

Chapter IV.4

JUAS during the period 2001–2005

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This chapter covers the period Joël Le Duff was JUAS Director (i.e. between 2001 and 2005).

After being invited to participate in the JUAS 2000 Board meeting, which took place at Darmstadt University, J. Le Duff was appointed as the new Director for the coming JUAS sessions. He managed the school during the period 2001–2005. His main objective was to continue improving the high educational level of the school and extending its worldwide recognition. To reach that goal, it was necessary to attract more partners: universities to increase the number of students, as well as research and industrial partners to provide financial support for the academic costs (scholarships, computing equipment, etc.).

IV.4.1 JUAS 2001

In addition to the Director, the school was managed by the administrator J. Delteil and the secretary S. Guillard. New partner universities joined the initial cluster, and their representatives joined the Advisory Committee: Technische Universität Berlin, represented by H. Henke; Università Degli Studi di Genova, represented by A.C. Levy; and Universidad de Valencia, represented by A. Faus Golfe. For Darmstadt University (already a partner), Harald Genz replaced Harmut Spalt. In parallel, three new European laboratories agreed to financially support the school: DESY (Hamburg); GSI¹ (Darmstadt); and IN2P3² (Paris). In addition to direct sponsorship, these institutions could send staff members for specific training with a reduced fee. That year, 27 students registered at JUAS (13 attended Courses 1 and 2, six attended only Course 1, and eight attended only Course 2). The origins of the participants were as follows:

- ten students from Western European universities: nine undergraduates (three from Darmstadt, one from Karlsruhe, four from Barcelona, and one from Grenoble) and one postgraduate (Valencia);
- five Eastern European students benefiting from UNESCO scholarships (two from Romania, two from Russia, and one from the Czech Republic);
- ten professionals from Western European laboratories (five from CERN, two from PSI, one from GSI, and two from LAL³);

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¹GSI: Gesellschaft für Schwerionenforschung.

²IN2P3: Institut National de Physique Nucléaire et de Physique des Particules.

³LAL: Laboratoire de l'Accélérateur Linéaire.

- two professionals from industry (IBA).

Following recommendations from the previous JUAS meeting, held in Darmstadt, attempts were made to reduce the number of lectures and increase the number of tutorials or guided studies. This is summarised as follows:

- **Course 1**

1. Lectures: 49 h.
2. Tutorials: 11 h.
3. Guided studies: 28 h.
4. Seminar: 1 h.
5. Laboratory visits: ESRF (one afternoon) and CERN (two afternoons).

- **Course 2**

1. Lectures: 46 h.
2. Tutorials: 8 h.
3. Guided studies: 27 h.
4. Seminars: 5 h.
5. Laboratory visits: CERN (three afternoons), PSI (one full day), and Geneva hospital (one afternoon).

Note that for these JUAS sessions, there were no changes among the teachers and their corresponding lectures, so the structures of the timetables remained unchanged with respect to JUAS 2000. As previously, examinations took place the week following each course, but only during the two last mornings; this gave the students a three-day break to prepare. Only students from partner universities had to take examinations (nine students for the first course and nine students for the second course). Certificates were signed by C. Schlenker, École nationale supérieure de physique de Grenoble (ENSPG), and the JUAS Director. Following the JUAS sessions, the annual Advisory Committee meeting took place at the ISN in Grenoble, France, on 11 May 2001. In addition to the school aspects mentioned above, the school budget was presented and discussed. Student life was discussed, especially the unequal treatment between students who took examinations (cluster-university students) and the others. The committee came to the conclusion that all students obtaining scholarships from JUAS should take the examinations. The meeting offered F. Calvino (Universitat Politecnica de Catalunya) the opportunity to give a talk on the subject of “e-learning” (distance learning) as a complementary system of modern education, considering the ongoing rapid changes in technology. Although this was interesting, e-learning was not taken on board for JUAS at this stage.

IV.4.2 JUAS 2002

There were no new partner universities joining the cluster (11 universities in total), but three more European laboratories joined JUAS: BESSY II (Berlin); SOLEIL (Gif sur Yvette); and CEA⁴ (Saclay). For

⁴CEA: Commissariat à l'Énergie Atomique et aux Énergies Alternatives.

the first time, a private company, Bergoz Instrumentation, contributed to the school programme by offering students the opportunity of a one-day practical education at their location in Saint-Genis-Pouilly, quite close to CERN and not too far from Archamps. These new sponsors were very welcome, especially since previous support from ERASMUS through Brussels and UNESCO through CERN had ended. Compared to previous years, numbers were down, with only 19 students (13 attended Courses 1 and 2, two attended only Course 1, and four attended only Course 2). The origins of the 19 registered students were as follows:

- 15 undergraduate students (one from Grenoble, two from Orsay, four from Darmstadt, three from La Sapienza Roma, two from Genoa, one from Torino, one from Yerevan Physics Institute, and one from the University of Bucharest);
- one postgraduate student from JINR⁵ in Dubna, Russia;
- three professionals (one from CERN, one from the Center of Advanced Technology in India, and one from PMB in France).

