Welcome from the Local Organizing Committee

Dr. Laurent S. Nadolski
Local Chair, Synchrotron SOLEIL
Vice-President Accelerator Division, French Physics Society
WORKSHOP VENUE
ARW 2017 in Europe
ARW 2017 in France
Airport Paris-Charles de Gaulle to Versailles, 1h by taxi (50km)
1h40 by public transport

VERSAILLES
to Paris Tour Eiffel, 0h30 by public transport

Synchrotron SOLEIL
to Versailles, 0h30 by bus

Airport Paris-Orly to Versailles, 0h40 by taxi (30km)
1h30 by public transport

ARW 2017
in Paris Area
Except when there is a reliability issue on RER C train!
ARW 2017 in Versailles

Main Hotels
Chateau de Versailles

5 min walk time
Hôtel Le Louis, Versailles Château (Pullman)
CITY OF VERSAILLES

Versailles (French pronunciation: [vɛʁsaj]) 88,641 inhabitants

Château de Versailles Beautiful gardens of Versailles

UNESCO World Heritage Sites

A new town, founded by the will of King Louis XIV

Capital of the Kingdom of France for over a century, from 1682 to 1789

Cradle of the French Revolution

Versailles is historically known for numerous treaties such as the Treaty of Paris (1783), which ended the American Revolutionary War and the Treaty of Versailles, after World War I.
Interesting Facts

Born out of the will of a king, the city has a rational and symmetrical grid of streets. By the standards of the 18th century, Versailles was a very modern European city. Versailles was used as a model for the building of Washington, D.C. by Pierre Charles L'Enfant.

French Revolution (1789)
Salle du Jeu de Paume
Visitor Center on the right just at the entrance of the hotel
"Sun King" and "Le Roi Soleil"
"Sun King" and "Le Roi Soleil"
"Sun King" and "Le Roi Soleil"
"Sun King" and "Le Roi Soleil"
• Weather forecast

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• Restaurant places all round the hotel
ACCELERATOR ACTIVITY IN FRANCE
In addition to projects in France, CNRS and CEA laboratories:

- Contributing to European programmes dedicated to accelerator R&D (EUROTRANS, EUROLIS, EuCARD, SLHC-PP, ILC-PP, ...)
- Provide technological support to European and international projects (RHIC, LHC, CLIC, XFEL, ILC, IFMIF, GUINEVERE)

### Two large national facilities

**SOLEIL (Saclay)**
- Third generation synchrotron light source (since 2009)
- 100 MeV Linac 3 Hz Booster
- 2.75 GeV Storage ring
- 364 m circumference
- Low emittance: 3.7 nmrad
- An active development program
  - Solid state emitters associated with dedicated superconducting cavities (in operation)
  - Innovative insertion devices (e.g., cryogenic and undulator to come)
  - Central undulators (under installation)
  - Electron bunch shorting (10 Hz, 2-4 My pulses available soon for 2 beams)
- Collaboration to study a compact X-ray source

**CERN (Geneva)**
- Partially located in France
- CE and CNRS contributed to LHC accelerator and detector components:
  - Superconducting quadrupole magnets
  - Part of the cryogenic system of the accelerator
  - ATLAS & CMS magnet systems
- Now participating to CTF3 (CLIC Project), LINAC4 and SPL (Superconducting Proton Linac) injector

### Medical applications

**ARCHAED (Caen)**, hadrotherapy project (under study)

**CPD (Oreyay)** proton therapy centre (in operation)

**ARRONAX (Nantes)**: high intensity 70 MeV cyclotron for research in nuclear medicine and radiochemistry (in operation, 2009)

**ETOILE (Lyon)** hadrotherapy project (approved for funding)

**CAL (Nice)**: 65 MeV cyclotron proton therapy (in operation)

### Small accelerators for research

- AGLAE (Paris): a few MeV proton electrostatic accelerator to investigate manufacturing techniques of fine art

**ELYSEE (Orsay)**: 1.5 second short pulse electron accelerator

**CLIO** (50 MeV Linac based Free Electron Laser)
- User facilities for physics-chemistry

**ALTO (Orsay)**: 36 MeV electron linac for nuclear physics

### New acceleration concepts

**LOA (Palaiseau)**, **LP09 (Orsay)**, **SPARK (Saclay)**
- Electron accelerator techniques based on laser-plasma interactions in gas targets
- Accelerating gradients in the range 1 to 270 GV/m

### Two large European facilities

**ESRF (Grenoble)**
- Third generation synchrotron light source (since 1994)
- 390 MeV Linac, 10 Hz Booster
- 6 GeV Storage Ring
- 344 m circumference
- Low emittance: 4 nmrad
- Supported and shared by 15 countries
- Upgrade Programme (2009-2018)
  - Phase I (from 2010 to 2013)

