

Recognized Italian Scholars of Mechanics



Giuseppe Rega

Abstract The history of AIMETA has been made up by the scholars of mechanics who have engaged in it, putting their scientific personality and achievements into play, and contributing in a non-trivial way to its recognition as the reference Italian association in the field of mechanical sciences. This contribution is a tribute paid to earlier recognized Italian scholars of mechanics who were involved in a somehow meaningful way with AIMETA in about the last fifty years. The reported list, based on the commemorations published in the AIMETA journal *Meccanica*, does not claim to be comprehensive of all scholars who would have deserved to be included, nor is intended to present the ‘best’ scholars of Italian mechanics in the considered interval of time.

Keywords 20th century Italian scholars of mechanics · General mechanics · Solids · Structures · Fluids · Machines

1 Introduction

According to the historian of sciences Steven Shapin, quoted in the ‘Selected Biographies of Mechanicians’ in Maugin’s recent book on the twentieth century history of continuum mechanics [1], “the very idea of paying homage to the great scientists of the past is problematic, and notions of an impersonal scientific method, which have gained classical dominance over ideas of scientific genius, make the personalities of scientists irrelevant”. This should prevent since the beginning from trying to draw up a list of recognized Italian scholars, even more so if the reference period concerns the last half century, or a little more.

However, the history of a scientific society is made up of the scholars who have engaged in it, putting their scientific personality and achievements into play, and contributing in a non-trivial way to the recognition of the same as the reference association in a given field of science. This is just the case of AIMETA, whose long

G. Rega (✉)
Department of Structural and Geotechnical Engineering, Sapienza University of Rome, Via A. Gramsci 53, 00197 Rome, Italy
e-mail: giuseppe.rega@uniroma1.it

history reflects the scientific contribution given in about the last fifty years by many recognized Italian scholars of mechanics. Thus, the list below has to be considered as a tribute paid by the relevant Italian community to scientists who were involved with the association in a somehow meaningful way.

In this perspective, and in accordance with the preliminary choice not to include living people in order not to touch their personality and ego due to inevitable selections, the list is rigorously based on the commemorations published over the years in the AIMETA journal *Meccanica*, sometimes integrated with information available on Wikipedia, with only few exceptions relating to scholars anyway strongly involved with the association. As such, the list certainly does not claim to be comprehensive of all Italian scholars who would have deserved to be included, nor it aims at presenting the listed ones as the somehow ‘best’ Italian scholars of mechanics in the considered interval of time. This being obviously a circumstance for which the writer sincerely apologizes.

For each of the scholars listed below with the respective area of reference, a brief scientific profile is provided in the sequel. In compiling them, texts of the commemorations published in *Meccanica* or elsewhere (in a few cases) have been suitably rearranged. However, for the sake of an easier presentation, sentences/paragraphs taken from commemorations are not explicitly highlighted in quotation marks. Anyway, for each profile, relevant bibliographic references are given

| | |
|--------------------------------------|-----------------------|
| Bruno Finzi (1899–1974) | General Mechanics |
| Giulio Supino (1898–1978) | Fluids |
| Giuseppe Colombo (1920–1984) | Machines |
| Riccardo F. Baldacci (1917–1986) | Solids and Structures |
| Pietro Caparrini (1923–1986) | Machines |
| Luigi Crocco (1909–1986) | Fluids |
| Michele Capurso (1935–1987) | Solids and Structures |
| Cataldo Agostinelli (1894–1988) | General Mechanics |
| Gianni Jarre (1924–1988) | Fluids |
| Vincenzo Franciosi (1925–1989) | Solids and Structures |
| Dario Graffi (1905–1990) | General Mechanics |
| Luigi Gerardo Napolitano (1928–1991) | Fluids |
| Giorgio Sestini (1908–1991) | General Mechanics |
| Placido Cicala (1910–1996) | Solids and Structures |
| Ennio De Giorgi (1928–1996) | General Mechanics |
| Carlo Ferrari (1903–1996) | Fluids |
| Gaetano Fichera (1922–1996) | General Mechanics |
| Edoardo Benvenuto (1940–1998) | Solids and Structures |
| Lucio Lazzarino (1913–1998) | Machines |
| Emilio Massa (1926–1998) | Machines |
| Leo Finzi (1924–2002) | Solids and Structures |

(continued)

(continued)

| | |
|-----------------------------------|--------------------------|
| Giovanni Bianchi (1924–2003) | Machines |
| Giulio Ceradini (1918–2005) | Solids and Structures |
| Alfredo Corsanego (1936–2008) | Solids and Structures |
| Carlo Cercignani (1939–2010) | General Mechanics/Fluids |
| Piero Villaggio (1932–2014) | Solids and Structures |
| Francesco Benedettini (1956–2015) | Solids and Structures |
| Giuseppe Grioli (1912–2015) | General Mechanics |
| Raffaele Casciaro (1943–2020) | Solids and Structures |
| Gianpietro Del Piero (1940–2020) | Solids and Structures |
| Giovanni Solari (1953–2020) | Solids and Structures |

2 Scientific Profiles

Bruno Finzi (1899–1974) [2]

Chair of Rational Mechanics at the University of Milano (1931) and then at the Polytechnic of Milano (1946).

Contributed general theorems and specific solutions to the theory of elasticity and plasticity, as well as to hydro and aerodynamics, including the general integral of the equilibrium equations of continua. Interested also in wave groups and particle showers, presented in variational form many general issues of mechanics, electricity and magnetism, relativity.

One of the founders and first President of AIMETA, was member of the Accademia Nazionale dei Lincei, which awarded him the Feltrinelli Prize for Mechanics and its applications (1958), of the Istituto Lombardo di Scienze e Lettere, the Accademia delle Scienze di Torino, the Accademia delle Scienze di Bologna, the Accademia Nazionale di Modena. Was in the editorial committees of several scientific journals, including *Il Nuovo Cimento*, the *Bulletin of the Unione Matematica Italiana*, the *Annali di Matematica*, the *International Journal of Engineering Science*.

Rector of the Polytechnic of Milan (1967–69).

Giulio Supino (1898–1978) [3]

Chair of Hydraulics at the University of Bologna (since 1946), upon teaching various courses before the second world war and abandoning the university due to fascist racial laws.

Contributed theoretical results (theorems on the dynamics of viscous fluids, demonstration of Saint Venant principle in convex fields, extension of the method of the volume of stemming in hydrographic systems), always with a strong flair for their technical applications (dam and aqueduct projects).

Dean of the Faculty of Engineering, was one of the founders of AIMETA, which was also President of, and of the Unione Matematica Italiana.

Member of the Accademia Nazionale dei Lincei, the Accademia delle Scienze di Bologna, the Accademia delle Scienze di Torino, the Accademia dei Georgofili di Firenze, received the Honorary Degree from the Technische Hochschule of Munich.