Note that the two students from Orsay were visitors at LURE Laboratory (one from Iran and one from Jordan), both attached to the SESAME project. Among the four students from Darmstadt, three were Ukrainians. The student from India received a scholarship directly from Bergoz Instrumentation to attend the first course. A few changes were made to the timetables:

- Two more hours were given to G. Hoffstätter considering that a good start with electromagnetism and relativity was essential.
- The one-day visit to PSI Villigen has been cancelled considering the site was too far from Archamps.
- The previous slot was used for a one-day visit to Bergoz Instrumentation. This consisted of practical work directly related to the lectures on beam instrumentation. For this first session, the students had to build a printed circuit board and test it by the end of the day. Both the students and Bergoz Instrumentation staff found that the experience was great, suggesting it should be repeated in the future.
- The afternoon dedicated to magnet design codes was moved to CERN for practical exercises in a more suitable environment.

Changes among the lecturers occurred:

- H. Lengeler was replaced by T. Wilson (introduction to accelerators);
- E. Métral was replaced by P. Royer (transverse and longitudinal dynamics guided studies);
- P. Strehl was replaced by P. Forck;
- C. Travier was replaced by one more hour given to P. Sortais and one to P. Berkvens.

⁵JINR: Joint Institute for Nuclear Research.

All of the students who were supported by JUAS had to go through the examination process. Note that 16 scholarships were offered that year. The results of the exams were very good, and again, certificates, when necessary, were signed by C. Schlenker (ENSPG) and the JUAS Director. Following the JUAS session, the Advisory Committee meeting took place at the Facultat de Ciències, Universitat Autònoma de Barcelona on 19 April 2002. Since J. Delteil had left ESI, S. Guiland was appointed as the new Administrator of the school, and she organised the meeting with R. Pascual. J. Le Duff reported on the activities of JUAS 2002, and the open discussion led to some advertisements: since the ERASMUS project request had failed this year, partner universities were asked to clarify their position on awarding credits; the follow-up of JUAS students should be encouraged; and the JUAS Director was asked to recommend JUAS students for PhD at GSI. The budget was presented, showing direct expenses close to €40 000 with a shortfall in sponsorship leading to a deficit of €5700. An ESI subsidy was used to balance the results.

IV.4.3 JUAS 2003

For JUAS 2003, there were still 11 partner universities, eight sponsoring laboratories, and one industrial partner. According to our Spanish representatives, it was discussed at the Advisory Committee meeting in 2002 that the Spanish government would financially support JUAS, and this contribution effectively increased the JUAS 2003 budget, allowing for more scholarships. During the previous year, ESI prepared an ERASMUS proposal to obtain financial support through the Intensive Program from Brussels, but the proposal was rejected.

A total of 38 students registered at JUAS 2003 (11 attended Courses 1 and 2, ten attended only Course 1, and 17 attended only Course 2). Note that JUAS 2003 attracted many professionals, in particular from the Belgian company IBA, which was involved in the construction of small cyclotrons for medical applications. The origins of the participants were as follows:

- 14 partner university students: one from Germany (coming from Ukraine), nine from Italy (four from Roma, one from Napoli, three from Pisa, and one from Milano), one from France (Grenoble), and three from Spain (two from Barcelona, one from UP Catalonia);
- nine Eastern European and Far-Eastern students: three from Romania (two from Cluj-Napoca, one from Bucharest), two from Armenia (from CANDLER), one from Russia (a Slovak studying at Dubna), one from Iran (Bergoz Instrumentation scholarship), one from Ukraine (from Kharkiv), and one from South Korea (a Pakistani studying at Seoul);
- one from Switzerland (CERN) and one from the USA (Virginia);
- 13 professionals: one from Canada, nine from Belgium (IBA), and three from Germany (GSI).

The structure of the timetables did not change, but a number of lecturers had to be replaced. The changes were as follows:

- G. Hoffstätter (DESY) was replaced by E. Gianfelice (DESY);
- L. Rinolfi (CERN) was replaced by R. Corsini (CERN);

- W. Pirkl (CERN) was replaced by F. Caspers (CERN);
- Ph. Lebrun (CERN) was replaced by L. Tavian (CERN);
- N. Pichoff (CEA) was replaced by A. Mueller (IN2P3);
- P. Royer (CERN) was replaced by A. Ferrari (Uppsala University);
- J. Le Duff (IN2P3) was replaced by N. Pichoff (CEA).

The JUAS 2003 meeting took place at the Engineering Faculty, Roma, on 11 April 2003. It was decided that a new ERASMUS proposal should be prepared before the deadline on 1 November 2003. According to decisions taken at the previous Advisory Committee meeting, all of the students receiving scholarships from the school had compulsory examinations and corresponding ECTS credits. Certificates were signed by L. Palumbo (Università di Roma “La Sapienza”) and J. Le Duff (JUAS Director). A budget deficit of €4175 was again balanced with an ESI subsidy. The global budget increased to €47 435.