**SPL (Superconducting Proton Linac)**
- Extension of the experimental hall
- 8 GeV upgrade beamlines
  - Accelerator upgrades:
    - New SPPM electron and new Linac proton injector
    - Some 3T straight sections increased from 5 to 8 meters
    - Cladded undulators
    - New HG4 free cavities and high power solid state amplifiers

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COMMITTEES AND SUPPORT
Organization Committees

International Organizing Committee members

- Rossano Giachino, CERN (Switzerland), Chair
- Kenneth Baggett, JLAB (USA)
- Lowry Conradie, iThemba LABS (South Africa)
- George Dodson, Oak Ridge National Laboratory/SNS (USA)
- Laurent Hardy, ESRF (France)
- Dan Johnson, FNAL (USA)
- Don McGilvery, Australian Synchrotron (Australia)
- Samuel Meyroneinc, Institut Curie (France)
- Duane Newhart, FNAL (USA)
- Douglas Preddy, TRIUMF (Canada)
- Qing Qin, IHEP (China)
- Paul Sampson, Brookhaven National Laboratory (USA)
- Masaru Takao, JASRI/Spring-8 (Japan)
- Masami Torikoshi, Heavy Ion Medical Center, Gunma University (Japan)
- Violeta Toma, TRIUMF (Canada)

Local Organizing Committee members

- Laurent Nadolski, Synchrotron SOLEIL, Chair
- Frederic Chautard, GANIL
- Laurent Hardy, ESRF
- Deborah Iorio, Synchrotron SOLEIL
- Jean-François Lamarre, Synchrotron SOLEIL
- Samuel Meyroneinc, Institut Curie
- Amor Nadji, Synchrotron SOLEIL
- Sabine Podgorny, Synchrotron SOLEIL
- Hélène Rozelot, Synchrotron SOLEIL
IOC members on site

Kenneth Baggett
Lowry Conradie
Douglas Preddy
Samuel Meyroneinc

Duane Newhart
Paul Sampson
Daniel Johnson
Violeta Toma

Rossano Giachino
Sponsor and Financial Support

Meeting the Sponsors Mon-Thu at the Hotel Lobby at SOLEIL (Wednesday)

Smart Sponsor Session Mon 17h30-18h30
j5 international
Presentation
SW demos

Plenary Session on Monday

Johannes Gutleber

S. Muller
J.-L. Lancelot
D. Moore
PRACTICAL INFORMATIONs
FLOOR PLANS
Hôtel Le Louis Versailles – Floor Plan
Safety Rules

- Non smoking area
- 4 Emergency Exits

WI-FI connection

- WI-FI name: AccorHotels-Guest
- No login/password
Free photos allowed without hotel staff

No photo?

Please identify yourself to the photograph

Please go to the Computer Desk To check your Slides Well Before Your Session
143 participants
22 countries
4 continents
Colors of participants badges

IOC Member

Dr Ken BAGGETT
Jefferson Lab
United States
International Organization Committee

LOC Member

Dr Frédéric CHAUTARD
CNRS/GANIL
France
Local Organization Committee

ARW Participant

Mr François BOUVET
Synchrotron SOLEIL
France

Industrial Participant

Dr Sophie MULLER
Thales Communications and Security
France
Sponsor

Please wear your named badges during the workshop
ARW’17 SCIENTIFIC PROGRAM
ARW Scientific Program

• The International Organization Committee (IOC) has assembled a very timely and exciting program, reflecting the breadth of our field.

• The Local Organization Committee has been working hard in connection with the IOC to make this edition a success.

