CURRICULUM VITAE (SHORT)

FABIO ROSSO

PERSONAL DATA: Birth date: September 24, 1949. Citizienship: Italian. Graduated *summa cum laude* in Mathematics at the University of Naples, January 30, 1975.

ACADEMIC CAREER: fellowship of the National Research Council since 1975 to 1976 in Naples, fellowship of the Ministry od Education since 1976 to 1978, professor in charge (lecturer) at the University of Calabria since 1978 to 1980, researcher since 1980 to 1983, associate professor since 1983 to 1987 first at the University of Naples Federico II and then since 1987 to 2004 at the University of Florence, full professor of Mathematical Physics at the University of Florence since 2004 until retirement in 2019.

TEACHING ACTIVITY IN ITALY: Advanced Mathematics, Classical Mechanics of solids and continuous media, Fluid Mechanics and Magnetofluiddynamics, Calculus I and II for Biologists, Geologists and similar applied sciences. Fundamentals of Mathematical Physics, Mathematical Modeling in the Applied Sciences.

TEACHING ACTIVITY ABROAD: various courses of Calculus and Fluid Mechanics at the University of Minnesota (U.S.A.), PhD courses in Tucumán, San Luís, Buenos Aires, Rosario (Argentina), Trujillo and Lima (Peru) on Mathematical Modelling in Industrial Mathematics.

PAST AND ACTUAL RESEARCH INTERESTS: singular space-time in General Relativity (until 1980), the mathematical theory of fluid dynamic stability, mathematical modelling of dispersions, emulsions of two or more immiscible liquid components, mathematical problems in earth sciences, dynamics of non Newtonian fluids, dynamical models for the evolution of multiphase and multicomponent fluids in porous or fractured media, dynamics of yield stress fluids and related problems in lubrication theory, magma dynamics in terrestrial and planetary framework, fluid dynamics of blood micro-circulation, nonlinear phenomena in solid mechanics, safety problems related to electro-physiology applied to human health.

SCIENTIFIC PRODUCTION: author of about one hundred publications including articles in international journals, articles in Proceedings of International Congresses and some books.

INVITED PLENARY LECTURES IN THE LAST FIFTEEN YEARS: "Mathematical modelling of a geothermal reservoir" (ITLA conference, Quito, Ecuador september 2009), "Can Mathematical Modelling help geothermal resources exploitation?" (S.M. Tucumán, Argentina settembre 2010), "The MAC-GEO project" (Conceptión, Chile, 2010),"The geothermal project in Italy: problems and perspectives" (SIMAI-SIMA 2010, Cagliari, Italy june 2010), "Energy, water and environment" (Maths & Earth Meeting, Zaragoza, Spain june 2013), "Todo fluye como un río (Primera parte)" (Mendoza, Argentina dicember 2012), "Todo fluye como un río. (Segunda parte)" (Rosario, Argentina dicember 2012), "Old and new mathematical problems related to Bingham-type fluids" (Quito, Ecuador september 2014), "The lubrication paradox for a visco–plastic fluid" at the xv Encuentro de Matemáticas y sus Aplicaciónes (Quito, Ecuador october 2016), "How can we solve the lubrication paradox?" (VII MACI Congreso de Matemática Aplicada Computacional e Industrial, Comodoro Rivadavia, Argentina, may 2017 and Yasouj University Iran, may 2017), "Thin-film flow of an inhomogeneous fluid with density-dependent viscosity" (XVI encuentro de matemáticas y sus aplicaciones - Quito, Ecuador 2018), "Jökulhlaups challenging problems" (VII MACI Congreso de Matematica Aplicada Computacional e Industrial, Rio Cuarto, Argentina, 2019), "Recent advances in the mathematical modelling of the Fåhræus Linquist effect" (La Plata, Argentina, 2021), "Recent advances in blood microcirculation" (Santa Fe, Argentina, 2023)

FINANCED RESEARCH PROJECTS DURING CAREER (AS DIRECTOR OR JOINT-DIRECTOR): (C.N.R.) "Nonlinear filtration in porous media with liquid - solid interactions end related free - boundary problems", (UNIFI-SNAMPROGETTI) "Dynamic stability of concentrated suspensions of coal in water for the optimization of the pipelining process", (UNIFI) "Investigation over mathematical structures and methods by means of computational tools" (C.N.R.-UNIFI-POLITO) "Sedimentation bed dynamics in Newtonian and non-Newtonian carrier fluids", (C.N.R.-G.N.F.M.) "Modeling and simulation of multicomponent continuous systems", (C.N.R.-UNIFI-POLITO-UNITR) "Modeling and simulation of multicomponent continuous systems", Regione Toscana (TRESLA project) "Landslides in the marble quarries" Regione Toscana (MAC-GEO, UNIFI-CINIGEO project) "Mathematical Modelling of geothermal fields to monitor industrial exploitation", Research Foundation of UNIFI (MAIEUTIC project), Joint Research Program UNIFI-YASOUJ University (2017-2019).

SOME ACADEMIC PAST AND ACTUAL SOCIETY MEMBERSHIPS: U.M.I. (Italian Mathemathical Union), A.M.S., G.N.F.M. (National Group for Mathematical Physics), S.I.M.A.I. (Italian Society of Industrial and Applied Mathematics, this one since its fundation), corresponding member of I.A.M (Mathematical Institute of Mathematics of CONICET, Argentina).