Took part in a number of public works, including the Supreme Council for Public Works, the interministerial Commission for the regularization of the Arno river in Florence, and was President of the Technical and Scientific Committee for the preservation of Venice.

Giuseppe Colombo (1920–1984) [4]

Chair of Applied Mechanics (1955), and then of Space Engineering, at the University of Padova.

Upon adding modern developments of celestial mechanics and the completely new subject of spacecraft dynamics to his first field of research in theoretical mechanics, from 1960 was research consultant at the Harvard Smithsonian Astrophysical Observatory at Cambridge, MA. From 1970 collaborated with the Jet Propulsion Laboratory of Pasadena, CA, in the study of NASA projects and research on the structure of the solar system, and with various Italian and European Space Administrations.

Member of the Accademia Nazionale dei Lincei, the Accademia dei XL, the Accademia Pontificia delle Scienze, the American Academy of Arts and Sciences, and the Academies of Torino, Venezia e Padova, was also recipient of prestigious awards: the Feltrinelli Prize for Astronomy (1971), the Prize of the City of Columbus (Ohio) for Space Technology (1976), and the NASA Gold Medal for exceptional scientific achievements (1983).

Some of his results earned him the particular recognition of scientific circles all over the world: the discovery of the coupling between rotational and orbital movements of Mercury; the plotting of the orbit of the Earth-Venus-Mercury mission, which made it possible to pass close to Mercury three times; the design of the satellite connected to the shuttle or space station by cables hundred kilometer long (later known as ‘tethered system’) to study the properties of the upper atmosphere; gravitational phenomena and the propagation of disturbances in the earth’s magnetic field.

Riccardo F. Baldacci (1917–1986) [5]

Chair of Scienza delle Costruzioni¹ at the University of Genova (1955).

More relevant contributions concern a rigorous revision and improvement of basic concepts and usual treatments of the engineering application of elasticity, of the technical theory of stability, and of other fields of structural mechanics, starting from nonlinear mechanics, by means of advanced mathematical methods. A large

¹ Scienza delle Costruzioni’ (Solid and Structural Mechanics) is the classical name of the fundamental discipline encompassing topics of continuum mechanics, elasticity, mathematical-physics, strength of materials, and theory of structures, taught in Italy to students in the Schools of Engineering and Architecture.

culture allowed him to reach important and sometimes fundamental results, and to exert a decisive influence on the development of the Italian researches on strength of materials and theory of structures. Succeeded in joining a deep knowledge of theoretical mechanics with a wide practice of structural engineering.

His treatise *Scienza delle Costruzioni* has been a necessary reference for students and scholars in this subject, for decades.

Dean of the Faculty of Engineering (1973–79), was also a member of the *Accademia delle Scienze di Genova* and the *Accademia dei XL*.

Pietro Caparrini (1923–1986) [6]

Chairs of Agricultural Engineering with Design Applications at the University of Catania (1965), Agricultural Mechanics and then Applied Mechanics at the University of Calabria (1974), Mechanics of Machines and Machines at the University of Firenze (1979).

Contributed research in agricultural mechanization, and technical and economic aspects of driving and operating machines, also from the point of view of technology and plant organization.

Established scientific institutes and departments in different universities and was active at various academic levels.

Luigi Crocco (1909–1986) [7]

Professor of Aviation Engines at the University of Roma (1939); Chair of Jet Propulsion at Princeton University (1949); Professor at *École Centrale*, Paris (1970).

Research in the area of aerodynamics and gasdynamics, with fundamental contributions to the explanation and solution of high frequency combustion instabilities; NASA called him to solve these problems in the Saturn rocket which brought man on the Moon in 1969.

Member of the *Accademia Nazionale dei Lincei*, the *Accademia delle Scienze di Torino*, the *International Academy of Astronautics*, Paris, the *National Academy of Engineering*, Washington, the *Académie Nationale de l'Air et de l'Espace*, Toulouse, and in the *Honorary Board of Meccanica*.

Was awarded the following prizes: *Pendray Award* (1965); *Wilde Award* (1969); *Columbus International Prize and Gold Medal* (1973); *Premio Panetti* of the *Accademia delle Scienze di Torino* (1985); *Nibelungen Ring*, Berlin (1985). Was also awarded an *Honorary Degree in Mechanical Engineering* by the *Politechnic of Milano* (1985), with a volume gathering papers in his honor by well-known scientists from all over the world.

A European ‘aristocrat’ in the best sense of the term, was gently mannered and cultured, with a keen intellect and a special ability to make clear the complex phenomena which he worked with.

Michele Capurso (1935–1987) [8]

Professor of *Scienza delle Costruzioni* at the University of Bologna (1970).

Was active in a broad spectrum of areas, including theoretical and structural plasticity, analysis of plates and shells especially in reinforced concrete, theory of thin-walled beams, structural applications of mathematical programming, computer-aided design and analysis of civil engineering structures. Gave particularly fruitful contributions on the extremum characterization of incremental elastic–plastic solutions, rigid-plastic dynamic responses, and upper bounds on values attained by history-dependent quantities after shakedown of elastic–plastic solids; all of this being widely praised far beyond his school and the national solid and structural mechanics community.

His dedicated, passionate and inspiring work as a teacher witnessed a special taste and skill for clear presentations and an effective combination of scientific rigour and engineering evaluation, with the capability to make his activities as researcher, professor and engineer harmoniously complementary to each other and synergetic.

Cataldo Agostinelli (1894–1988) [9]

Chair of Advanced Mechanics at the University of Torino (1943).

One of the last outstanding representatives of the classical Italian mathematical-physics school, that included remarkable scholars in Turin, contributed to analytical mechanics, with particular regard to the integration by separation of variables of the Hamilton–Jacobi equation and to the definition of the Painlevé corresponding dynamical systems.

Made noteworthy research into the motion of an electrically charged corpuscle in the presence of a magnetic dipole, and into the equilibrium configurations of a homogeneous fluid mass attracted by several distant centres according to Newton’s law of gravitation. This allowed him to prove that for the above-mentioned fluid mass there are ellipsoidal equilibrium configurations with unvariable axes in terms of magnitude and direction. Also worked on the three-body problem, on special motions in the dynamics of rigid bodies, and on electromagnetism.

Pioneered the field of magneto-hydrodynamics in Italy, performing important studies on the propagation of magneto-hydrodynamic waves, symmetric motions with respect to an axis, vortical motions and motions governed by Helmholtz’s theory on vortices, ellipsoidal equilibrium figures, adiabatic equilibrium of rotating and gravitating fluid masses, radiating equilibrium of gaseous masses, stability of stationary magneto-hydrodynamical motions, shock waves, and plasma dynamics.