IV.4.4 JUAS 2004

Once more, 11 partner universities sent students to the school, while nine laboratories contributed to the school’s budget. New financial support came from the “Ministerio de Ciencia y Tecnologia” (Spain) for two years. The number of students had increased to 35 (15 attended Courses 1 and 2, six attended only Course 1, three attended only Course 2, three attended Course 1 and 2 part-time, one attended Course 1 part-time, and seven attended Course 2 part-time). The origins of the students were as follows:

- 12 university students: one from Germany (Darmstadt), five from Italy (La Sapienza Roma), three from France (two from INPG Grenoble, one from Joseph Fourier University Grenoble), and three from Spain (two from Universitat Autònoma de Barcelona and one from Instituto de Física Corpuscular IFIC);
- six Eastern European students: one from Romania (Horia Hulubei National Institute), three from Armenia (Yerevan State University), one from Ukraine (Kharkiv National University), one from Malta (Università di Malta);
- four students from non-European universities: one from the USA (Texas A& M University, self-funded), one from Iran (GSI visitor), one from South Korea (Konkuk University of Seoul, sponsored by Bergoz Instrumentation), and one from India (Pune University);
- 13 professionals: three from France (one unemployed, one from LAL-Orsay, one from SOLEIL), three from CERN, and seven from IBA, Belgium.

Only a few changes were made among the lecturers:

- K. Hubner (CERN) was replaced by R. Assmann (CERN);
- M. Martini (CERN) was replaced by N. Pichoff (CEA);

- N. Pichoff (CEA) was replaced by J. Le Duff (IN2P3);
- F. Becker (Darmstadt student) was appointed to be T. Wilson’s assistant for the mini workshop. He did an excellent job training and motivating the JUAS students in the evenings.

Since the previous year, teachers had been encouraged to upload their lectures to the JUAS website, but by the time of the JUAS session, only a few lecture notes were available. The JUAS meeting took place at IFIC, Valencia, Spain, organised by A. Faus-Golfe, on 16 April 2004. In addition to the school presentation, as described above, a few points were emphasised: finding a way to follow the future paths of the JUAS students (PhD subject, welcoming lab, first job, etc.) and involving partner universities in this enquiry; a new SOCRATES-ERASMUS-IP proposal had been prepared with the help of the partner universities and sent to Brussels; eight second-hand PCs were purchased from CERN through ESI/ESMP⁶, which satisfied the students for Internet work or surfing during breaks; a preliminary budget was presented with a small deficit of €1695. The final JUAS 2004 budget was presented later at the General Assembly meeting of ESI on 27 September 2004. The total expenses had reached €59 000, and this was not fully covered by the income from the sponsors; a deficit of €4450 was covered by an ESI subsidy.

IV.4.5 JUAS 2005

In 2004, we were delighted to obtain the financial support of Ministerio de Ciencia y Tecnología (Spain). At the same time, we prepared an application to join the ERASMUS Intensive Program, but our initial proposal needed to be improved. For example, we had to explain why JUAS had more lecturers than students. A second attempt succeeded in 2005 within the “ERASMUS activity financed by the SOCRATES Programme of the European Union”, and this drastically improved the JUAS budget. Computing equipment could be purchased, satisfying both JUAS and ESI. At this point, JUAS 2005 was run with 11 partner universities and 11 sponsors (establishments, institutes, laboratories, and companies). The number of registered students was 38, and they were distributed as follows:

- ten Western European university students: two from Spain (one from Universidad de Valencia, one from Universitat Politècnica de Catalunya), five from Italy (from Università Roma La Sapienza), two from France (Joseph Fourier University Grenoble), and one from Germany (TU Darmstadt);
- ten university students from further afield: six from SESAME (four from Iran, one from Jordan, one from Turkey), one from Turkey (Mayis University), one from Romania (University of Bucharest), two from Ukraine (Kharkiv Institute of Physics and Technology);
- ten professionals: four from France (two from LPSC, one from LAL, one from SOLEIL), two from CERN, one from Denmark (Aarhus University), and three from Germany (GSI—TU Darmstadt);
- eight from industry: six from Belgium (IBA) and two from South Africa (De Beers).

Some changes among lecturers were made:

⁶ESMP: European School of Medical Physics.

- F. Caspers (CERN) was replaced by W. Pirkl (CERN);
- A. Muller (IN2P3) was replaced by S. Bousson (IN2P3);
- J. Le Duff (IN2P3) was replaced by A. Lombardi (CERN);
- E.J.N. Wilson (CERN) was replaced by Ph. Bryant (CERN) as the mini-workshop leader.

As for the timetables, there was a reduced number of lecture hours (49 instead of 55) to the benefit of more tutorial hours (15 instead of 11) in Course 1. For Course 2, there were more tutorials (11) and fewer guided studies sessions (16). The JUAS meeting took place on 8 April 2005 at ESI in Archamps. Emphasis was given to the ERASMUS-SOCRATES programme. Thanks to the corresponding financial support, the budget had a positive result (+€4851), which was partly used to refund ESI for past support and partly used to buy school equipment (computers, etc.). The balanced budget reached €67 860. In view of J. Le Duff's intention to retire by the end of 2005, the committee was invited to think about the future Director of JUAS. Some pictures from the time J. Le Duff was JUAS Director can be found below.



NEW COMPUTER ROOM



