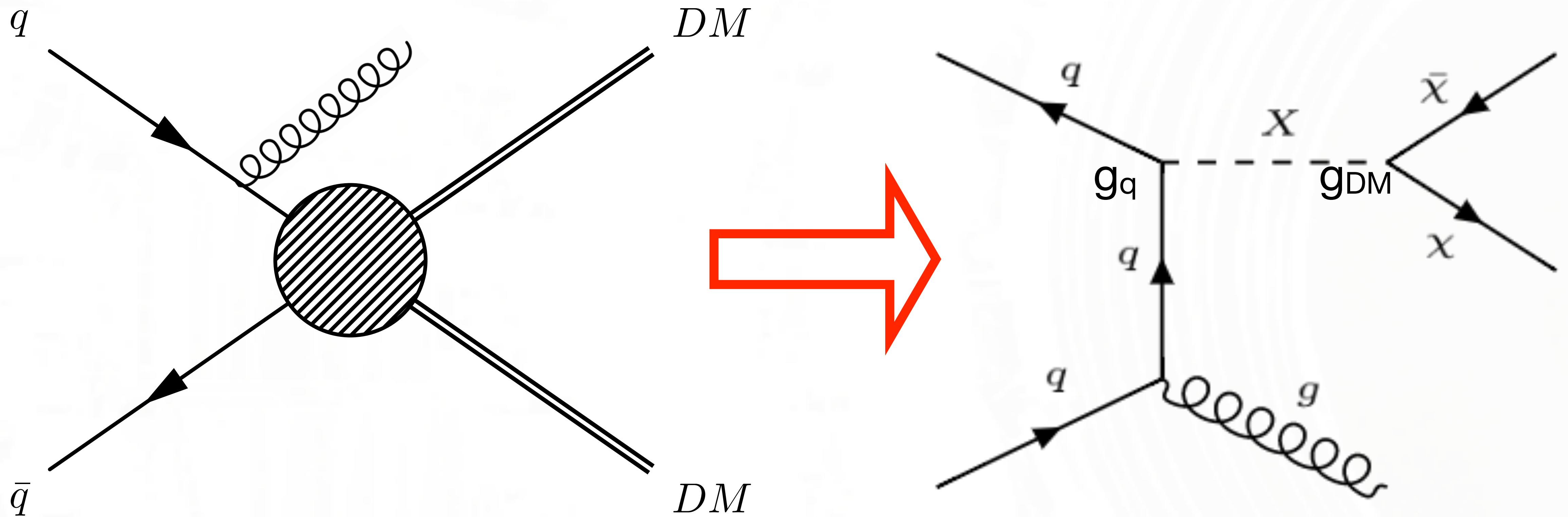
- Welcome to the “Future of collider searches for Dark Matter at the LPC” workshop
- The workshop is organized topically, aiming to make it a brainstorming workshop with a lot of discussion
- Agenda: <https://indico.cern.ch/event/632708/>