Coauthored treatises on Rational Mechanics, Analytical Mechanics, and Magneto-hydrodynamics, as well as a remarkable textbook on the Foundations of Mathematical Physics.

Member of the Accademia Nazionale dei Lincei, the Accademia delle Scienze di Torino, which was also President of, the Istituto Lombardo di Scienze e Lettere, the Accademia di Scienze, Lettere ed Arti di Modena, and the Accademia delle Scienze di Bologna.

Gianni Jarre (1924–1988) [10]

Chair of Aerodynamics (1958), and then of Gasdynamics, at the Polytechnic of Torino.

Obtained important results in different fields of investigations, including turbomachinery, heat transfer, applied mechanics, aerothermodynamics and others.

Always paid attention to matching research and teaching in order to understand and make understandable to others actual complex phenomenologies, with emphasis on the essential features properly cleaned up from factors of secondary relevance.

Member of the Accademia delle Scienze di Torino, of the Advisory Board of INSEAN (experimental nautical tank), Roma, and of the Scientific Committee of the Studi di Tecnica Navale (CETENA), Genova, was Director of the Centro Studi Dinamica dei Fluidi of CNR (National Research Council), and President of the Scientific Committee of the Centro Ricerche sulla Propulsione ed Energetica (CNPM), Milano.

Vincenzo Franciosi (1925–1989) [11]

Chair of Scienza delle Costruzioni at the University of Napoli (1956).

Contributed meaningful research on plastic limit analysis of structures, the generalized Betti's theorem, instability, analysis of bridges, and masonry structures.

Wrote a monumental treatise of Scienza delle Costruzioni, among several other books, and was an exceptional teacher, combining rigour and clarity, and educating a meaningful number of excellent young scientists and then university professors.

Dario Graffi (1905–1990) [12]

Chair of Rational Mechanics (1938), and then Emeritus, at the University of Bologna, was a member of the Institute of Advanced Studies in Princeton, and Visiting Professor at the Sorbonne.

Gave important contributions in mechanics, thermodynamics and electromagnetism, with papers on hereditary phenomena, published between 1928 and 1935, placing him among the precursors in the field. Wide interests ranging from reciprocity theorems in elasticity and electromagnetism to the mechanics of variable masses, from the thermomechanics of continua to the free and guided electromagnetic wave propagation in heterogeneous media, from the mechanics of nonlinear vibrations to the properties of adiabatic invariants.

Dean of the Faculty of Sciences (1960–65), was a member of the National Committee for Mathematical Sciences of CNR (1964–68), and Treasurer and then Secretary (1952–1967) of the Unione Matematica Italiana.

Member of the Accademia dei Lincei, the Accademia delle Scienze di Bologna (which was also President of), the Accademia delle Scienze di Torino, the Accademia di Scienze, Lettere ed Arti di Modena, the Istituto Lombardo di Scienze e Lettere, the Accademia Ligure di Scienze e Lettere, the Accademia dei Concordi di Rovigo, and the Accademia delle Scienze di Ferrara.

Was awarded the Prize Presidente della Repubblica by the Accademia dei Lincei (1965), the Gold Medal of the Benemeriti della Scuola, della Cultura e dell'Arte (1964), and the Honorary Degree in Electronic Engineering by the University of Bologna.

Luigi Gerardo Napolitano (1928–1991) [13]

Chair of Aerodynamics at the University of Napoli (1960); also professor at the University of California, Berkeley (1965), at the Sorbonne (Paris, 1967), at the École National de Mécanique et Aérotechnique (Poitiers, 1974).

A reference scientist for defining and promoting research in the space community, in Italy and overseas. A champion of experimentation in the zero gravity environment of space, studied surface driven flows in space (which would later grow into the fields of microgravitational science and microgravitational fluid dynamics), and demonstrated the real existence of the Maragoni effect in the famous SL-1 experiment. For his lifelong contributions to science, *Aviation Week and Space Technology* lauded him as the most representative personality in aerospace for 1985. Also made fundamental contributions to the study of surface phases and flow regimes, with his work best symbolized by the Order of Magnitude Analysis (OMA), which is recognized worldwide as Napolitano's method.

Director of the Department of Fluid Mechanics at CISM (International Centre of Mechanical Sciences), Udine (1970–74), was member of several committees of CNR, and of the European Space Agency (ESA).

President of the IAF (for two terms); President of the Fluid Dynamics Panel of the AGARD; founder and President of the European Low Gravity Association; Editor of *Acta Astronautica*, and of *Aerotecnica Missili e Spazio*; founder and Editor of *Earth Oriented Applications of Space Technology*, and of *Microgravity Quarterly*. Was also President of CIRA (Italian Centre for Aerospace Research), of the MARS Center, and of the SPACE CAMP, and member of the board of Directors of the Italian Space Agency (ASI), of the Accademia Nazionale dei Lincei, and of the International Academy of Astronautics. Was also a catalyst behind the Columbus Project, and devoted time and energy to the promotion of science and technology for industry in Italy.

A non-conformist teacher, a perfectionist hating compromise, and a dedicated, though tough and demanding, professor.

Giorgio Sestini (1908–1991) [14, 15]

Chair of Rational Mechanics (1956), and then Emeritus, at the University of Firenze.

Gave original contributions to scientific research in the fields of mechanics of particles and systems, of hydrodynamics, and especially of heat conduction and diffusion. In particular, brought phase-change problems to the attention of European mathematicians and obtained significant results in the field of Stefan-like problems, opening a fruitful research line on various kinds of free boundary problems encountered in applications.

Member of the Accademia Nazionale dei Lincei, the Accademia delle Scienze, Arti e Lettere di Modena, and the Accademia di Scienze e Lettere di Firenze.

One of the founders of AIMETA, as well as its President (1978–82), was Italian representative in the General Assembly of IUTAM (1973–75), VicePresident of the National Committee for Mathematical Sciences of CNR (1968–1972), and Rector of the University of Firenze (1970–1973), where established the Faculty of Engineering.

Wonderful teacher, created a serene atmosphere among his students, lavishing his best energies in passionate lectures, and in training younger co-workers and obtaining

the best from them, on the basis of the genuine respect inspired by his honesty and frankness. Man with a unique mixture of irony, humour and wisdom, never pretended to be a philosopher, liking to be considered as a practical man with absolute dedication and professionalism, in compliance with a few basic moral principles.

Placido Cicala (1910–1996) [16]

Chair of Aeronautical Constructions (1945) and then *Scienza delle Costruzioni* (1957) at the Polytechnic of Torino.

Another brilliant disciple of Modesto Panetti who brought the Torino School of Applied Mechanics up to the world highest levels, with a truly ingenious and creative mind and a surprising versatility which, under a shy and unpretentious demeanour, led him into the field of structural mechanics, well beyond the boundaries of his original themes.

