

7th International Workshop on

High Precision for Hard Processes

at the LHC (HP² 2018)

1-3 October 2018

Physikalisches Institut

Albert-Ludwigs-Universität Freiburg



**UNI
FREIBURG**

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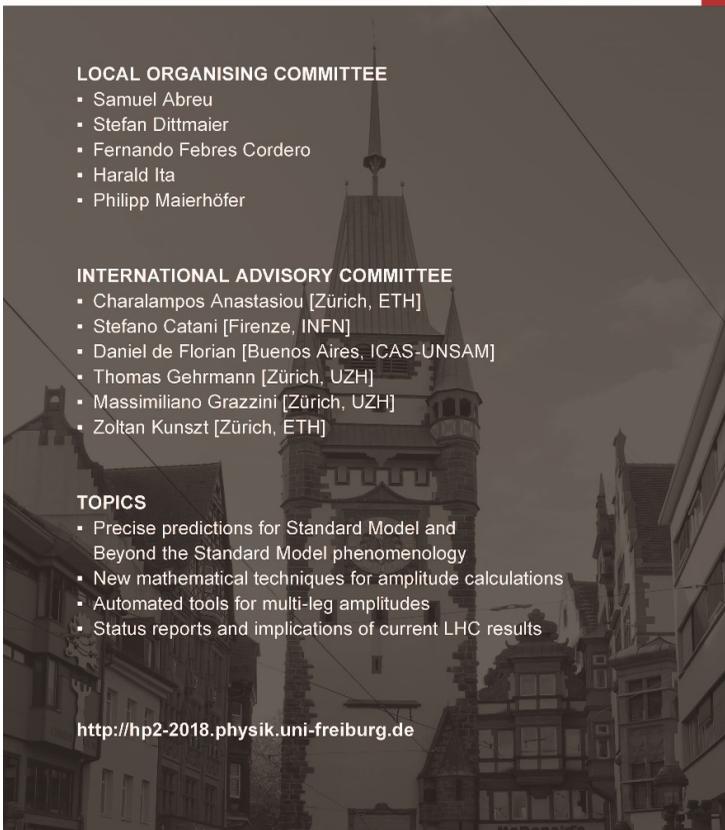
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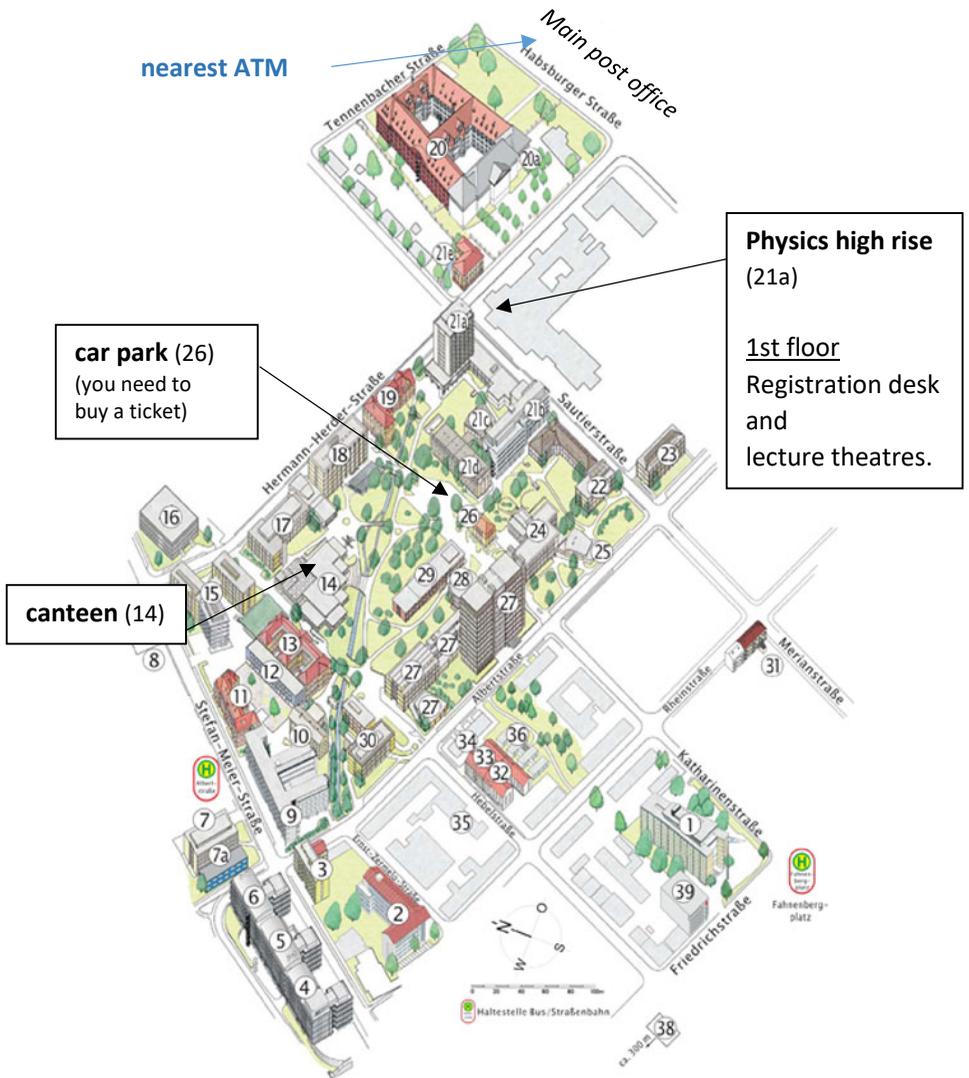
TOPICS