# Logistics

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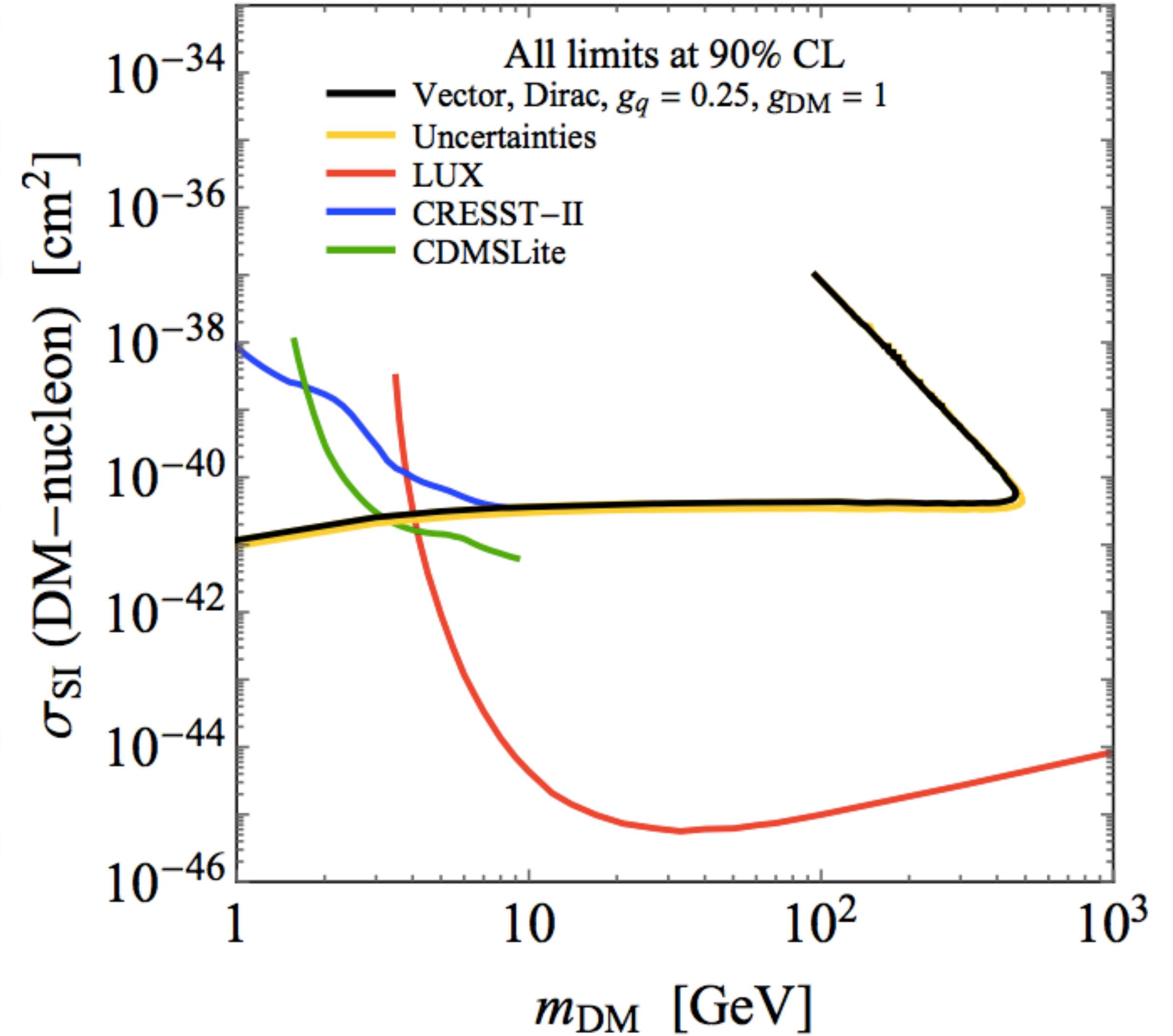
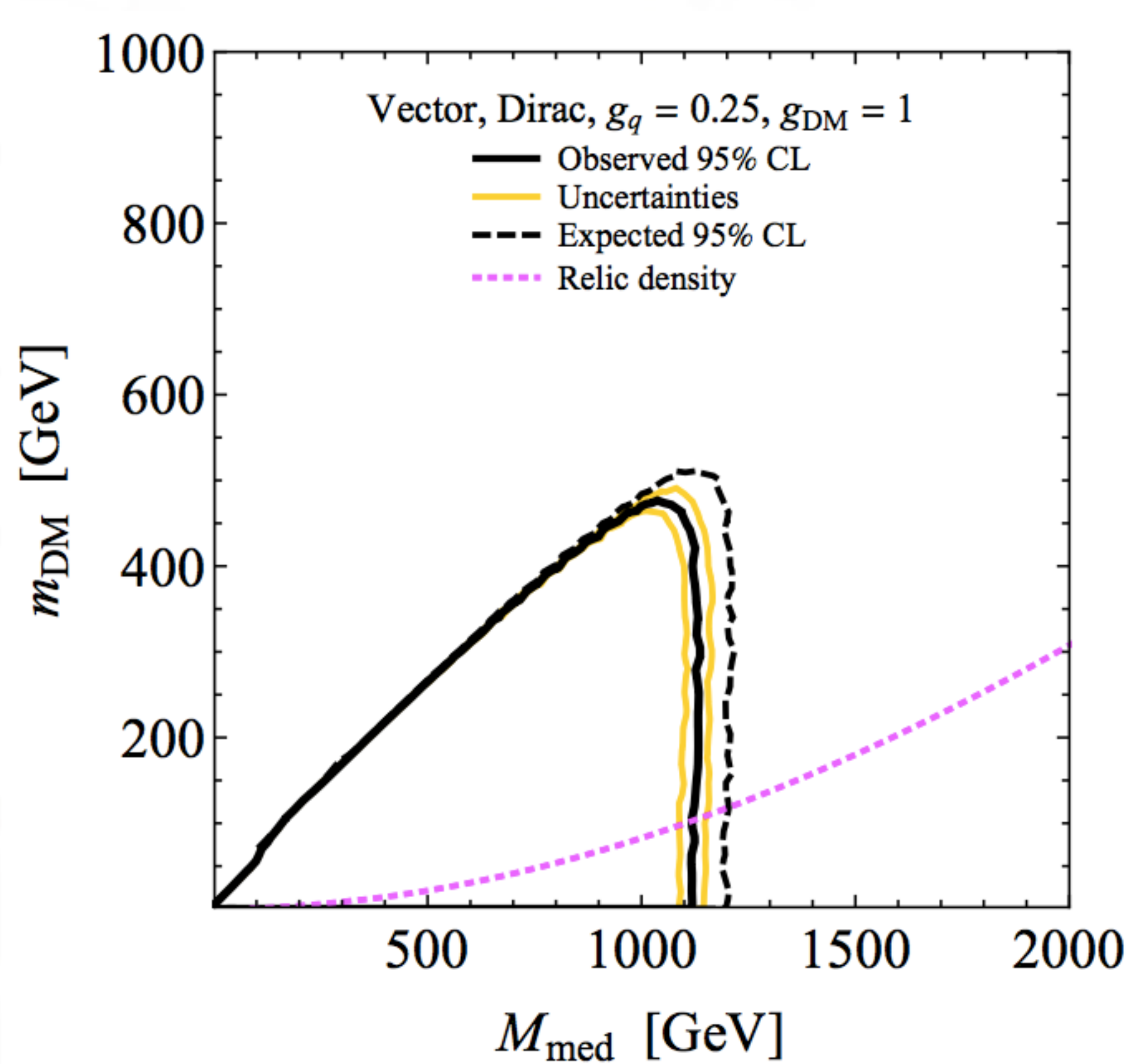
- Registration: **11th floor crossover** of Wilson Hall by 2pm
- Group photo: outside Wilson Hall at 10.30am
- Talks and coffee breaks (10.30am/3pm) in **Hornets' Nest, Wilson Hall 8th floor**
- Lunch available at the Fermilab Cafeteria, **Wilson Hall 1st floor**
  - Maps: <https://indico.cern.ch/event/632708/attachments/1497896/2331644/maps-dm-workshop.pdf>
- Dinner tonight at 6pm to take place at **Two Brothers Roundhouse, Aurora**
  - doodle: <http://doodle.com/poll/tayspiu3z23ebrun#table>