Made original and often pioneering contributions in aerodynamics of wing profiles, in particular on: non-stationary motion; calculus of variations, with a novel approach allowing engineers to search for extremal conditions without recurring to methods of functional analysis; shell theory, with particular reference to reinforced shells; influence of imperfections on buckling loads and jump instabilities; asymptotic approaches; non-homogeneous and elastoplastic materials.

Dealing with these subjects by mastering mathematical tools, however only used based on their actual difficulties, and aiming to make physical phenomena as evident as possible, his troublesome approach was subtly, yet keenly, within the range of both the mathematicians' fire, who could find it not rigorous enough, and the engineers' fire, who often objected it being too little engineering-minded. An approach coherently followed also in lecturing to students.

Visiting Professor at Purdue University, and lecturer at Stanford, Yale and the University of Illinois, was a member of the *Accademia delle Scienze di Torino* (1952) and of the *Accademia Nazionale dei Lincei* (1972), and obtained numerous awards and honours.

Ennio De Giorgi (1928–1996) [17]

Chair of Mathematical Analysis at the *Scuola Normale Superiore* of Pisa (1960).

A precocious talent in mathematics, was one of the greatest mathematicians of the twentieth century. Developed an extensive sequence of impressive results: a theorem on regularity of extremals in the calculus of variations for multiple integrals; a counter-example in the Cauchy problem for differential equations; the regularity properties of minimal surfaces; a new theory on perimeters; the theory of G -convergence and Γ -convergence; the variational theory of functionals simultaneously defined on volumes and surfaces; the evolution theory of minimal surfaces depending on a parameter; a generalisation of gravitational theory.

Also worked in logic, enlarging the class into which collecting concepts according to wider notions of quality and relation based on an algebra having the same rigour as that of sets, and reconsidering the minimum number of axioms of a theory.

Was member of the Accademia Nazionale dei Lincei, the Pontificia Accademia delle Scienze, the Académie des Sciences, and the U.S. National Academy of Sciences, among others.

Received numerous prestigious awards, including the Caccioppoli Prize of the Unione Matematica Italiana (1960), the Prize Presidente della Repubblica of the Accademia dei Lincei (1973), and the Wolf Prize (1990).

A man of great humanity and extraordinary civil vocation, interested in politics, though with a proper detachment, and active in defending human rights.

Carlo Ferrari (1903–1996) [18, 19]

Chair of Aerodynamics (1932) and Mechanics Applied to Machines (1948) at the Polytechnic of Torino, and then Emeritus. Also lectured at Brown University, Providence (1961–62), and New York University (1965–66).

Scientifically active in many sectors of mechanics, from fluid mechanics to biomechanics, with major involvement in the most diverse fields of aerodynamics, and research ranging from the study of air flows and pressures around airplanes and their components to the fundamental problem of turbulence, with results which made him famous all over the world.

Taking over the Laboratory of Aeronautical Engineering founded by Modesto Panetti, established therein a large wind tunnel where a wide variety of tests on models of airplanes, propellers, wing surfaces, cars, hulls, and buildings were carried out. A project realized during the great change occurred in aeronautics in the post-war period with the creation of jet engines.

His fundamental treatise *Transonic Aerodynamic*, coauthored with the mathematician Francesco Tricomi, and encompassing physical bases of the phenomenon, its mathematical modelization, and different approximations and solution methods, was translated into English, with worldwide visibility. Also important were didactic contributions in fields of theoretical mechanics and fluid dynamics, appeared in the *Encyclopedic Dictionary of Physics* (1961) and Italian encyclopedias.

One of the founders of AIMETA, was Italian representative in the IUTAM General Assembly (1970–75), member of the Accademia Nazionale dei Lincei, the Accademia delle Scienze di Torino (which was also President of), honorary member of ASME (American Society of Mechanical Engineers), and member of several Italian and foreign scientific academies and institutions. Awarded with the Prize Presidente della Repubblica by the Accademia dei Lincei (1950), and the Torino Prize by the Association of Engineers and Architects of Torino (1965), was also an unrivalled teacher, with a large group of clever disciples.

Gaetano Fichera (1922–1996) [20]

Chairs of Mathematical Analysis (1956) and then Higher Analysis (1959) at the University of Roma.

Obtained important results in both pure mathematics and applications to mathematical physics.

The former were concerned with: mixed boundary value problems of elliptic equations; generalized potential of a simple layer; second order elliptic–parabolic

equations; well posed problems; weak solutions; semi-continuity of quasi-regular integrals of the calculus of variations; two-sided approximation of the eigenvalues of a certain type of positive operators and computation of their multiplicity; uniform approximation of a complex function; extension and generalization of the theory for potentials of simple and double layer; specification of the necessary and sufficient conditions for the passage to the limit under integral sign for an arbitrary set; analytic functions of several complex variables; solution of the Dirichlet problem for a holomorphic function in a bounded domain with a connected boundary, without the strong conditions assumed by Francesco Severi in a former study; construction of a general abstract axiomatic theory of differential forms; convergence proof of an approximating method in numerical analysis and explicit bounds for the error.

Results in applied mathematics and mathematical physics were essentially concerned with the existence, uniqueness and regularity of solutions in linear elastostatics, in particular the mixed boundary problem and Signorini's problem. Other studies regarded the energy approach to the Saint Venant's problem, and the theory of materials with memory, where obtained useful information on the analytical structure of the memory kernel. Some mathematical research concerned electrology and biology, and interesting works were devoted to the contribution of Italian mathematicians to functional analysis and theory of elasticity.

Member of the Accademia Nazionale dei Lincei, which awarded him the Premio Feltrinelli for Mathematics (1976), was also member of the Accademia Nazionale dei XL, of the Russian Academy of Sciences, and of other institutions.

Edoardo Benvenuto (1940–1998) [21]

Professor of Scienza delle Costruzioni at the University of Genova (1975).

Early works mostly concerned with central themes of elasticity and inelasticity, stability, and structural dynamics, through approaches exploring methodological ways alternative to the most followed ones.

Research into history of structural mechanics, with the Springer book *An Introduction to the History of Structural Mechanics* considered by Clifford Truesdell as “one of the finest I have ever read”, gave him a great fame among scholars of mechanics. In contrast with the common separation between the essentially deductive role of mechanics and its documentary and critical history, his great innovation consisted of linking the retrospective analysis of the development of technical-scientific thought with the social and economic changes and the transformation of ideologies and philosophical thought. In this way, meaningfully contributing to the mitigation of the XX century contraposition between sciences of nature and human science.