- Precise predictions for Standard Model and Beyond the Standard Model phenomenology
- New mathematical techniques for amplitude calculations
- Automated tools for multi-leg amplitudes
- Status reports and implications of current LHC results

<http://hp2-2018.physik.uni-freiburg.de>



CONFERENCE VENUE



WIRELESS LAN INFORMATION

How to connect:

If possible, please use your EDUROAM login and password.

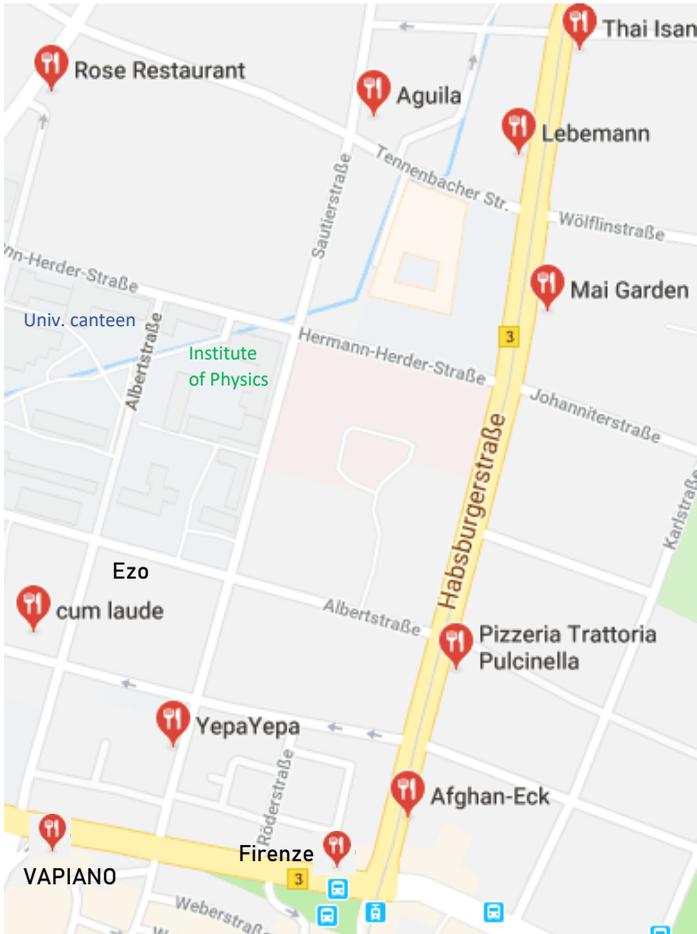
SSID: “eduroam”

If you do not have an EDUROAM account, please contact the registration desk to get access to a different WiFi.



Restaurant Locations

If you go further into the city centre, you will find many more lunch options!



Source: Google maps

Restaurants

Afgahn-Eck, Habsburgerstraße 133A (Afgan)

Aguila, Sautierstrasse 19 (Local and Moroccan food)

Cum laude, Rheinstrasse 15 (Italian)

Ezo, Rheinstrasse 17 (Kebap)

Lebemann, Habsburgerstraße 110, Freiburg

Mai Garden, Hermann-Herder-Straße (Vietnamese, Japanese)

Pulcinella, Habsburgerstraße 121 (Italian) *

Rose, Stefan-Meier-Straße 34 (Laotian)

Yepa Yepa, Merianstraße 30, (Mexican, small) *

Vapiano, Fahnenbergplatz 1

** Closed on Wednesday*

Mensa / University canteen

You must buy a food voucher at the registration desk.