• I am happy to announce that we have reached:
  – 143 participants, 35 oral contributions from Asia, Africa, America, and Europe.
  – Two invited speakers.
  – The poster session will gather 40 contributions.
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<thead>
<tr>
<th>Time</th>
<th>Monday 16 October</th>
<th>Tuesday 17 October</th>
<th>Wednesday 18 October</th>
<th>Thursday 19 October</th>
<th>Friday 20 October</th>
<th>Saturday 21 October</th>
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<tr>
<td>8:45</td>
<td>Workshop Registration 8:45-9:15</td>
<td>Leave Versailles 7:45 to Synchrotron SOLEIL (bus)</td>
<td>12. Medical</td>
<td>16. High Intensity Reliability</td>
<td>Optional Visit (bus): ORSAY Protontherapy Center (Institut CURIE) 8:45-12:00 Possible leave from ORSAY to Paris Return by bus to VERSAILLES at 12:00</td>
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<td>9:00</td>
<td>ARW Welcome</td>
<td>05. Infrastructure</td>
<td>09. Maintenance for High Reliability</td>
<td>13. Insuring Long Term Reliability Poster and Picture Award Announcement Workshop Highlights Summary / Closing remarks Closing remarks LOC IOC Announcement of Next Workshop</td>
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<tr>
<td></td>
<td>Speakers: A. Nadji / L. Nadolski / R. Giachino</td>
<td>Cryo, Electrical, Cooling</td>
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<td></td>
<td>01 Introduction to Reliability Scope, Goals, History of ARW</td>
<td>10. Invited Speakers and round-table with participants</td>
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<td>Speakers: R. Giachino</td>
<td>Chair: P. Sampson</td>
<td>Chair: D. Johnson</td>
<td>Chair: S. Meyroneinc</td>
<td>Chair: L. Conradie</td>
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<td>Chair: R. Giachino</td>
<td>PS, RF, IonSource, Vacuum, etc</td>
<td>Chair: D. Preddy</td>
<td>15. Strategy for Continuous Reliable Operations</td>
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<td>Chair: V. Toma</td>
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<td>Chair: D. Newhart</td>
<td>Chair: L. Nadolski</td>
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<td>12:30</td>
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<td>End of Workshop</td>
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<td>14:00</td>
<td>03. Reliability Before Design</td>
<td>07. Accelerator Control</td>
<td>Visit of Synchrotron SOLEIL</td>
<td>14. Parallel Discussions Optional Visit (15:00) Palace of Versailles</td>
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<td>Chair: B. Todd</td>
<td>Hardware, Software, Interlocks, etc</td>
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<td>Training/Teaching Use Case</td>
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<td>Chair: D. Newhart</td>
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<td>16:00</td>
<td>04. Plenary Discussion</td>
<td>08 Failure Investigation</td>
<td>11. Poster Session</td>
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<td>Chair: A. Nordt and D. Newhart</td>
<td>Diagnostic, Post modum Root Cause, fault analysis</td>
<td>Chair: K. Baggett</td>
<td>Chair: E. Takada</td>
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<td>Chair: K. Baggett</td>
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<td>Chair: E. Takada</td>
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<td>17:30</td>
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<td>18:30</td>
<td>18h-20h Welcome Reception and Registration</td>
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<td>IOC Dinner</td>
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ARW Oral Contributions

35 oral contributions + 2 invited talks
11 thematic sessions
2 discussion sessions

Please go to the Computer Desk To Check your Slides
Reliability Beyond Accelerators

• Two Invited Oral Contribution

“Dependability and Driving Delegation”
  – M. Gilles le Calvez, Director Self-Driving Car Department at VEDECOM

“Reliability of Space Instrumentation”
  – M. Jean Fontignie
    DRF//IRFU/SAp/LQIS, du Laboratoire Qualité Intégration Spatiale du Service Astrophysique

• Round Table LOC/IOC
  – Animators: A. Nadji, K. Bagget

Space Telescope for Dark Matter Study
To be launched in 2020
Posters and Pictures

Poster session on Wednesday on Synchrotron SOLEIL site

Poster prize to be announced on Wednesday

Reliability Pictures on the Workshop Venue

Please Identify Yourself at the Registration Desk
- ID number
- Displayed during 4 days
- Send Picture today to LOCARW2017@synchrotron-soleil.fr

Best Picture Prize to be announced on Friday
Workshop Proceedings

https://indico.cern.ch/e/arw17

The ARW provides a venue for individuals from accelerator communities worldwide to meet and share their experiences on operating reliable facilities. The workshop fulfills the need to improve information exchange on technical issues and equipment reliability. It facilitates the opportunity for individuals to share their problems and solutions with their peers from other facilities, worldwide.

**Overview**

**Committee**

**Scientific Program**

**Session Abstracts**

**Program (Compact)**

**Program (Detailed)**

**Author List**

**Contribution List**

**Call for Abstracts**

**Reviewing Area**

**Book of Abstracts**

**Speaker List**

**Materials**

- ARW17_firstAnnouncement.pdf
- ARW17_SecondAnnouncement.pdf
- ARW_CERN_Account_HOWTO.pdf
Gala

Dinner in a room of the l’hôtel de France

5 Rue Colbert - 78000 VERSAILLES

www.hotelfrance-versailles.com
Facility Tours

Synchrotron SOLEIL on Wednesday

Center of Protontherapy (Institut Curie) on Saturday
Visit of the Palace on Friday Afternoon (option)
Welcome again!

https://indico.cern.ch/e/arw17