Teaching for more than 20 years in the Faculty of Architecture, which he was also Dean of (1980–1997), dedicated most part of his studies to the analysis of the relations between mechanics and architecture, a human activity which he was deeply interested in, because of looking upon it as a millenary testing ground for thinking of statics of bodies and strength of materials. Refused, as conceptually inconsistent, certain usually stated separations between technique and inspiration, as well as science and art of construction, maintaining that looking at Brunelleschi, Michelangelo, Wren and many others only as great artists took away the merit of their brilliant

aptitude for engineering. With his historical attention, helped revisiting the long trail that preceded present mechanics, reconstructing the itineraries along which some great fundamental themes gradually shifted from ontology towards mathematics, and drawing the perception of how much these itineraries mean in terms of hypotheses, intuitions, confutations, debates.

His profound knowledge of history also entailed an innovative teaching of structural mechanics in the school of Architecture, under the conviction that transmitting contents of mechanics via a critical approach in which also the historical moments of their evolution are discussed arouse the attention of architecture students towards the synthesis between empirical intuition and rational analysis. All of this qualifying him as a meeting point for dialectic comparison of neutral and directed disciplines.

Made important contributions in many fields of thought, with meaningful studies of epistemology. A man of great lucidity and rare imagination, and a scientist attentive to the problems of our time and society.

Lucio Lazzarino (1913–1998) [22]

Professor of Aeronautical Construction (1944) and Construction of Machines (1960) at the University of Pisa, and then Emeritus.

Worked as aircraft designer at FIAT CMASA, where was involved in the design of several airplanes, then moved to the academy and made fundamental studies on propellers, flight mechanics and, mostly, shell type structures in light alloy, which was a topic at its first stage of development.

Teaching also other disciplines, gave an outstanding contribution to the education and training of hundreds of engineering students, with an approach innovative, tied to reality, and always aimed at improving and maintaining a fruitful relationship between academy and industry.

Was Dean of the Faculty of Engineering for 23 years.

Emilio Massa (1926–1998) [23]

Chair of Mechanics Applied to Machines at the Polytechnic of Milano (1964).

Research characterized by a broad and unusual variety of interests strongly linked with reality, moving from concrete problems in engineering however addressed through systematic theoretical analyses. They range from spatial kinematics of rigid bodies to the dynamics of machines as a system of rigid elements, to the nonlinear vibrations of systems with concentrated parameters, to vibrations of continua in the presence of thermal effects, to the mechanics of fluids in problems of lubrication. When becoming strongly involved with major administrative responsibilities, also in national committees, supervised younger collaborators' researches on wind-induced vibrations of electric cables, dynamics of automobiles, and behavior of ring seals in non-conventional motors.

One of the founders of AIMETA and first Editor of *Meccanica* (1966–1982), was Dean of the School of Engineering (1980–1987) and Rector of the Polytechnic of Milano (1987–1994), an institution to which he dedicated a life of commitments, by also implementing a regional structure in Lombardy and promoting a strong cooperation with industry.

Leo Finzi (1924–2002) [24]

Chair of Scienza delle Costruzioni at the Polytechnic of Milano (1960).

In the first years of academic career, obtained original results in continuum mechanics of elasticity and elastoplasticity, in rigid-plastic dynamics, in shell and structural stability theories. Later, gradually moved to scientific subjects more directly connected with engineering applications, such as methods of analysis of tall buildings and of joints in steel frame structures. In the field of steel structures, became an internationally acknowledged leader and a member and chairman of various Italian and European committees for elaboration of technical codes and research promotion, orientation and coordination. His originality and expertise in structural engineering led him to outstanding achievements as designer of large, unusual, and challenging structures.

Along his productive life, advocated and practised a synergetic interaction between scientific research and applications to real-life problems.

One of the founders of AIMETA, was member of the Accademia Nazionale dei Lincei, and of the Istituto Lombardo di Scienze e Lettere; Fellow of the American Society of Civil Engineering (ASCE); Honorary Member of the International Association for Bridge and Structural Engineering (IABSE).

Giovanni Bianchi (1924–2003) [25]

Chair of Mechanics Applied to Machines (1970), and then Emeritus, at the Polytechnic of Milano.

Research activity in linear and nonlinear mechanics, mechanisms, articulated systems, robotics and system dynamics.

Was a founder of institutions and a maker of people and scientists. Contributed to the founding of IFToMM (International Federation for the Promotion of Mechanism and Machine Science) with passion, tenacity and creativity. Acting as General Secretary and President of IFToMM for many years, is remembered for his innate ability to propose ideas and promote culture. In that context, in conjunction with Adam Morecki, directed the Robotics Committee, and proposed the Romansky Symposia, a reference event for scientists, academics, designers and researchers since 1972.

One of the founders of AIMETA, as well as its President (1982–85), was General Secretary of CISM in Udine (1977–2000), ensuring its international prestige, and developing activities in innovative sectors such as robotics and biomechanics. Was also Italian representative in the General Assembly of IUTAM.

Regarded knowledge and action as a means of communicating with others, creating study and research centers, indicating possible guidelines, offering new approaches to know how in a theoretical and concrete perspective. Besides scientific merits, was a man of kindness, humility and depth.

Giulio Ceradini (1918–2005) [26]

Professor of Scienza delle Costruzioni (since 1967), and then Emeritus, at the University of Roma.

Upon early research activity on fatigue, stress concentration, in-situ testing, elastic instability, viscosity, thin shells, and curved bridges, focused on plasticity problems, giving some early, fundamental, theoretical contributions to the limit analysis of structures as a linear programming problem; to the incremental theory, via the formulation and implementation of a maximum principle; to elastoplastic dynamics, with a suitable numerical approach; to plastic shake-down, with the first dynamic theorem equivalent of the Bleich-Melan theorem. Overall paving the way to a remarkable series of results of international level, obtained by the Italian school of plasticity also involving research groups from other universities.

A reserved scientist and an effective teacher, was a true gentleman, shy and somehow detached from the logic of academic power. Always left full freedom of choice of scientific themes to a meaningful number of disciples, and then professors, who were however strongly influenced by his style as a master and a non-invasive reference scholar, endowed with a variety of scientific interests and paying attention to both rigorous formulation of structural mechanics problems and their engineering implications.

Alfredo Corsanego (1936–2008) [27]

Professor of *Scienza delle Costruzioni* at the University of Genova (1975).

In the first half of his career, was meaningfully active on classical problems of elasticity, dynamics and stability of solids and structures, elastic systems in unilateral contact. Then, upon disastrous seismic events in Italy, research interests shifted away from classical topics of structural mechanics to the emerging problems of vulnerability and seismic risks of buildings. This was a sign of his deep-rooted yearning to contribute with all his scientific skill to the practical needs of the society, which would be later crowned with a strong commitment to the academic community.