# From EFT to Simplified Models



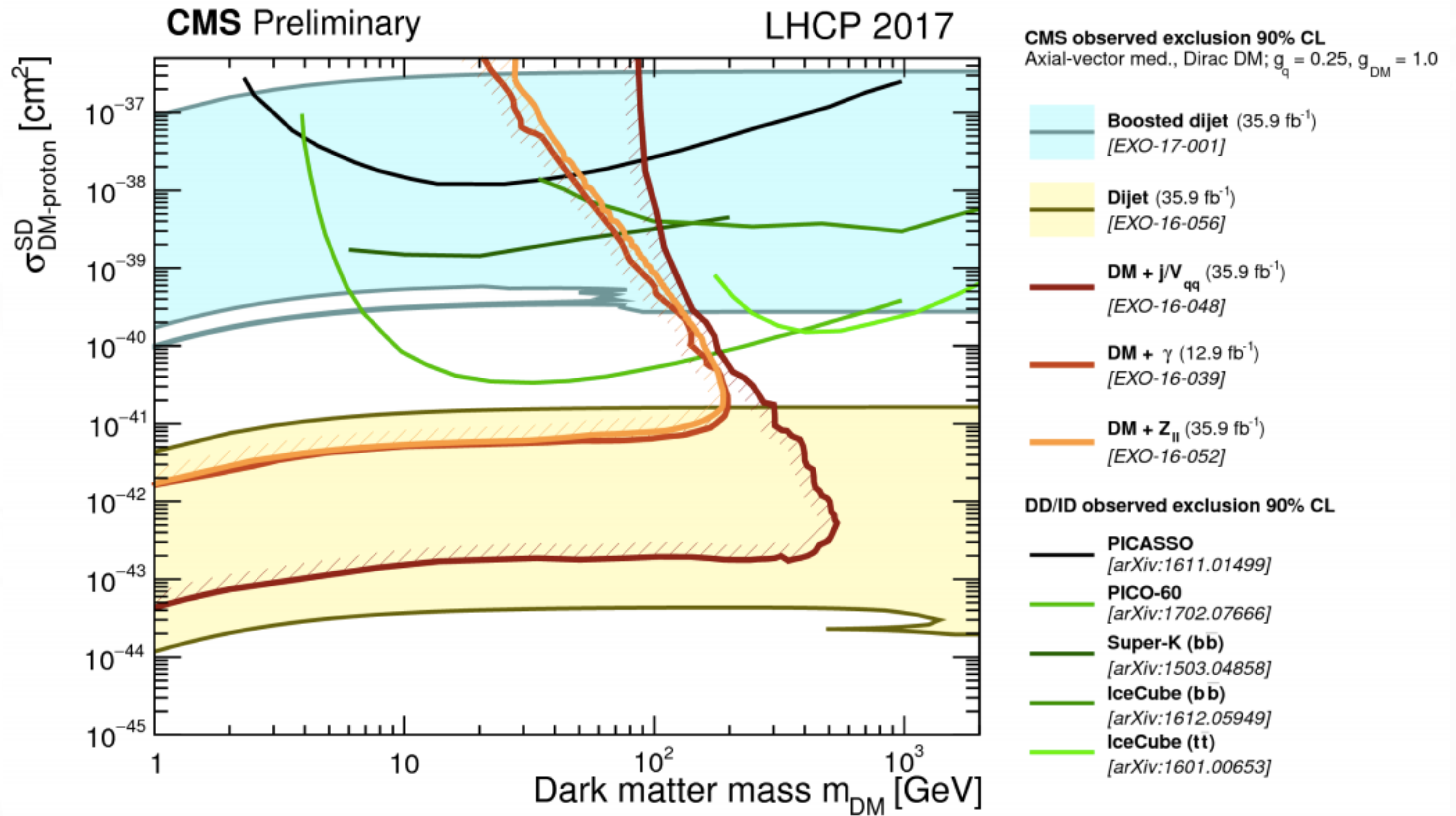
**LHC DM Forum**, arxiv:1507.00966v1

# From EFT to Simplified Models



LHC DM WG, arxiv:1603.04156





# Workshop goals

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- Identify **new directions** for dark matter searches at colliders
  - New models, new signatures => new analyses
  - Necessary developments on analysis techniques, detector upgrade
  - Discovery potential at HL-LHC/FCC

