

GC&

gianfranco
capriz
e noi

pisa, 25/11/19



INTENZIONE

A tutti noi è capitata la buona fortuna di collaborare con Gianfranco, per tutti quella collaborazione ha avuto e ha un'importanza centrale non solo nella formazione alla ricerca e nella produzione scientifica ma anche nel costruirsi un modo di vedere il mondo e di condursi in esso.

L'idea è che i nostri interventi servano a ricordare – molto brevemente! – gli argomenti di ricerca che ciascuno di noi ha affrontato in collaborazione con Gianfranco e a provocarne i commenti.

Ringraziamo Roberto Paroni per l'ospitalità presso la facoltà di Ingegneria.

PROGRAMMA

11:25–11:30 Benvenuto

Mattina, chair Maurizio Brocato

11:30–11:45 Paolo Podio Guidugli
11:45–12:00 Paolo Biscari
12:15–12:30 Cesare Davini
12:30–12:45 Pasquale Giovine
12:45–13:00 Discussione

Pranzo

Pomeriggio, chair Paolo Podio Guidugli

14:00–14:15 Paolo Maria Mariano
14:15–14:30 Gaetano Napoli
14:30–14:45 Epifanio Virga
14:45–15:00 Maurizio Brocato
15:00–15:15 Discussione

Cena

Forward

[from *Rational Continua, Classical and New*. A collection of papers dedicated to Gianfranco Capriz on the occasion of his 75th birthday. Springer 2003.]

Gianfranco Capriz was born in Gemona del Friuli on October 16, 1925. After graduating *summa cum laude* in mathematics at the Scuola Normale Superiore in Pisa (1948) and successfully attending a one-year doctoral course there (1949), he was appointed by Mauro Picone as a researcher at the Istituto Nazionale per le Applicazioni del Calcolo in Rome (1951-56). At the Institute, while working at his first research papers, he also served as a programmer in the staff operating the first general purpose computer ever installed in Italy.

In Rome he met Barbara, who was shortly to become his wife, and become acquainted with Ennio De Giorgi, Gaetano Fichera, Tristano Manacorda, Carlo Pucci, Michele Sce, and Edoardo Vesentini, with all of whom he was to entertain friendly and scientific relationships ever since. In the same period he started his research activity in Rational Mechanics under the supervision of Antonio Signorini.

From Rome he moved to Stafford (UK), to work for the English Electric Company (1956-62) as a research mathematician and a programmer of DEUCE, the engineered version of the pilot machine ACE, originally designed by Alan Turing. This period of his life ended when Capriz was asked by Sandro Faedo to return to his country to contribute to the creation in Pisa of the largest concentration ever in Italy of research and development activities in computer science and information technology. As early as 1954, on a suggestion of Enrico Fermi, the construction of the first Italian scientific computer had been decided, and the task assigned to the Centro Studi Calcolatrice Elettronica (CSCE), based in Pisa. In 1961, the product of this effort, the Calcolatrice Elettronica Pisana (CEP) was inaugurated; one year later, the CSCE became part of the Italian National Research Council. For two decades, from 1963 to 1983, Capriz was to serve as the Director of the CSCE (later to be transformed into the Istituto di Elaborazione della Informazione) and then of the CNUCE (Centro Nazionale Universitario di Calcolo Elettronico).

In those busy years, Capriz, who had been given the chair of Rational Mechanics at the University of Pisa in 1966, had also a central role in the creation of a school in Continuum Physics, which was one of the outcomes of another illuminated initiative of Faedo, namely, the revival at the highest levels of mathematical activities in Pisa, with the appointments of A. Andreotti, J. Barsotti, E. Bombieri, S. Campanato, G. Prodi, G. Stampacchia, and Vesentini at the University, and of De Giorgi at the Scuola Normale.

Capriz never stopped to do research, not even while he was the President of TEC-SIEL (1983-92), a company of the IRI group, where computer networks were studied and, in particular, the OSI standards first effected and installed (OSIRIDE network, 1984). In addition, he repeatedly served as visiting professor abroad (at the Johns Hopkins University, the University of Minnesota and the Carnegie Mel-

lon University in the US; at the University of Manitoba, in Canada; and as Erskine Professor at the University of Canterbury, in New Zealand). He was Vice-President of UMI, the Unione Matematica Italiana (1976-82), President of ISIMM, the International Society for the Interactions of Mechanics and Mathematics (1997-99), and President of AIMETA, the Associazione Italiana di Meccanica Teorica ed Applicata (1999-01). He is presently a corresponding member of the Accademia dei Lincei and a *professor emeritus* at the University of Pisa.

When he first met Clifford A. Truesdell in the middle sixties, Capriz had already worked on such diverse subjects as computational mechanics, lubrication, creep, vibrations and stability of rotating shafts, stability and numerical computations in hydrodynamics, viscoelasticity, and the manufacture of ceramics. After meeting Truesdell, his scientific interests were more and more directed toward the analysis of fundamental and innovative problems in continuum mechanics, especially, materials with memory, problems with living loads, non-linear vibrations of strings, mixtures, and a host of problems involving the continuum descriptions of microstructures: continua with voids; liquids with bubbles; granular materials; continua with vectorial, affine, or spherical structure; bodies with continuous distribution of dislocations; Cosserat continua; and liquid crystals. The book on *Continua with Microstructure* edited by C. Truesdell for Springer in the series of Tracts in Natural Philosophy, summarizes about fifteen years of scientific achievements of his in the title field, and contains innumerable hints and suggestions for further research.

Both Capriz' broad scientific production and the variety of themes he dealt with during his career witness for the agility and sharpness of his mind, ready to capture weaknesses and pitfalls, as well as promising predictive capabilities, sometimes deeply hidden into continuous models, no matter whether classical or just proposed, and to convert them into new challenging research tasks: whence the title of this tribute volume.

A mathematician and an engineer, a philosopher and a manager, a leader and a friend: all this Gianfranco Capriz is to those who have good fortune, honor and pleasure to work with him.

Maurizio Brocato and Paolo Podio Guidugli

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