Since 1980, worked on interpretative models for the nonlinear dynamics of soil and soil-structure interaction, and on seismic design of new structures and strengthening of existing structures. Seismic vulnerability was the fundamental field of interest, where contributed innovative methodologies for buildings, territorial systems, local seismic hazard, and for forecasting post-seismic scenarios, always working in a pioneering multidisciplinary setting.

Played a determinant role in the issue of safety and conservation of Italy's architectural and monumental heritage, taking important part in the debate on Italian and European seismic standards, and developing Recommendations issued by the National Committee for Protecting the Cultural Heritage against Seismic Risk.

President of the Scientific Council of the Seismic Risk Research Institute of CNR, in the last decade of his life coordinated the Committee of Civil Engineering and Architecture of the National University Council (CUN), actively participating to the ongoing discussion on the great transformation of universities.

A cultured scientist, a true engineer, a noble, fair and far-sighted man, ready to consider the reasons and needs of those he was working with, tolerant with those who disagreed, and always careful to safeguard the institutions and the dignity of individuals.

Carlo Cercignani (1939–2010) [28, 29]

Professor of Rational Mechanics at the Polytechnic of Milano (1975).

One of the leading mathematical physicists, active in PDEs, numerical analysis, semigroup theory, Monte Carlo methods, spectral theory, Riemann-Hilbert problems, Fourier analysis, functional analysis, and other topics.

Gave fundamental contributions on kinetic theory and, in particular, the Boltzmann equation, where was a reference scientist from a mathematical, physical, historical and, more generally, cultural point of view. Upon developing a variational method for the integro-differential formula of the linearized Boltzmann equation, obtained meaningful results on boundary conditions, models with discrete velocities, relativistic gases, polyatomic gases, the H-Theorem and shock waves, the kinetic modeling of granular media, evaporation–condensation processes, the long time behavior of the spatially homogeneous Boltzmann equation, its derivation from microscopic models, the search for self-similar solutions and the study of solutions with infinite energy, theorems of existence and uniqueness for the Boltzmann and Enskog equations.

Improved turbulence models for numerical simulation of the filtered Navier–Stokes equations, with numerical applications to turbulent jets, convection problems, turbulent flows in a plane channel, homogeneous isotropic turbulence, turbulence associated with combustion processes. Studied instability in rarefied gases, with main results pertaining to the long time behaviour and the formation of coherent structures and attractors.

In the last decade of his activity, combining the kinetic methods of the Boltzmann equation with the continuum Reynolds equation, obtained interesting results also in the modeling and analysis of MEMS.

Was always present at important international symposia on Rarefied Gas Dynamics and the Oberwolfach workshops in Many-Particle Systems.

Italian representative in the IUTAM General Assembly for 23 years, was also a member of the IUTAM Bureau (2000–03). At the national level, devoted his attention to C.I.M.E. Summer Schools for several years, convinced of the need of an institution to foster contacts between young Italian mathematicians and most active international scholars.

Authored and co-authored appreciated books on kinetic theory and gas dynamics, including *The Boltzmann Equation and its Applications* (Springer, 1988)—a treatise which became the standard reference in kinetic theory—and the monograph *Ludwig Boltzmann, The man who trusted atoms* (Oxford University Press, 1988), which highlights his fascination for the vision of Boltzmann in terms of both scientific theories and philosophical thought.

Awarded with several prizes and honors, including the Gold Medal for Mathematics of the Accademia dei XL (1982); the Prize Città di Cagliari for Applied Mathematics (1992); the Honorary Degree of the Université Pierre et Marie Curie, Paris VI (1992); the Humboldt Prize (1994); the Italian State Medal for Science and Culture (1999). Was a member of the Accademia Nazionale dei Lincei, the Académie des Sciences (Paris), the Istituto Lombardo di Scienze e Lettere.

A worldwide esteemed scholar, a man of vast culture also beyond science, a rich and friendly human personality, a great example of enthusiasm, tenacity, commitment to scientific research, courage in a premature serious illness.

Piero Villaggio (1932–2014) [30–32]

Professor of Scienza delle Costruzioni at the University of Pisa (1966), and also Professor of Fluid Mechanics at the Scuola Normale Superiore. Visiting Professor at the Johns Hopkins University, Baltimore, the Herriot-Watt University, Edinburgh, and the University of Minnesota, Minneapolis.

One of the most honored and recognized personalities in the field of continuum mechanics, continued the long tradition of excellence established by Italian elasticians, while being an engineer with a much higher knowledge of mathematics and physics than a traditional engineer. His extreme variety of scientific interests ranged from engineering problems where the elastic model was the key tool to suggest a correct and effective design, to purely mathematical contributions. Studied important problems in elasticity, plasticity, fracture, stability (also of thermoelastic media and fluid mixtures), structural optimization. In many works, including his elastic theory of Coulomb friction, dealt with fundamental questions cleverly using an elementary classical linear elasticity framework to interpret and explain eminently nonlinear phenomena. Made extensive studies on variational inequalities: variational formulation of thermodynamic processes, a great number of unilateral elastic problems including the search for numerical methods of solutions, buckling under unilateral constraints, a general variational approach to the theory of structures, contact in elastic bodies ranging from onedimensional up to the threedimensional class of Signorini problems. General optimization was addressed on both theoretical grounds and application to specific cases, including the optimal distribution of loads in elastic solids, optimal reinforcements, shape-optimization. Also worked on more traditional problems of equilibrium, stability and optimization of plates and shells, the Saint-Venant principle, planar linear elastic problems, complex variable method in classical elasticity, energetic bounds in linear and nonlinear elasticity, linear elastic fracture mechanics, inclusions in elastic media, incompressible elasticity, aeroelasticity and aerodynamic stability, stability of finite element methods, non-linear hypoelastic materials. Collaborated with eminent colleagues around the world.

Notwithstanding the extreme variety of his scientific interests, “Piero was not an interdisciplinarian, because for him there were no disciplines; in a period of increasing specialization he remained a Natural Philosopher” [31]. Was always very attentive to the changing trends in scientific research, about which wrote critical and penetrating essays.

Published three books, including the treatise *Mathematical Models for Elastic Structures* (Cambridge University Press, 1997) containing a summa of analytical models in linear elasticity, and a critical review of selected works by Johann I. Bernoulli (1667–1748).

A seemingly severe and provocative man, was actually generous, honest, elegant and witty, with a profound classical culture, an extraordinary fascination, and a Socratic capability to extract the best from students or colleagues.

Extremely reluctant to honors, with difficult times for people attempting to celebrate him, was anyway a member of the Accademia Nazionale dei Lincei, Associate Editor of many international scientific journals, and Vice-President of AIMETA.