# Workshop goals

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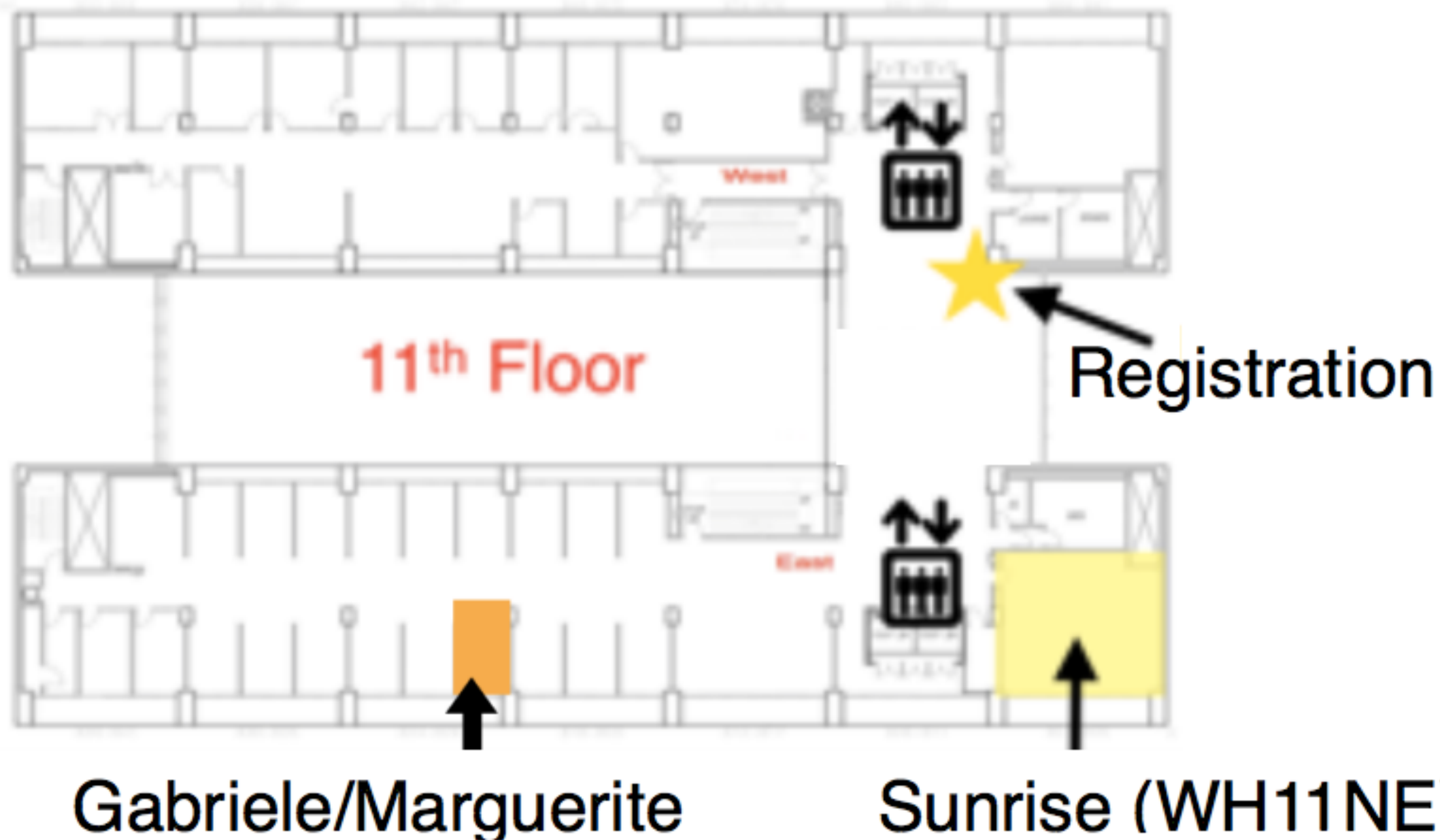
- Topics and speakers were chosen to stimulate the discussion
  - Focus on what we can do in the next future and in the long term
- We plan to have a **short write-up** to summarize the conclusions of the workshop, to be posted on the arXiv
- comments are welcome during entire workshop
- we hope to add lasting value to the field



- We would like to thank everyone for making the effort to attend in person, thank to all the speakers for their availability in contributing
- A special thanks goes to the program committee, and the local organizers for all the help with logistics
- We want to thank the LPC for all the support provided in hosting the event

