



**ORGANISATION EUROPÉENNE POUR LA RECHERCHE NUCLÉAIRE
EUROPEAN ORGANIZATION FOR NUCLEAR RESEARCH**

Laboratoire Européen pour la Physique des Particules
European Laboratory for Particle Physics

CSC-CEV-jt

C.E. Vandoni
18.8.95

**1995 CERN School of Computing, Arles, France
20 August - 02 September 1995**

The Schools

CERN has been organising Schools of Computing since 1970, and in 1986 the School became an annual event. The School lasts two weeks and is held each year in a different member state of the Organisation, traditionally during August or September. The Eighteenth School will be held in Arles with the support of IN2P3/CNRS.

We reproduce below the preface to the Proceedings of the first CERN Computing and Data Processing school which gives a very clear explanation of the Schools' aims.

"Why yet another School? The first CERN School on Computing and Data Processing represents a sufficient departure from the subjects treated in earlier CERN Schools to warrant some explanation.

Since 1962, CERN has organized a series of Summer Schools in Physics treating various topics - predominately theoretical - in high-energy physics, and for some time we felt that a school on some aspects of experimental high-energy physics would provide a useful opportunity for young physicists to study selected topics in experimental methods. One such subject, particularly suitable for treating in a school because of its exceptionally fast development over the last few years, is data processing. This, however, is a subject which, being concerned principally with the application of computers, has much in common with some aspects of computer science and applied mathematics; and this leads to the second element in the conception of this School, namely the conviction that experimental physicists engaged in data processing and computer scientists have something to learn from each other.

In experimental high-energy physics we see a widespread use of computers, particularly in large-scale data processing applications, which often involve very complex systems and sophisticated techniques. These have been developed, in an ad hoc way, as empirical solutions to the immediate problems of recording and analysing increasing quantities of experimental data. On the other hand, over the last few years, computer science has made significant progress in clarifying concepts and in making a more theoretical approach to computing. We felt that it would be of interest to hold a school at which young computer scientists and high-energy physicists could study together aspects of these two quite different approaches to computing, and we hoped that by bringing together students and lecturers active in research in these two fields a flourishing cross-fertilization of ideas would result.

Thus, there emerged an idea for a school which would treat not only topics in the area of data processing in high-energy physics, but also topics in applied mathematics and computing somewhat broader than the immediate needs of high-energy physics. The programme of the School consisted of four principal courses of which two were chosen from experimental

Annex II
Students - 1995 CERN School of Computing

	<u>Institute</u>	<u>country</u>	<u>nationality</u>
D.J. Black	Fermi National Accelerator Lab.	USA	American
P. Huet	CERN	Switzerland	Belgian
C. Meessen	CPPM	France	Belgian
P. Harris	Rutherford Appleton Lab.	UK	British
A. Patel	University of Sunderland	UK	British
A. Maier	Inst. für Hochenergiephysik der OAW	Austria	British/German
J. Chudoba	Nuclear Centre of MFF	Czech Republic	Czech
J. Fritze	CERN	Switzerland	Danish
I. Younas	University of Southampton	UK	Danish
R.J. Dankers	National Inst. for Nuclear Physics & HE Physics	Netherlands	Dutch
M. Grippeling	CERN	Switzerland	Dutch
A. Baldisseri	CEN Saclay	France	French
B. Debray	Grand Accélérateur National d'Ions Lourds	France	French
F. Delbecque	CERN	Switzerland	French
I. Laugier	CERN	Switzerland	French
C. Leroy	CERN	Switzerland	French
O. Lodyginsky	LAL	France	French
F. Mauger	Lab. de Physique Corpusculaire de CAEN	France	French
M. Ricard	CPPM	France	French
M. Beldishevski	INFN	Italy	Georgian
M. Blume	Universität Wuppertal	Germany	German
T. Czarnecki	Physikalisches Institut	Germany	German
M. Dirkmann	Universität Dortmund	Germany	German
H. Falkenberg	DESY	Germany	German
M. Frank	CERN	Switzerland	German
A. Gruber	Max-Planck Institut für Physik	Germany	German
S. Ritt	Paul Scherrer Institute	Switzerland	German
K. Rutz	Gesellschaft für Schwerionenforschung mbH	Germany	German
J. Theissen	III. Physikalisches Institut Lehrstuhl B	Germany	German
P. Uelkes	RWTH Aachen III	Germany	German
J. Unger	Institut für Kernphysik I	Germany	german
H. Wagner	III. Physik. Institut A	Germany	German
S. Cohen	Institute de Physique Nucléaire (Orsay)	France	Greek
M. Skiadelli	CERN	Switzerland	Greek
F. Vassilopoulou	CERN	Switzerland	Greek
S. Bandyopadhyay	State University of New York at Buffalo	USA	Indian

