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Welcome & Introduction

Simon Plätzer

Particle Physics, University of Vienna

at the
VBS/VBF Central Jet Veto Workshop
Vienna | 25 March 2019

cost
EUROPEAN COOPERATION
IN SCIENCE & TECHNOLOGY

MCnet

Practical Info

Rooms a bit tricky, as term is running, but plenty of guest offices available.

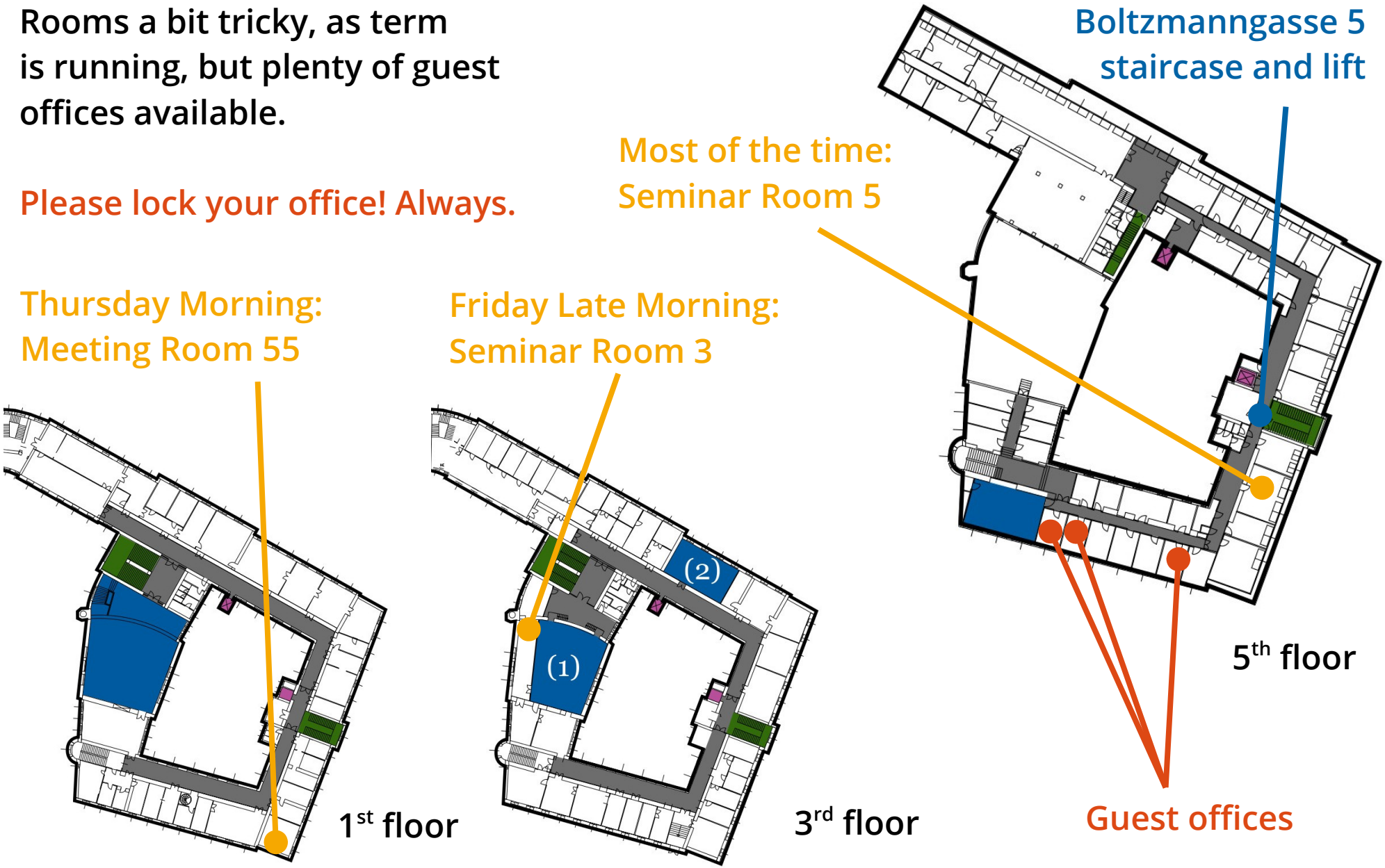
Please lock your office! Always.

