



# ACAT 2014

16<sup>th</sup> International workshop on Advanced Computing and Analysis Techniques in physics research

*bulletin 2* | April 2014

## 16th International workshop on Advanced Computing and Analysis Techniques in physics research (ACAT)

### INTRODUCTION

This bulletin includes the Registration information and the Call for Abstracts. The ACAT2014 conference dates are 1 – 5 September 2014 (Monday – Friday).

The conference will take place in the Faculty of Civil Engineering, Czech Technical University in Prague which is ideally located near the city centre. It is easily accessible by both public and private transport.

#### *Address of the Conference Venue:*

Faculty of Civil Engineering, Czech Technical University in Prague, Thakurova 7/2077, Prague – Dejvice, Czech Republic.

The schedule is outlined below together with practical details about the conference registration, hotel reservation, abstract submission and tours.

### REGISTRATION

The conference online registration will be opened from **28 April 2014**. You will find the Registration Form at the conference website at <https://indico.cern.ch/event/258092/registration>

To assist you with your planning, you may find useful the following links:

- Venue (<https://indico.cern.ch/event/258092/page/8>)
- Hotels (<https://indico.cern.ch/event/258092/page/7>)
- Travel to Prague (<https://indico.cern.ch/event/258092/page/9>)
- Tours (<https://indico.cern.ch/event/258092/page/11>)
- Tourist info (<https://indico.cern.ch/event/258092/page/10>)
- Visa (<https://indico.cern.ch/event/258092/page/12>)

### REGISTRATION FEES

ACAT2014 Conference Fee

Early registration fee (before 1 July 2014)	10 000 CZK
Late registration fee (between 1 July 2014 – 15 August 2014)	11 500 CZK
On-site registration fee (to be paid on-site) (from 1 September 2014)	13 000 CZK

The conference registration fee includes full conference participation, proceedings, welcome reception on Monday, 1 September 2014, coffee breaks, four lunches, cultural event and conference banquet on Thursday, 4 September 2014. *[Approximate exchange rate is 1 USD = 20 CZK, 1 EUR = 27,5 CZK]*

#### *Accompanying Person Fee*

Conference fee for Accompanying Person is 5 000 CZK and includes Welcome Reception on Monday, 1 September 2014, cultural event and Conference Banquet on Thursday, 4 September 2014.

### *Cancellation conditions*

Cancellation before end for early registration deadline – full refund minus administration fee.  
Cancellation between 1 July and 15 August – 50% refund. No refund for cancellation after 15 August.

### ON-SITE REGISTRATION TIMES

The registration desk will be located at the conference venue and will open on Monday, 1 September 2014 from 7:30. The opening hours will be available at the conference website closer to the start of the conference.

### CALL FOR ABSTRACTS

You are invited to submit an abstract of between a minimum of 150 words and a maximum of 250 words, which will be used by the Programme Committee to select contributions for oral or poster presentation. Please note that the deadline for abstract submission is 30 May 2014. Decisions on the acceptance of contributions for oral or poster presentation will be made before 25 June 2014 at the latest. Delegates with accepted abstract will have a possibility to register with early registration fee.

Note that in the abstract submission form, you can indicate the track in which you wish the contribution to be placed. The list of conference tracks and the scope of topics to be covered are as follows:

#### ***Computing Technology for Physics Research***

- Languages, Software quality, IDE and User Interfaces  
Languages (new C++ standard, Java, ...) | Software quality assurance; code reflection; documentation, performance and debugging tools | IDE and frameworks | User Interfaces, Common Libraries
- Distributed and Parallel Computing  
Multilevel parallelism | Distributed computing | GRID and Cloud computing
- New architectures, many and multi-cores  
Many-core | Accelerator-based computing (GPU, etc.) | High precision computing (hardware)
- Virtualization
- Online computing  
Advanced Monitoring, Diagnostics and Control | Scalable distributed data collectors | High Level Triggering (HLT) | Stream event processing & High Throughput Computing (HTC)