# Backup

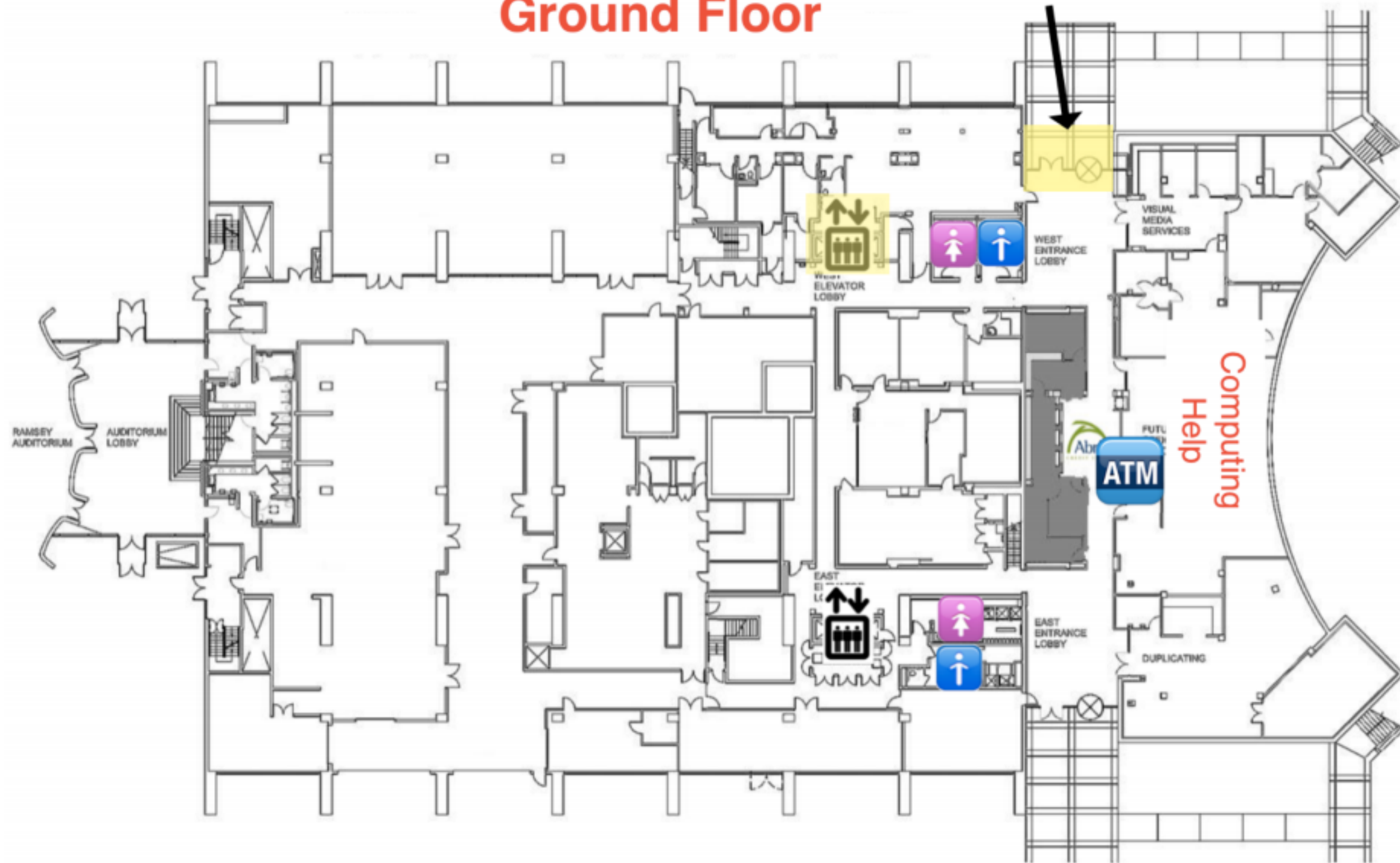