Francesco Benedettini (1956–2015) [33]

Professor of Structural Dynamics at the University of L'Aquila (2000), where helped establishing and was responsible of the Experimental Laboratory of Nonlinear Dynamics (later expanded to include In-situ Dynamic Testing) since 1992.

Contributed meaningful research on nonlinear vibrations of systems and structures, using the combination of advanced techniques, analytical, computational, geometrical, and experimental, needed to carefully detect and reliably characterize a variety of nonlinear and complex dynamic phenomena possibly occurring in different engineering areas. Worked on finite amplitude oscillations of elastic monodimensional systems with initial curvature (suspended cables and arches), first obtaining high-order multiple time scale solutions of reduced order models in different external and internal resonance conditions, and then dealing with bifurcation and chaos phenomena with advanced numerical and geometrical techniques. A pioneering experimental activity allowed him to cross-validate theoretically observed phenomena via sophisticated techniques of reconstruction of the nonlinear response of a variety of flexible physical systems.

In the last 15 years of activity, shifted his main research interests towards more applicative problems in the area of structural mechanics and engineering, focusing on the identification and monitoring of structures, where contributed to experimental modal analysis in operational conditions, damage identification and model updating, monitoring dynamical properties of a great variety of bridges and other important structures subjected to ambient vibrations. Chaired the International Operational Modal Analysis Conference (IOMAC).

Constantly complemented theoretical and numerical investigations with the advanced use and the innovative implementation of experimental techniques suitable to analyze the response of systems at both the small-scale of a specialized nonlinear dynamics lab and the large-scale of real structures in civil engineering.

An open-minded, determined, and tireless scholar, full of brilliant initiatives and human richness and availability towards students and colleagues, was a true gentleman in both the behavior and the soul depth.

Giuseppe Grioli (1912–2015) [34]

Professor of Rational Mechanics (1949), and then Emeritus, at the University of Padova.

Follower of Antonio Signorini, was a specialist of mathematical problems in asymmetric elasticity and media with couple stresses, with international prestige in most celebrated environments of continuum mechanics. Was also significantly active in the dynamics of rigid bodies, dealing with problems of celestial mechanics where his abstract approach to the search for families of exact solutions somehow complemented the more operational one of his assistant and collaborator Giuseppe Colombo.

Dean of the Faculty of Science (1968–75), was member of the Accademia dei Lincei, the Accademie delle Scienze di Torino e di Palermo, the Accademia Patavina di Scienze, Lettere ed Arti, the Accademia Peloritana dei Pericolanti, and the Istituto Veneto di Scienze, Lettere ed Arti, as well as President of the National Group of Mathematical Physics of the National Research Council for many years. Was also member of the AIMETA Council.

An old-fashioned gentleman of calm authoritativeness and great poise, with many devoted disciples and collaborators.

Raffaele Casciaro (1943–2020) [35]

Professor of Scienza delle Costruzioni at the University of Calabria (1988).

Since the early 1970s, scientific interests focused on computational mechanics, an area where he was one of the pioneers and founders, with several academic activities undertaken over the years. Developed structural models and numerical methods for simulating the mechanical behavior of structures, always paying attention to practical problems. Contributed meaningful research to a variety of topics: limit and shake-down analysis, structural dynamics, nonlinear analysis of slender structures prone to buckle, modeling of geotechnical problems, solution algorithms for nonlinear problems, nonlinear structural models and their finite element formulations, multigrid methods, modeling of masonry and reinforced concrete structures.

Dealing with nonlinear problems through incremental methods, significantly strengthened the arc-length formulation for the analysis of slender structures via a mixed description in stress and displacement outperforming standard displacement descriptions in terms of robustness and efficiency. Also generalized the Riks path-following analysis to a strategy suitable for solving the optimization problem deriving from the static shakedown theorem and for handling the unstable static response of softening materials in masonry walls.

A milestone of his research activity was the finite element implementation of Koiter's theory of elastic stability, resulting into an innovative tool able to efficiently estimate the initial post-critical behavior of elastic slender structures taking the imperfection sensitivity into account also in case of almost coincident buckling loads.

Was an original and fascinating teacher, capable to communicate complex and advanced topics in a simple and synthetic way, focusing on general aspects of solid and structural mechanics. With modern and unconventional lectures and a great charisma, trained a generation of engineers. His early (late 70s) course of Theory of Structures was way ahead of time as regards treating topics with a clear computational mechanics approach for the analysis of real-life structures discretized with the finite element method. He loved spending hours working side by side with young researchers, and quickly transferring knowledge to them.

Intelligence, brilliant intuition, and a profound generosity were his best qualities. His ability to explore in-depth new topics in a few minutes was impressive, along with the capability to eliminate redundant details from a complex problem and to focus on its main logical scheme, often being able to detect weaknesses or strengths via

few theoretical concepts. Was also a sophisticated intellectual with a broad culture including interests in history, music and literature.

Gianpietro Del Piero (1940–2020) [36, 37]

Professor of *Scienza delle Costruzioni* at the University of Udine (1979) and the University of Ferrara (1991), was also visiting professor at prestigious foreign universities.

Contributions to continuum mechanics, and mostly finite elasticity, place him among the outstanding scientists of contemporary mechanics.

Was involved in research on the applicative nature of materials, in particular W. Noll's 'new theory' for material behavior and numerical techniques for solving boundary problems. Contributed significantly to the theory of no-tension materials and materials with microstructure, with results giving rise to the theory of structured deformations. Investigated the symmetries of the elastic tensor, the notions of state and free energy in linear viscoelasticity, the elasticity tensor in transversally isotropic materials. Worked on a unified model of material behavior, based on an energetic approach, and on the mechanisms of rupture and dissipation in a wide class of materials.

In the new millennium, research interests turned to the thermodynamic foundations of linear viscoelasticity, the notion of body in continuous mechanics, a theoretical–experimental study on the behavior of expanded and cellular polymers, a study of local minima in finite elasticity, and to adhesion problems. Worked on the numerical calculation of the fracture load and the determination of the fracture pattern in nonlinear elastic solids.

In the last few years, expanded his interests to the research of a common basis to the phenomena of fracture, plasticity, damage and creation of microstructure, treating them in a unified manner via the incremental energy minimization. Obtained meaningful theoretical advances, revisiting the foundations of the mechanics of generalized continua, and proposing an axiomatic theory independent of the concepts of motion and inertia and able to provide a simple and unitary formulation for many classes of generalized continua.

On most of the above topics, collaborated with top-level foreign scholars and advised a huge number of young Italian scientists, later become university professors. Indeed, was also an exceptional teacher, able to transmit complex concepts with great clarity, logic, rigor and formal order, mostly at high-level education. Combining interests to traditional and advanced issues, "he was the perfect specimen of last century's Italian professor of *Scienza delle Costruzioni*, the accomplished product of a noble school" [37].