Thursday Morning:
Meeting Room 55

Friday Late Morning:
Seminar Room 3

Most of the time:
Seminar Room 5

Boltzmanngasse 5
staircase and lift



Practical Info

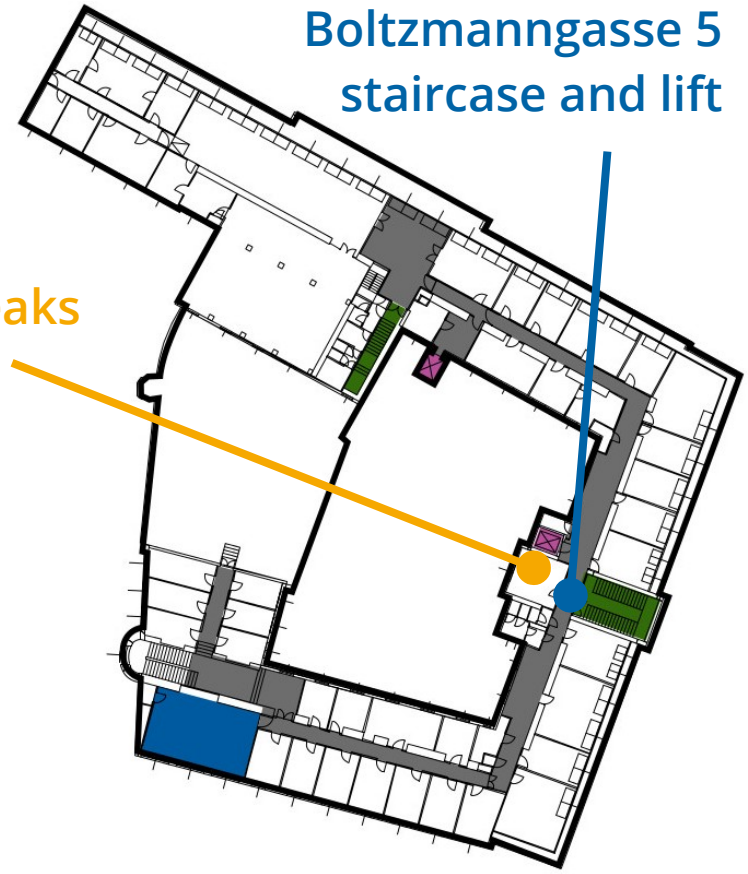
Timetable layout:

- Coffee breaks at 10:30 and 15:30
- Lunch 12:30 – 14:00

No seminar room available on Tuesday late afternoon and Friday early morning.

Particle Physics Group seminar on Tuesday late afternoon or visit Vienna.

Lunch is at places close by, or we grab something from one of the shops/bakeries around.



'Outreach' dinner on Tuesday 19:00, together with seminar speaker and students of the particle physics group.

No fixed schedule for dinners otherwise, we'll organize this just in time.