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Students - 1995 CERN School of Computing

	Institute	country	nationality
A. Marcus	Tel-Aviv University	Israel	Israeli
T. Sheaffer	Raphael Development Authority	Israel	Israeli
G. Tel-Zur	Weizmann Institute of Science	Israel	Israeli
G. Bressani	University of Torino	Italy	Italian
A. Candiello	Dept. of Physics "Galileo Galilei"	Italy	Italian
M. Canepa	Università di Genova	Italy	Italian
M. Cattaneo	CERN	Switzerland	Italian
L. Gaido	INFN	Italy	Italian
F. Giacomini	CERN	Switzerland	Italian
G. Kramer	ESRF	France	Italian
E. Leonardi	Università di Roma "La Sapienza"	Italy	Italian
D. Parena	INFN- Sezione di Torino	Italy	Italian
A.M. Baran	Institute of Nuclear Physics	Poland	Polish
C. Calomfirescu	National Centre for Health Statistics	Romania	Romanian
A. David	University of Bucharest	Romania	romanian
I. Pertache	National Centre for Health Statistics	Romania	Romanian
A. Scortan	National Centre for Health Statistics	Romania	Romanian
O. Derugin	DESY	Germany	Russian
S. Kushpil	Lab of High Energy (NEEO)	Russia	Russian
I. Semenova	JINR	Russia	Russian
I. Suchodolinska	Institute of Experimental Physics	Slovak Republic	Slovak
M.-L. Barja	CERN	Switzerland	Spanish
E. Blanco	University of Valladolid	Spain	Spanish
E. Fernandez	ETSI Telecomuncacion	Spain	Spanish
I. Fernandez Gonzalez	Universidad Politecnica de Madrid	Spain	Spanish
S. Fernandez Vega	CERN	Switzerland	Spanish
M. Liebana	CERN	Switzerland	Spanish
S.E. Agnvall	University of Stockholm	Sweden	Swedish
I.E. Falk	University of Lund	Sweden	Swedish
P. Gunnarsson	Stockholm University	Sweden	Swedish
P.M. Jonsson	University of Lund	Sweden	Swedish
P. Sollander	CERN	Switzerland	Swedish
S.B. Navert	Institut für Teilchenphysik	Switzerland	Swiss
A.I. Syamtomov	N.N. Bogoliubov Inst. for Theoretical Physics	Ukraine	Ukrainian

beginning of the School, will include the summaries of the selected students. Applicants are requested to forward their summary to Jacqueline Turner by e-mail (School@cernvm.cern.ch). You will find an example of the presentation of the e-mail on the last page of this bulletin. Those applying to attend the School who have an electronic mail address should also indicate this on the right-hand side of the summary. This will facilitate further contact between participants.

Candidates should ensure that:

- the completed application form
- a letter of reference from their professor or supervisor, and
- a summary of their present work (see above),

reaches the School Secretary (Miss Jacqueline Turner) by 31 May 1995 at the latest.

The selection of the students will be made by the Advisory Committee and students will be informed of the outcome of their application in the first half of June 1995.

9. Cancellation

The Advisory Committee reserves the right to refuse reimbursement of part or all of the fee in the case of late cancellation. However, each case of cancellation would be considered individually.

10. Replacement

In all cases of withdrawal or cancellation, whether last-minute or otherwise, the choice of a replacement, if any, will lie entirely with the Advisory Committee and not with the laboratory concerned.

11. Advisory Committee

G. Barreira	LIP, Lisbon	
W. Carena	CERN, Geneva	
F. Etienne	Centre de Physique des Particules de Marseille	
F. Flückiger	CERN, Geneva	
J. Ganouna	IN2P3, Lyon	
G. Grosdidier	LAL, Orsay	
L.O. Hertzberger	University of Amsterdam, Amsterdam	
A.J. Hey	University of Southampton, Southampton	(Chairman)
G. Kellner	CERN, Geneva	
M. Metcalf	CERN, Geneva	
P. Palazzi	CERN, Geneva	
J. Turner	CERN, Geneva	(School Secretary)
C. Vandoni	CERN, Geneva	(Scientific Secretary)
D.O. Williams	CERN, Geneva	

12. Enquiries and correspondence

All enquiries and correspondence related to the School should be addressed to :

Miss Jacqueline Turner
CERN School of Computing
CN Division
CERN
CH-1211 GENEVA 23
Switzerland

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Telex : 419 000 CER CH
Cables : CERNLAB-Geneve