A man of outstanding scientific and moral rigor, "adamant that he was not going to settle for anything less" than his very high standards [37], and with an assiduous quest for depth of knowledge, an exceptional culture, a great sense of justice, a sincere humanity and a substantial modesty.

Giovanni Solari (1953–2020) [38, 39]

Professor of Structural Engineering at the University of Genoa (1990).

A giant in the field of wind engineering, where he made insightful research on modeling wind loads on structures, with special regard to the closed form solution of the alongwind and 3D response of structures, the equivalent wind spectrum technique, the proper orthogonal decomposition and double modal transformation, the wind-induced fatigue, the extreme wind speed statistics and the thunderstorm outflows. Many of these contributions had a relevant impact on engineering practice, structural design, and codification sector. Also for these reasons, in 2017 was awarded with an ERC Advanced Grant, THUNDERR, which has produced some of the most cutting edge research in the field and has matriculated a very talented cadre of students from the newly installed Ph.D. program at the University of Genova in “Wind Science and Engineering”.

In 1999, the Wind Engineering community entrusted him to chair the panel appointed to create a new framework and organization of the International Association of Wind Engineering (IAWE), and then elected him as the first IAWE President.

Received numerous scientific awards of great international prestige, including the Jack Cermak Medal and the Robert H Scanlan Medal of ASCE (American Society of Civil Engineers), the Alan Davenport Medal of IAWE, the Otto H.G. Flachsbart Medal of Windtechnologische Gesellschaft e.V. Germany-Austria-Switzerland, the Senior Special Award of EASD (European Association for Structural Dynamics). Also received an Honorary Degree from the Technical University of Civil Engineering of Bucharest (Romania) and was Honorary, Guest and Adjunct Professor in several foreign universities.

Was an honest, committed, driven, unassuming scholar, and a real gentleman, as well as a “maestro” for many young people, who had the privilege of collaborating with him in his research activities.

References

1. Maugin, G.A.: *Continuum Mechanics through the Twentieth Century*. Springer Science, Dordrecht (2013)
2. Massa, E., Supino, G.: Bruno Finzi. *Meccanica* **5**, 3–6 (1970)
3. Obituary: Giulio Supino. *Meccanica* **13**, 126 (1978)
4. Obituary: Giuseppe Colombo. *Meccanica* **19**, 2 (1984)
5. Benvenuto, E.: Riccardo F. Baldacci. *Meccanica* **22**, 2 (1987)
6. Citti, P.: Pietro Caparrini. *Meccanica* **22**, 2 (1987)
7. Casci, C.: Luigi Crocco. *Meccanica* **22**, 58 (1987)
8. Maier, G.: Michele Capurso. *Meccanica* **22**, 178 (1987)
9. Galletto, D.: Cataldo Agostinelli. *Meccanica* **25**, 74 (1990)
10. Pandolfi, M.: Gianni Jarre. *Meccanica* **23**, 194 (1988)
11. Augusti, G.: Vincenzo Franciosi. *Meccanica* **24**, 70 (1989)
12. Cercignani, C.: Dario Graffi. *Meccanica* **26**, 193 (1991)
13. Golia, C.: Luigi Gerardo Napolitano. *Meccanica* **21**, 1–2 (1992)
14. Primicerio, M.: Giorgio Sestini. *Meccanica* **27**, 311 (1992)
15. Fasano, A., Primicerio, M.: Introduction to a special issue in memory of Giorgio Sestini. *Meccanica* **28**, 81 (1993)

16. Levi, F., Antona, E.: Placido Cicala. *Meccanica* **32**, 577–579 (1997)
17. Villaggio, P.: Ennio De Giorgi. *Meccanica* **32**, 481–482 (1997)
18. Nocilla, S.: Carlo Ferrari. *Meccanica* **31**, 715 (1996)
19. Nocilla, S.: Foreword to a special issue in memory of Carlo Ferrari. *Meccanica* **33**, 429–432 (1998)
20. Grioli, G.: Gaetano Fichera. *Meccanica* **32**, 259–260 (1997)
21. Corsanego, A.: Edoardo Benvenuto. *Meccanica* **34**, 295–296 (1999)
22. Bassani, R.: Lucio Lazzarino. *Meccanica* **34**, 57 (1999)
23. Bianchi, G.: Emilio Massa. *Meccanica* **34**, 467–468 (1999)
24. Maier, G., Sacchi Landriani, G.: Leo Finzi. *Meccanica* **39**, 493–494 (2004)
25. Rovetta, A.: Giovanni Bianchi. *Meccanica* **39**, 189–190 (2004)
26. Rega, G.: Giulio Ceradini: life and works. Commemoration at University of Rome La Sapienza (2006)
27. Gambarotta, L.: Commemoration of Alfredo Corsanego. In: Sinopoli, A. (ed.) *Mechanics and Architecture between Episteme and Técnica*, pp. 43–58, Edizioni di Storia e Letteratura (2010)
28. Frosali, G.: Carlo Cercignani: In memoriam. *Il Nuovo Cimento* **33 C**, 1 (2010)
29. Lampis, M., Pulvirenti, M.: Carlo Cercignani: In memoriam. *Kinetic and Related Models* **4**, 1 (2011)
30. Fosdick, R., Royer Carfagni, G.: In recognition of the 70th birthday of Piero Villaggio. *J. Elast.* **68**, 3–6 (2002)
31. Fosdick, R., Royer Carfagni, G.: Piero Villaggio: representative of the Italian tradition of honored elasticians. *J. Elast.* **116**, 103–114 (2014)
32. Del Piero, G.: In memory of Piero Villaggio. *Meccanica* **51**, 741–746 (2016)
33. Luongo, A., Rega, G.: Nonlinear dynamics, identification and monitoring of structures: a special issue dedicated to the memory of Francesco Benedettini. *Meccanica* **51**, 2535–2540 (2016)
34. Valent, T.: Commemoration of Giuseppe Grioli (in Italian). *Atti dell' Istituto Veneto di Scienze, Lettere ed Arti* **CLXXV** (2016–2017)
35. Garcea, G.: In memory of Professor Raffaele Casciaro. *Meccanica* **55**, 1847–1851 (2020)
36. Commemoration of Gianpietro Del Piero. <https://www.aimeta.it/index.php/notizie/162> (2020)
37. Podio-Guidugli, P.: Remembering Gianpietro Del Piero. *Meccanica* **56**, 2415–2428 (2021)
38. Kareem, A.: Celebrating the life of Prof. Giovanni Solari. http://psiw.org.pl/doc/Giovanni%20Solari_2020.pdf. (2020)
39. Piccardo, G.: Private Communication (2021)