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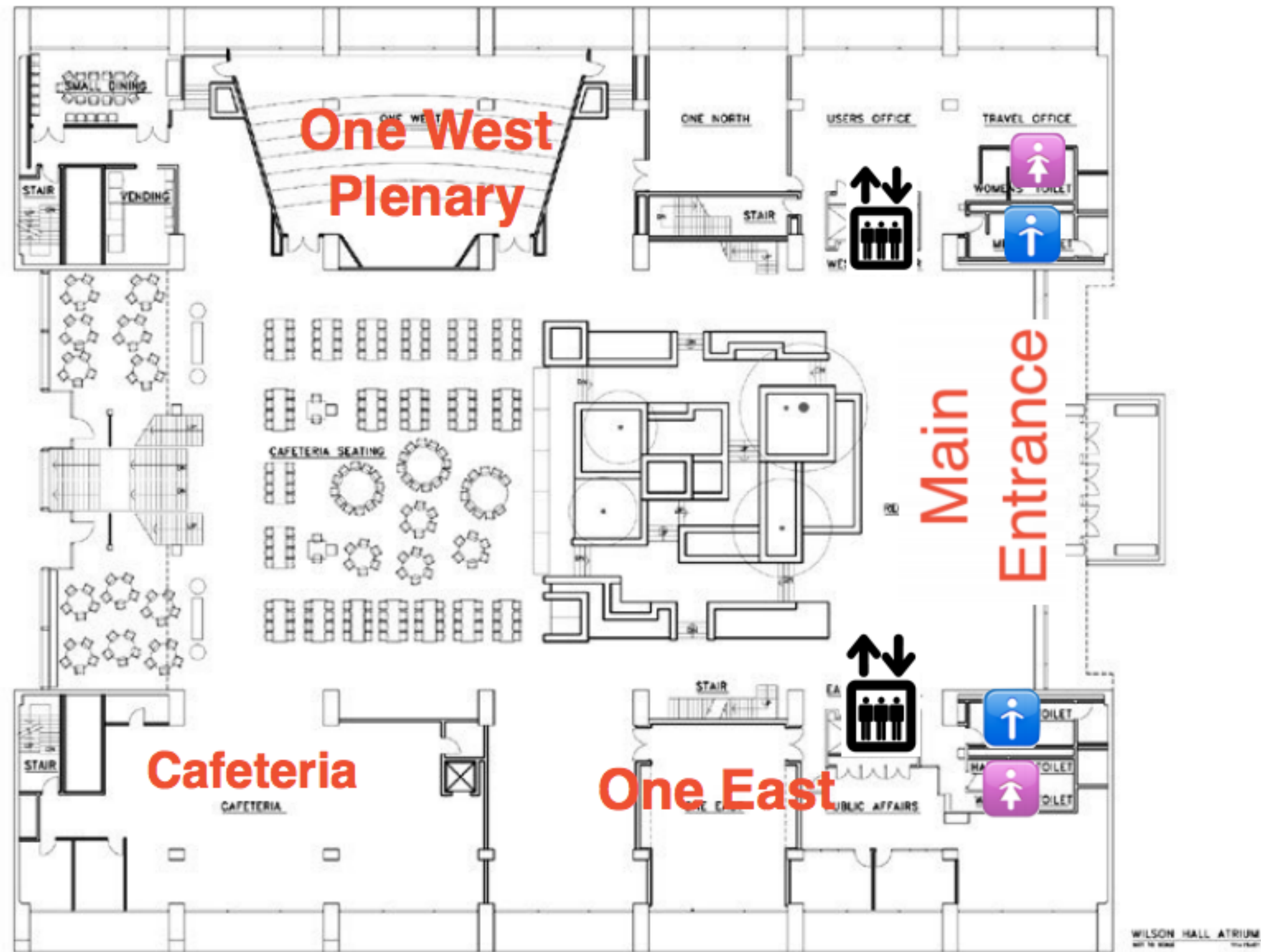