#### ***Data Analysis - Algorithms and Tools***

- Machine Learning  
Neural Networks and Other Pattern Recognition Techniques | Evolutionary and Genetic Algorithms | Automation of Science: Data to formula
- Advanced Data Analysis Environments  
Statistical Methods, Multivariate analysis | Data mining
- Simulation, Reconstruction and Visualization Techniques  
Detector and Accelerator Simulations, MC and fast MC | Reconstruction Algorithms | Visualization Techniques; event displays
- Advanced Computing  
Quantum Computing | Bio Computing: life process simulation, brain simulation, Quantum biology

#### ***Computations in Theoretical Physics: Techniques and Methods***

- Automatic Systems  
Automatic Computation Systems: from Processes to Event Generators | Multi-dimensional Integration and | Event Generators | Intensive High Precision Numerical Computations: Algorithms and Systems
- Higher orders  
One-loop event generators | Multi-loop Calculations and Higher Order Corrections
- Computer Algebra Techniques and Applications

- Computational physics, Theoretical and simulation aspects  
Lattice QCD | Cosmology, Universe Large Scale Structure, Gravitational waves | Nuclear physics N-body computation | Plasma physics | Earth Physics, climate, earthquakes

## STUDENT SUPPORT

The organizers offer partial support for a limited number of students. Requests for support should be sent to [acat2014@particle.cz](mailto:acat2014@particle.cz) with specification of expenses which should be partially covered (e.g. travel ticket, accommodation, conference fee, ...). A proof of student status should be included in the request.

Students are requested to register in usual manner until early registration deadline via the conference web page without payment at this point before sending the above mentioned request. The applicants will be informed by 15 July 2014 on availability of the support.

## CULTURAL EVENT

Cultural event will be held on Tuesday 2 September in the evening. Detailed information will be posted on the web page.

## TOURS' OFFER FOR WEDNESDAY, 3 SEPTEMBER 2014

We offer a choice of tours for the Wednesday afternoon. Please, make your choice during the on-line registration. The cost of the tours is indicated and will be added to your registration fee.

### Sightseeing tour of Prague - 280 CZK

Wednesday, September 3, 14:00 - 17:00

Meeting point: 14:00 - Conference venue

You will see: Old Town Square, Municipal House, Wenceslas Square, Astronomical Clock, Charles Bridge, Nerudova Street, Prague Castle. Sightseeing tour includes approx. 3 hours walking.

#### Old Town Square

The most significant square of historical Prague. It originated in the 12th century. The square has several dominant features, the baroque St. Nicholas Church (K. I. Dienzenhofer, 1732 – 1737), the rococo Kinský Palace housing the National Gallery exhibition hall, the Stone Bell House — a gothic city palace from the 14th century — now the Municipal Gallery concert and exhibition halls, and the Memorial to Master Jan Hus sculptured by Ladislav Saloun (1915). The very place where the 27 Czech noblemen were executed on 21 June, 1621, is marked in the square pavement.

#### Charles Bridge



The oldest Prague bridge built in the place of the Judita's Bridge that had been badly damaged by a flood in 1342. The Stone or Prague Bridge in 1870 renamed Charles Bridge, was founded by Charles IV in the year 1357. According to the latest research the construction was started by Master Otto and finished by Peter Parler in 1402. Both ends of the bridge are fortified by towers (Lesser Town Bridge Tower, Old Town Bridge Tower). From 1683 to 1928 thirty sculptures and sculptural groups of the saints were gradually set on

the bridge piers (M. Braun, F. M. Brokof, etc.). The bridge is 515 meters long and 10 meters wide.



## Prague Castle

National cultural monument, the symbol of development of the Czech state. Since its foundation in the last quarter of the 9th century it has been developing uninterruptedly throughout the past eleven centuries. It is a monumental complex of ecclesiastical, fortification, residential and office buildings representing all architectural styles and periods, surrounded by three castle courtyards and covering 45 hectares. Originally it used to be the residence of the princes and kings of Bohemia. Since 1918 it has been the seat of the President.