Practical Info

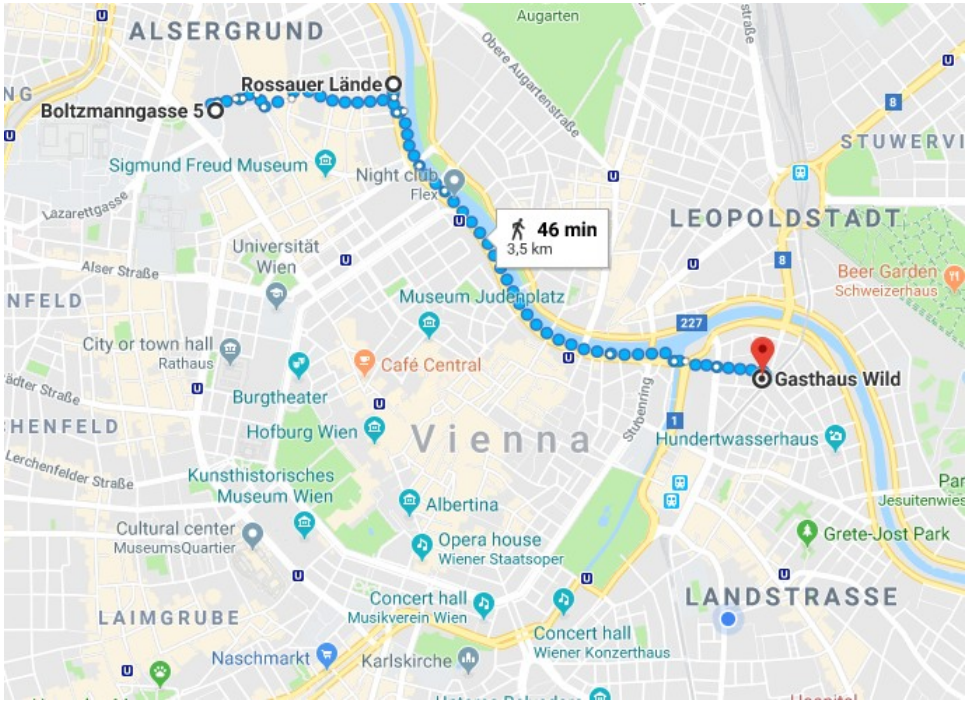
Workshop picture – Tuesday after coffee break.

COST reimbursement

Please follow the instructions on the indico – all of you will be reimbursed, accommodation and two meals EUR 122 per person and night, plus your travel expenses.

‘Outreach’ dinner

Gasthaus Wild at Radetzky-Platz – weather permitting we will walk there along the Danube canal. In any case will leave at 18:00 sharp from the department.



Organization of the workshop

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A true workshop!

- No fixed agenda packed with talks.
- Ample time for discussion.
- Hands-on sessions, get the study going.
- Compile preliminary results.

Morning session talks

Organized on-the-fly, mini presentations (blackboard fine) on a topic of interest or to spark discussion.

General idea

- Quick motivation and introduction now
- Experimental strategy & needs
- Discuss structure of the study, observables, generators, ...

Motivation

- Comprehensive comparison on performance of perturbative codes and NLO matching in arXiv:1803.07943, similar study underway for VBF in HXSWG

[Jäger, Karlberg, Plätzer, Rauch]

- Essentially nothing is known about soft physics and the CJV

Goals & points for discussion

Quantify impact of & uncertainty due to shower variations, multi-parton interactions, colour reconnection and hadronization on the central jet veto.

Obvious:

- On/off exercises , but need to check how models extrapolate away from typical UE observables, where they are constrained from data
- Interaction with variations in the shower and/or impact of NLO matching

Less obvious:

- Jet algorithm and radius dependence
- Colour reconnection and role of the VBF approximation
- Colour reconnection at the edges of shower variations (low radiation, high radiation)

Unknown (?):

- Away from VBF cuts, multivariate analyses, ...

Organization of the study

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External people welcome, but during this week try and come up with some framework/scaffolding to host the entire effort.

Define observables, work on Rivet analyses, discuss generator setups
→ variations in tunes?

Link to analytic and/or fxied-order insight for comparison to perturbative end
→ what lack of perturbative physics are we sweeping under the carpet?

How simple yet realistic do we need to keep things (VBS vs VBF, lepton isolation, ...)

Publication of the study is a necessary deliverable!

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Enjoy Vienna!

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Enjoy Vienna!

(and thanks for helping in making this possible on so short notice)