Please note that the University canteen will be closed on Wednesday, 3rd October 2018.

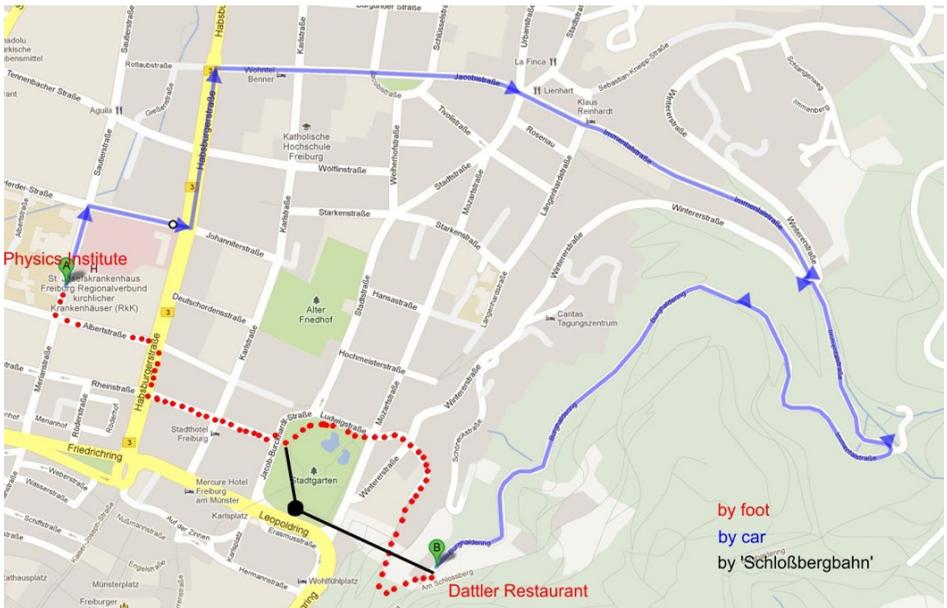
CONFERENCE DINNER

The conference dinner will take place on Tuesday at 7 pm at **Restaurant Dattler**.

(Address: Am Schlossberg 1, Freiburg)

You can either go by car (blue line),
or walk (red dotted line).

Instead of walking up the hill you may take the
“Schlossbergbahn” up to the restaurant
(fare not included in the conference fee).



High Precision for Hard Processes (HP2 2018)

Monday 01 October 2018

Registration (08:30-09:00)

Plenary I (09:00-10:30)

time	title	presenter
09:00	Welcome	
09:15	HP2 Needs for Experiments - selected topics	KADO, Marumi
10:00	The Edge of Precision in Simulations	KRAUSS, Frank Martin

Coffee break (10:30-11:00)

Parallel I: A (11:00-12:30)

time	title	presenter
11:00	NLO QCD corrections to off-shell $t\bar{t}\gamma$ production	BEVILACQUA, Giuseppe
11:30	Logarithmic accuracy of parton showers: a fixed-order study	HAMILTON, Keith
12:00	The on-the-fly reduction in OpenLoops 2	ZOLLER, Max

Parallel I: B (11:00-12:30)

time	title	presenter
11:00	Three-loop operator matrix elements with one and two masses	DE FREITAS, Abilio
11:30	NLO QCD corrections to gluon loop-induced ZZ production at the LHC	YOOK, Jeong Yeon
12:00	Higgs boson production at the LHC using the qT-subtraction formalism at N ³ LO QCD	CIERI, Leandro Javier

Lunch Break (12:30-14:00)

Plenary II (14:00-15:30)

time	title	presenter
14:00	New results on the strong coupling	TROCSANYI, Zoltan Laszlo
14:30	What is a parton shower?	NAGY, Zoltan
15:00	QCD splitting functions and cusp anomalous dimensions at four loops	MOCH, S.