ANNEX I
PROGRAMME

	Sun. 20	Mon. 21	Tues. 22	Wed. 23	Thurs. 24	Fri. 25	Sat. 26	
09.00 - 10.00	ARRIVAL	OPENING H. Curien President of CERN Council C. Détraz Director of IN2P3	J. Gallop An Introduction to Graphics and User Interface Tools (2)	J.-M. Le Goff CICERO RD-38: Distributed Information System for HEP Controls (2)	D. De Roure Information Highway Applications (2)	R. Jones The RD13 DAQ System and the Object Oriented Information Engineering Methodology (2)	B. Rousseau Publishing on the WorldWideWeb (1)	
10.00 - 11.00		D.R. Quarrie OOP in HEP: Evolution or Revolution?	J.-M. Le Goff CICERO RD-38: Distributed Information System for HEP Controls (1)	J. Gallop An Introduction to Graphics and User Interface Tools (4)	H. Drevermann Event Display: Can We See What We Want to See? (1)	H. Drevermann Event Display: Can We See What We Want to See? (2)	D.R. Quarrie From Abstraction to Implementation - Some Case Studies (2)	
11.30 - 12.30		J. Gallop An Introduction to Graphics and User Interface Tools (1)	J. Gallop An Introduction to Graphics and User Interface Tools (3)	RD Schaffer Applying an Object Oriented Approach to Offline Reconstruction at the LHC	R. Jones The RD13 DAQ System and the Object Oriented Information Engineering Methodology (1)	D.R. Quarrie From Abstraction to Implementation - Some Case Studies (1)	M. Donszelmann Interfacing to the WorldWideWeb (1)	
14.30 - 17.00		<u>14.30-15.30</u> W. Bauerfeld Information Highway Technologies (1) <u>15.30-16.30</u> R. Groves History and Future of Computer System Architecture	Tutorial-1 J. Gallop Tutorial-1 J.-M. Le Goff	Tutorial-2 J. Gallop Tutorial-2 J.-M. Le Goff	Tutorial-3 R. Jones Tutorial-3 J. Gallop	Tutorial-4 R. Jones Tutorial-4 J. Gallop	EXCURSION	
17.30 - 18.30		Guided tour of Arles	W. Bauerfeld Information Highway Technologies (2)	D. De Roure Information Highway Applications (1)	D. De Roure Information Highway Applications (3)	H. Lie WorldWideWeb Technology		
18.30 - 19.30			D. Walker The Message Passing Paradigm	D. Walker Features and Use of PVM	D. Walker An Introduction to MPI	D. Walker Message Passing in Application Programs		
		Cocktail			evening lecture			

	Sun. 27	Mon. 28	Tues. 29	Wed. 30	Thurs. 31	Fri. 1	Sat. 2
09.00 - 10.00	E X C U R S I O N A L L D A Y	M. Letheren Switching Techniques in Data Acquisition Systems for Future Experiments (1)	M. Letheren Switching Techniques in Data Acquisition Systems for Future Experiments (2)	M. Letheren Switching Techniques in Data Acquisition Systems for Future Experiments (3)	M. Haney Simulation & Modelling Tools in Data Acquisition System Design for Future HEP Experiments (1)	M. Haney Simulation & Modelling Tools in Data Acquisition System Design for Future HEP Experiments (2)	D E P A R T U R E
10.00 - 11.00		B. Rousseau Publishing on the WorldWideWeb (2)	M. Donszelmann Interfacing to the WorldWideWeb (2)	M. Trott Solving a Problem in Mathematica: High Order WKB Approximations	R. Barlow Painless Statistics - "What a Statistics Package can do for you" (1)	R. Barlow Painless Statistics - "What a Statistics Package can do for you" (2)	
11.30 - 12.30		S. De Gennaro Virtual Reality at CERN (1)	T. Engbersen ATM Switches - Basic Principles and Examples (1)	T. Engbersen ATM Switches - Basic Principles and Examples (2)	C. Maillot Mass Data Storage: Technical Improvements and Future Trends	M. Metcalf High Performance Fortran	
14.30 - 17.00		Tutorial-5 M. Donszelmann B. Rousseau	Tutorial-5 M. Donszelmann B. Rousseau	E X C U R S I O N	Tutorial-6 M. Trott	Tutorial-7 R. Barlow	
17.30 - 18.30		M. Trott Mathematica - A Short Comprehensive Introduction	M. Trott Working with Special Functions in Mathe- matica		M. Metcalf Fortran 90	M. Chesney Very Large Scale Open Systems	
18.30 - 19.30		S. De Gennaro Virtual Reality at CERN (2) Demonstration	Visit Inst. de Recherche de la Provence Antique				
		evening lecture			early evening lecture	Banquet	