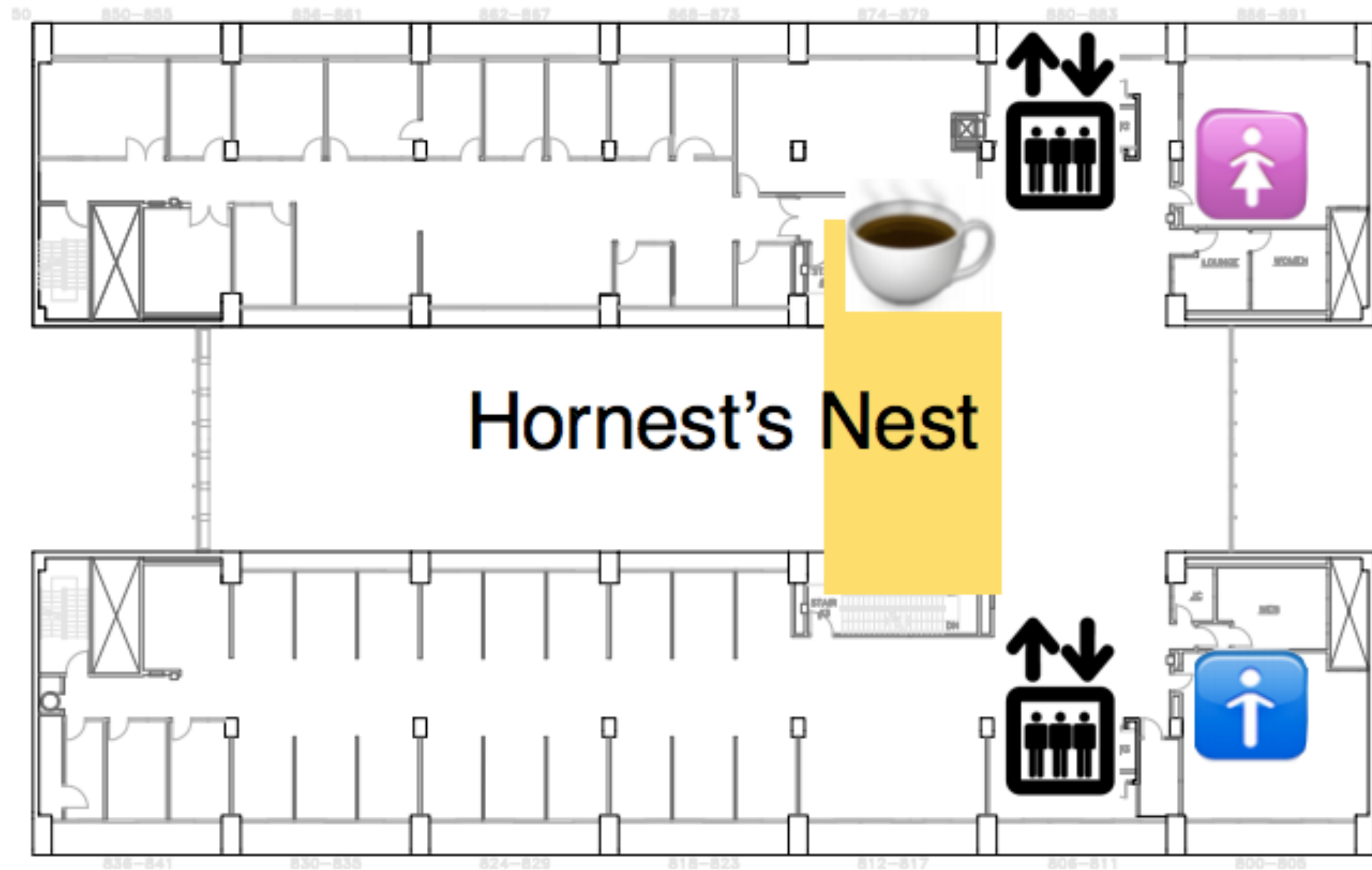
## Ground Floor

Entrance from  
main parking lot



# 1st Floor





**FERMILAB WILSON HALL 8TH FLOOR**  
BASE PLAN  
4/15/2007