Coffee break (15:30-16:00)

Parallel II: B (16:00-18:00)

time	title	presenter
16:00	IR structure of two-loop four-gluon amplitude in N=2 SQCD	OCHIROV, Alexander

16:30	One-loop amplitudes with space-like initial state momenta	VAN HAMEREN, Andreas
17:00	Five-particle phase-space integrals in QCD	MAHERIA, Vitalii
17:30	Feynman integrals and elliptic polylogarithms	TANCREDI, Lorenzo

Parallel II: A (16:00-18:00)

time	title	presenter
16:00	Vector-Boson Scattering at the LHC	SCHWAN, Christopher
16:30	Renormalization of mixing matrices in scalar extensions of the Standard Model	LANG, Jean-Nicolas
17:00	Mixed QCD-electroweak corrections to Higgs gluon fusion	BONETTI, Marco
17:30	High-energy effect for the production of Higgs-bosons with Dijets	HEIL, Marian

Tuesday 02 October 2018

Plenary I (09:00-10:30)

time	title	presenter
09:00	Higgs boson pair production at high energies	STEINHAUSER, Matthias
09:30	NLO EW corrections for multiparticle final states	SCHOENHERR, Marek
10:00	Electroweak corrections for top associated production	FREDERIX, Rikkert

Coffee break (10:30-11:00)

Parallel I: B (11:00-12:30)

time	title	presenter
11:00	WW production with a jet veto made simple	ARPINO, Luke
11:30	Soft-gluon resummation for leptoquark pair-production at the LHC	BORSCHENSKY, Christoph
12:00	Electroweak corrections in the 2HDM for neutral scalar Higgs-boson production through gluon fusion	STURM, Christian

Parallel I: A (11:00-12:30)

time	title	presenter
11:00	Off-shell $t\bar{t}j$ production - Top-quark mass studies at the LHC	KRAUS, Manfred
11:30	NLO predictions for $\$t \bar{t} + \$b \bar{b}\$$ production in association with a light-jet at the LHC	BUCCIONI, Federico
12:00	New physics Monte Carlo simulations at the next-to-leading order accuracy	FUKS, Benjamin

Lunch Break (12:30-14:00)

Plenary II (14:00-15:30)

time	title	presenter
14:00	Direct Solutions of IBP Systems	KOSOWER, David
14:30	Two-loop integrals with masses	WEINZIERL, Stefan
15:00	On the pentabox Master Integrals	PAPADOPOULOS, Konstantinos

Coffee break (15:30-16:00)

Parallel II: A (16:00-18:00)

time	title	presenter
16:00	Five-Parton Two-Loop Amplitudes from Numerical Unitariness	SOTNIKOV, Vasily
16:30	Integrand reduction for five-parton two-loop scattering amplitudes in QCD	BRØNNUM-HANSEN, Christian
17:00	Two-loop five-point massless QCD amplitudes within the IBP approach	CHAWDHRY, Herschel

17:30	On the recent progress of computing non-planar pentaboxes	WEVER, Chris
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Parallel II: B (16:00-18:00)

time	title	presenter
16:00	Heavy-quark production at NNLO	DEVOTO, Simone
16:30	Jet(s) with the CoLoRFuNNLO framework	KARDOS, Adam
17:00	NLL power corrections to the N-jettiness subtraction scheme	ISGRO, Andrea
17:30	A local analytic sector subtraction at NNLO	TORRIELLI, Paolo

Conference Dinner (19:00-21:00)

Wednesday 03 October 2018

Plenary I (09:00-10:30)

time	title	presenter
09:00	LHC observables with NNLOJET	GEHRMANN-DE RIDDER, Aude
09:30	Top quark physics with high precision	CZAKON, Michal Wiktor
10:00	The matrix element method at next-to-leading order QCD	UWER, Peter

Coffee break (10:30-11:00)

Parallel I: B (11:00-12:30)

time	title	presenter
11:00	Mixed QCD x QED Corrections to Drell-Yan Z Production	FABRE, Ignacio
11:30	Production of Higgs bosons with large transverse momentum	KUDASHKIN, Kirill
12:00	Decoupling in QCD and Higgs effective field theory	HERREN, Florian

Parallel I: A (11:00-12:30)

time	title	presenter
11:00	Soft-gluon and Coulomb corrections to hadronic top-quark pair production beyond NNLO	SCHWINN, Christian
11:30	MiNNLO improved colour singlet production	KARLBERG, Alexander
12:00	Application of the Loop-Tree Duality theorem at two loops	DRIENCOURT-MANGIN, Félix

Lunch break (12:30-14:00)

Plenary II (14:00-16:00)

time	title	presenter
14:00	Infrared singularities of multi-leg amplitudes	GARDI, Einan
14:30	Status of FDR	PITTAU, Roberto
15:00	Analytic Two-Loop results in QCD	DUNBAR, Dave
15:30	Superconformal symmetry and scattering amplitudes	HENN, Johannes

Enjoy the HP2-2018 workshop and your stay
in Freiburg!