Proposal for the establishment of a federation of existing School in HEP Computing (or, more in general, in Scientific Computing)

- A disclaimer. Me and Sudhir have the exclusive role, in this endeavor, of being responsible just for getting the ball rolling: once we decide the federation is on the desiderata list of a majority of you, we will then collectively decide (all of you) how to best organize the most lightweight possible layer of coordination and who will participate in that effort as a volunteer.

- We do not have an explicit mandate to push for a federation of schools, this is only an idea among other possible ones to optimize and possibly increase the efficiency in bridging the gap in computing skills in our field, so, if you have other views please express them now.

- If the idea of a federation is ok with you, I guess that the best possible approach in establishing one is by directly involving the existing schools themselves through their current chairs and then trying to answer the most pressing question, such as:
    - What do we want to achieve exactly with a federation?
    - On what time scale?
    - Who's going to fund common activities?
    - Do we already identify show-stoppers?

- A possible answer to the first question is: "*to make the process of delivering knowledge (both for the basic elements as well as for the most advanced techniques of computing) the most efficient and cost-effective possible"*.

- This could be achieved acting on several fronts in parallel:
    - Trying to make an agreed-upon calendar of lessons, in order to avoid overlaps or dates of schools too near to each other (maximize the potential audience).
    - Sharing (if this is viable) teachers and lecturers between schools
    - Sharing the training material on a dedicated common website (this requires an additional effort since we would need someone to take care of the organization and maintenance of the material on the site).
    - Providing some form of credits/certifications both to teachers and students (a sort of quality title issued under the umbrella of HSF: this could be useful and successful only if Funding Agencies, Laboratories and Experiments are willing to take this incentive into official consideration for career advancements).
    - An important issue is how to take into account the vast dynamic range of skills we would like (or consider important) to teach. We can roughly consider three different categories:
        - Basic C++/Python+Linux command line elements (at the level of graduate students)

        - Analysis tools: more advanced concepts in programming languages, ROOT, experiment frameworks ecology, Grid/Cloud tools, potentially advanced statistical tools (ROOFIT, R, Matlab, etc…)
        - Advanced programming: modern techniques (GPUs, FPGAs, Machine Learning, neural networks, AI, etc…), advanced DAQ architectures, etc….
    - How do we cope with these demands? Existing schools are already somewhat specialized in these different domains. Can we do better?

- An important, near-term goal, is to finalize the publishing of the Training chapter in ArXiv: it would be a very good thing if we could mention the idea of a *schools federation* in that preprint (unless we consider this a too preliminary and controversial issue at this stage). Any volunteer to help us out in this? (for your reference, the existing version is available here: https://www.sharelatex.com/project/595500273c5204ff35dfdcf9)