

# INTERNATIONAL SCHOOL OF PHYSICS

## "ETTORE MAJORANA"

**ERICE - TRAPANI - SICILY: 3-19 JULY 1969**

**Sponsored by:** ERS - Regional Sicilian Government  
MPI - Italian Ministry of Public Education  
NATO - North Atlantic Treaty Organization  
The Weizmann Institute of Science

**Subject: "PRESENT PROBLEMS IN PARTICLE PHYSICS,,**

### LECTURERS AND PROGRAMME

#### THEORETICAL LECTURES

- *Algebraic methods in Particle Physics* - (Current and Field Algebra, Sum Rules, Symmetry Groups).  
S. WEINBERG, Massachusetts Institute of Technology, Cambridge, U.S.A.
- *Analyticity Properties in Particle Physics* - (Reggeology, Diffraction mechanism, Regge Poles, Spin dependence, Finite Energy Sum Rules, Superconvergence Relations, the Veneziano Model, etc.).  
S. COLEMAN, Harvard University, Cambridge, Massachusetts, U.S.A.
- *Multiperipheral Dynamics*.  
M. L. GOLDBERGER, Princeton University, Princeton, N. J., U.S.A.
- *Inelastic Electron Scattering, Asymptotic behaviour and Sum Rules*.  
S. DRELL, Stanford University, Stanford, California, U.S.A.
- *Recent Developments in the Quark Model*.  
W. THIRRING, CERN and University of Vienna, Vienna, Austria.

#### REVIEW LECTURES

- *Weak Interactions*.  
S. L. GLASHOW, Harvard University, Cambridge, Massachusetts, U.S.A.
- *Electromagnetic Interactions*.  
A. ZICHICH, CERN and University of Bologna, Bologna, Italy.
- *Strong Interactions*:
  - a) • *Meson Resonances*.  
M. CROSTI, University of Padua, Padua, Italy.
  - b) • *Baryonic Resonances*.  
R. A. SALMERON, Ecole Polytechnique, Paris, France
  - c) • *Inelastic Hadronic Collisions*.  
S. RATTI, University of Milan, Milan, Italy.
- *The Fundamental Interactions and their analogues*.  
B. ZEMIN, New York University, New York, U.S.A. and Centre d'Hautes Etudes Scientifiques, Paris, France.
- *An Amateur-view of Particle Physics*.  
V. F. WEISSKOPF, Massachusetts Institute of Technology, Cambridge, U.S.A.

#### SEMINARS ON SPECIALIZED TOPICS

- *The largest hydrogen bubble chamber: Mirabelle*.  
A. BERTHELOT, Commissariat à l'Energie Atomique, Paris, France.
- *The origin of the Weak Interaction Angle*.  
N. CABIBBO, University of Rome, Rome, Italy.
- *Experiments of particular interest at Brookhaven National Laboratory*.  
R. L. COOL, Brookhaven National Laboratory, Upton, N. Y., U.S.A.
- *Physics Program with Proton Intersecting Storage Rings*.  
W. JENTSCHKE, CERN and D.E.S.Y., Hamburg, Germany.
- *Status of Quark-Search*.  
G. MORFIMO, University of Genoa, Genoa, Italy.
- *Non Leptonic Weak-Decays*.  
G. PREPARATA, Harvard University, Cambridge, Massachusetts, U.S.A.
- *(s-s) Phase Shift and the existence of a scalar Boson*.  
P. E. SCHLEIS, University of California, Los Angeles, U.S.A. and Centre d'Hautes Etudes Scientifiques, Paris, France.
- *Measurement of the Basic SU(3) Mixing*.  
A. ZICHICH, CERN and University of Bologna, Bologna, Italy.

#### CLOSING LECTURE

- *Fifteen years in the Life of Dispersion Theorems*.  
M. L. GOLDBERGER, Princeton University, Princeton, N. J., U.S.A.

#### PURPOSE OF THE SCHOOL

The school is devoted to those physicists who are interested in having a much deeper theoretical understanding of the field of physics in which they are working. The emphasis of the programme will be on the elucidation and discussion of the progress achieved in the theoretical and experimental understanding of particle physics during the last year. The students will be selected from the applicants according to their scientific qualifications. In this selection, the geographical distribution of the students will be taken into account.

In order to exploit to the fullest extent the material presented at the school, three lectures will be given in the morning and at least two hours of the afternoon will be dedicated to clearing up in free, informal discussions, the topics of the morning lectures. The seminars will be given in afternoon or evening sessions.

#### POETIC TOUCH

Legend tells that Erice, son of Venus, was the founder, more than three thousand years ago, of a small town on top of a mountain (750 metres above sea level).

Romer (-1000 B.C.), Theophrastus (-300 B.C.), Polybius (-200 B.C.), Horace (-70 B.C.), Virgil (-20 B.C.), and others (not excluding the participants of the previous Courses) have celebrated in their Poems (Peregrinations) this magnificent spot in Sicily. There you can admire among other beauties the Castle of Venus and the Cyclopaean Walls. Other masterpieces of ancient Greek civilization are found in the neighbourhood, such as Motya, Segesta and Selinunte. The « Grotte Marins » of the Aegadian Islands can be reached by catamaran and flying boat in about two hours.

#### GENERAL INFORMATION

Persons wishing to attend this course should send a letter to:  
The Secretary of the School: Dr. Eugenio FIORENTINO  
CERN-European Organization for Nuclear Research  
1211 Geneva 23 (Switzerland)

#### They should specify:

- i) date and place of birth together with their present nationality;
- ii) degree and other academic qualifications;
- iii) list of publications;
- iv) present position and place of work, and include
- v) a letter of recommendation from their research group leader or from a professor of physics.

The total fee, including full board and lodging (arranged by the School), is 700 Swiss francs. Thanks to the generosity of MPI and NATO, partial support can be given to some deserving students, who need financial help. This need has to be specified and justified in the letter of application.

Closing date for applications: 14 May 1969

No special application-form is required

A letter will be sent to the successful applicants on 15 May. Those students who, because of possible difficulties with travel documentation, would like to know before 15 May whether their application has been accepted or not, may obtain an earlier special decision by submitting a justified request.

Admission to the School will be decided by a commission composed of Professors: J. S. Bell, G. Bernardini, N. Cabibbo, A. De-Shalit, M. Gell-Mann, T. D. Lee, L. A. Radicati, V. F. Weisskopf, and A. Zichich.

All students must be in Erice on 3 July not later than 5 p.m. More detailed information, including the timetable of the lectures, will be sent to the successful applicants together with the acceptance letter.

A. ZICHICH  
DIRECTOR OF THE SCHOOL

Please note:

1. It is regretted that owing to the limited number of places available in the lecture hall, it will not be possible to allow any person who has not been selected by the Committee of the School to follow the courses.
2. NSF travel grants are restricted to U.S.A. citizens. Applications for these should be made as soon as possible through the Director of the School.
3. Enquiries regarding publications of previous courses should be addressed to the Secretary of the School.