

**Meeting on tau Monte Carlos and related topics –
IFJ PAN Cracow, 14-19 May**

**While we have coffee and perform registration tasks
let me say few words of introduction:**

- **for physics,**
- **for practical aspects.**

Inter-related topics require competence sharing.

- **(1)** Tau decay in itself; Monte Carlo construction and development; tests, program efficiency, reliability, openness for the new parametrization, tests of implementation.
- **(2)** Theory behind construction of currents, systematic approach, parameters to fit, relation to principles resulting from QCD. Validation on the basis of theoretical considerations.
- **(3)** Confrontation with the experimental tau decay data. Fitting techniques, use of matrix element multiple weights, projection operators or direct fits in multidimensional distributions.
- **(4)** Reconstruction of tau rest frame and realistic versions of projection operators.
- **(5)** Background contamination and its control. Bremsstrahlung in decays and bremsstrahlung from production, deformation of observables
- **(6)** Interfaces to low energy production generators.
- **(7)** How to port τ results to high energy applications and to theoretical studies such as lattice QCD?

Inter-related topics cont.

- **(8)** Interfaces to high energy production generators.
- **(9)** Options/traps/complications specially for hypothetical processes of new physics require attention.
- **(10)** Construction of observables for use of taus and tau spin to constrain properties of hard interactions.
- **(11)** Discussion of systematic errors, QCD ME, PS LO NLO etc. QED FSR can be painful for spin observables as it may damage some kinematical properties present at Born level.
- **(12)** Weights for spin effects e.g. to study Higgs background separation, weights for electroweak or Z' effects.
- **(13)** Optimization of observables or their adaptation to realistic detection conditions (*To π^0 's or not to π^0 's that is the question*).
- **(14)** Optimization thanks to measurements at low energies: main observables, peculiar backgrounds.

Shared competence paradigm.

- **(1)** We need to use quite dispersed competences
- **(2)** That is why talks are expected to be followed by longer discussions on possible use of known techniques or to stimulate development of the new ones.
- **(3)** I encourage questions. Also speakers can do that.
- **(4)** Afternoons are not supposed to be devoted to free time, but to build up links for later discussions or for starting new projects. That is also the reason we may try share evenings in old city (if we feel so).
- **(5)** In many cases we need to know first of all whom to ask and how to formulate the questions. On many occasions, I have profited enormously from *stupid questions* which turned out to be brilliant at the end.

Organization

- **(1)** Common lunches, must be paid to Ms Mosurek by 10 am today (or at least she must be informed). This is true both for visitors and local participants.
- **(2)** Dinners, I suggest that whoever want will meet at 7 am at market square.
- **(3)** Wi-Fi: Temporary network is open to all laptops. If you have troubles please contact our expert, who is taking care of evo connection etc.
- **(4)** Office space: please contact us if you need a desk for the afternoons
- **(5)** Should we try to have some dinner outside Cracow? I have the suggestion. Transport should takes about 40 mins from city center. First train, later taxi/shuttle from the place of Wieliczka salt mine.

Wieliczka Salt Mine to Unknown road - Google Maps http://maps.google.com/maps?f=d&source=s_d&сад..

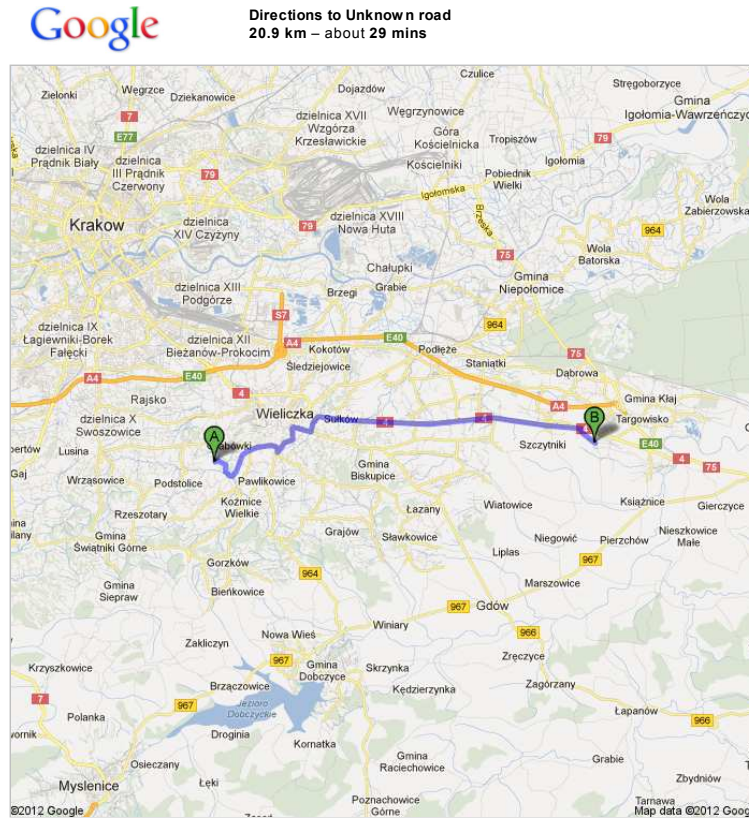


Figure 1: Access time from city center is about 45 mins train+taxi, taxi or shuttle. In the middle of the road there is Wieliczka salt-mine (point A on the map); major tourist attraction.



Figure 2: Place is moderately empty. On the other hand we would have it for ourselves. There must be at least (about) 20 of us.

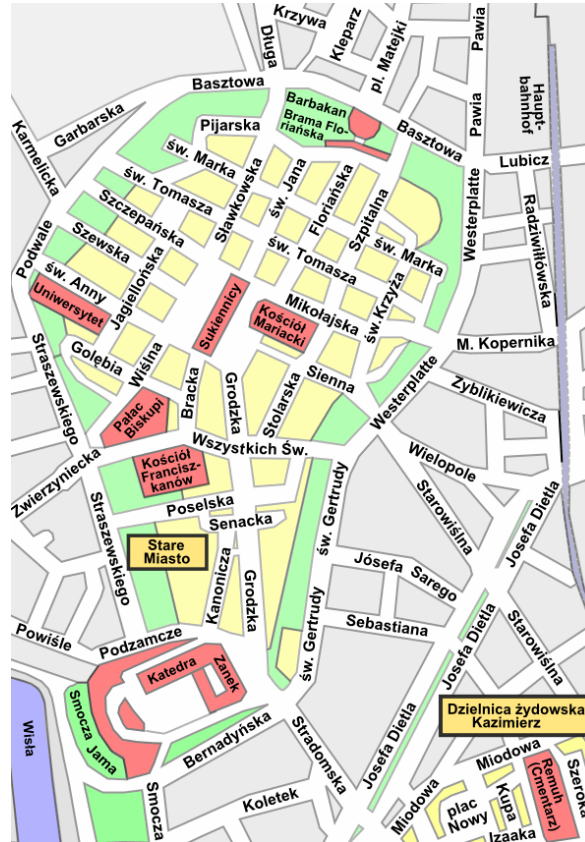


Figure 3: Daily dinner meeting point. Corner of main market joining St. Anna and Wisna Streets, 7 pm sharp.