## Trip to Karštejn Castle - 1100 CZK

Wednesday, September 3, 14:00 - 18:30

Meeting point: 14:15 - Conference venue

minimum 15 persons, maximum 48 persons

The price includes entrance to the castle and a picnic snack.

A visit to a majestic gothic castle founded 650 years ago by Charles IV, King of Bohemia and of the Roman Empire. The castle was built in the 14th century as a place for safekeeping of royal treasures, especially the coronation jewels. Located in a picturesque site on the Dragon's rock in the middle of dense forests just about a hour's drive from Prague, for many visitors this is one of the most popular destinations. A trip includes 30 minutes walking.



## Trip to Kutná Hora - 950 CZK

Wednesday, September 3, 14:00 - 18:30

Meeting point: 13:45 - Conference venue

minimum 15 persons, maximum 48 persons

The price includes entrance to the gothic cathedral of St. Barbara, the Sedlec Ossuary and a picnic snack.

The picturesque medieval town of Kutná Hora, part of the UNESCO World Cultural and Natural Heritage, is situated approximately 60 km east of Prague.

The sources of the beauties and riches of Kutná Hora are in the silver mines that were exploited most intensively in the 14th and 15th century. At that time the town rivalled Prague in importance. During this excursion you will see interesting and impressive sights as the unique gothic cathedral of St. Barbara, the patron saint of miners, Italian Court which is an important building, originally a Royal Mint that once produced Prague Groschen as well. Then you will see the gothic fountain, and the Archdeacon's Church of St. James.



## Pilsner Urquell brewery excursion - 1150 CZK

Wednesday, September 3, 14:00 - 18:30

Meeting point: 13:45 - Conference venue

minimum 15 persons, maximum 48 persons

The price includes excursion and a picnic snack.

You will learn about the history and secrets behind making the legendary Pilsner Urquell lager. You can see the actual spot in the brewery where Pilsner Urquell beer has been brewed since 1842. We shall guide you through our modern bottling plant, with its capacity of 120,000 bottles per hour; a unique exposition on the ingredients we use; and the historic and modern Pilsner Urquell brewhouse. The tour of the Pilsner Urquell brewery would not be complete without a visit to the historic brewery cellars, where you can taste unfiltered and unpasteurized Pilsner Urquell on tap straight from oak lager barrels.

## CONFERENCE DINNER

All participants registered to the ACAT 2014 and their registered Accompanying Persons are warmly invited to the conference dinner that will take place at the Petřínské terasy Restaurant ([www.petrinsketerasy.cz](http://www.petrinsketerasy.cz)) on Thursday 4 September from 19:00. Restaurant is located in one of the most beautiful places of the ancient city of Prague. Restaurant sits in the middle of the east slope of Petřín hill with a unique view of the whole city.



## IMPORTANT DATES AND DEADLINES

Abstracts submission deadline	30 May 2014
Contribution acceptance announced	25 June 2014
Early registration by	1 July 2014
Off-site registration by	15 August 2014
On-site registration	1-5 September 2014
Paper submission by	30 September 2014

## DRAFT PROGRAMME

	Monday	Tuesday	Wednesday	Thursday	Friday
9:00	opening ceremony plenary session	plenary session	plenary session	plenary session	summary talks
10:30	coffee exhibits and poster	coffee exhibits and poster	coffee exhibits and poster	coffee exhibits and poster	coffee
11:00	plenary session	plenary session	plenary session	plenary session	summary talks
12:30	lunch	lunch	lunch	lunch	
14:00	parallel sessions	parallel sessions	tours	parallel sessions	
15:40	coffee	coffee		coffee	
16:10	parallel sessions	parallel sessions		parallel sessions	
17:50	welcome reception				
19:00		cultural event		conference dinner	

## FURTHER INFORMATION

The conference is co-organized by the following Czech institutions:

- Charles University in Prague, Faculty of Mathematics and Physics
- Czech Technical University in Prague, Faculty of Nuclear Sciences and Physical Engineering
- Institute of Physics, Academy of Sciences of the Czech Republic
- Nuclear Physics Institute, Academy of Sciences of the Czech Republic

### Conference Secretariat:

#### Nina Tumova

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