



Biography of Sergio Neves Monteiro

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Biography

Sergio Neves Monteiro, 81, received his basic and college education at public institutions in Rio de Janeiro, Brazil. In 1966 he received a bachelor's degree in metallurgical and Materials Engineering at the Universidade Federal do Rio de Janeiro (UFRJ) the leading Brazilian Public University. This same year he was invited by Federick Rhines, head of the Materials Science and Engineering Department of the University of Florida (UF) USA to pursue a Master of Science degree, which he finished in 1967 under the advisory of Robert Reed-Hill. Back to Brazil he was invited to join the staff of the Coordenação dos Programas de Pós-Graduação em Engenharia (COPPE) of the UFRJ, where he contributes to create the Graduate Program in Metallurgical and Materials Engineering. Accepting another invitation, he went back to the UF in 1969 and finished his PhD in 1972. Returning to COPPE/UFRJ in Brazil, he became Full Professor in 1975. This same year he was invited to participate in an extension course of "Alternative Energies" at the War College in Rio de Janeiro. In 1976 he accomplished a semestral term at the Materialprüfungsanstalt, University of Stuttgart, as part of the Brazil-Germany Nuclear Program. In 1993 he was invited by the Government of the State of Rio de Janeiro to

participate in the creation of the Universidade Estadual do Norte Fluminense, UENF, where he became the head of the Laboratório de Materiais Avançados (LAMAV), first in Brazil with Russian heavy equipments to produce industrial synthetic diamonds. Retired from UENF in 2012, he joined the staff of the Materials Science and Engineering Department of the Instituto Militar de Engenharia (IME) in Rio de Janeiro where he contributed to raise IME's Post-Graduate Program in Materials Science and Engineering to a top Brazilian position in 2020.

At UFRJ he was elected Head of Department of the Escola de Engenharia (EE) UFRJ (1980 – 1982); invited as Director of COPPE (1982 – 1984); Assigned as Under-Rector of Research and Graduate Course of the University (1985 – 1986). At UENF, he was invited as Head of the LAMAV (1994) and University Vice-Rector of Research and Post-Graduate Studies Activities (1995). In Brasilia he was invited to be the Under-Secretary for Higher Education of the Country Ministry of Education (1984 – 1985). In Rio de Janeiro he served an invited term as the State Vice-Secretary for Science (1988 – 1991).

He was coordinator of on branch of a World Bank science and technology program in Brazil. He is an assigned consultant for the main Brazilian agencies for science and technology: Coordenação de Aperfeiçoamento de Pessoal de Nível Superior, CAPES, and Conselho Nacional de Desenvolvimento Científico e Tecnológico, (CNPq). He was invited as coordinator for the engineering areas and member of the board since 2010 and Presidente of the Board in 2013 of the Fundação de Amparo à Pesquisa do Estado do Rio de Janeiro, (FAPERJ). He was elected the Chairman of the Board and representative President, for the 2017/2018 term, of the Associação Brasileira de Metalurgia, Materiais e Mineração (ABM) a sister of the US Minerals, Metals & Materials Society (TMS). Since its foundation in 2012, he is the Executive Editor of the Journal of Materials Research and Technology, (JMRT), a joint Elsevier-ABM publication. He is also in the Editorial Board of three international journals and, particularly, Key-Reader of the Metallurgical and Materials Transactions A. Since 2006 he is an active member of TMS

as one of the coordinators of the annual characterization of Minerals, Metals and Materials Symposium. In San Antonio, Texas, USA, 2019, TMS held a Green Material Engineering Symposium in Honor of Sergio Neves Monteiro.

He has been involved in research activities with direct implication into technological development, mainly for Brazil. Starting with characterization of the first metallic titanium produced in the country in 1968, some of his research projects carried out up to 2010 are following.

- Improvement of clay products by the ceramic industry for civil construction
- Reuse of wastes from the lactic acid industry
- Efficiency of photovoltaic solar energy collectors
- Fatigue behavior of special steels for airplanes
- Evaluation of elastomers for bridge expansion joints
- Mechanical analysis for cryogenic stainless steel
- Development design for sewage treatment plant
- Pilot plant for effluent treatment from a graphic industry

After his assignment as Full Professor at IME, research works became directed towards the application of natural fibers as components of personal ballistic armors. In this endeavor his research team, including the visiting collaboration of Dr. Prof. Jaroslaw Drelich from the Michigan Tech, USA, were the first to propose natural fiber composites as part of multilayered ballistic armor. He is now referred to as the world's top research on ballistic armor by Scopus database.

He is the author of 154 deposited patents in the Instituto Nacional de Propriedade Industrial (INPI).

Monteiro received many relevant Brazilian and International awards and distinctions. Among which:

- Morro do Niquel Award from the Brazilian Society for Metallurgy, Materials and Mining (ABM) – 1976, 1977 and 1979
- Mercedes Benz Award, ABM – 1981
- Honor Dedication on Distinction, Coordination of Engineering Graduate Programs (COPPE) – 1988
- Top Research, 1-A, by the Brazilian Council of Scientific and Technological Development (CNPq) – 1993
- Superhard Materials Award by the Institute of Superhard Materials, Ukraine – 2001
- Hubertus Colpaert Award, ABM – 2005
- Top Research of the state of Rio de Janeiro, by Foundation for Research Support in the State of Rio de Janeiro (FAPERJ) – 2006
- Appreciation Award for organizing the 1st TMS – ABM International Materials Congress, TMS 2010
- Recovery of Economic Value of Metallic Waste Award, ABM – 2010
- Scientific and Academic Distinction, State University of the Northern State of Rio de Janeiro (UENF) – 2012
- The Minerals, Metals & Materials Society (TMS) Materials Characterization Award – 2015
- Best Paper in Characterization for Composite Materials, TMS – 2015
- Scientific Honor Award, Brazilian Army Department of Science and Technology (DCT) – 2019
- Scientific and Technological Award, by the Brazilian Engineering and Agronomy Regional Council (CREA) – 2019
- Best Post Award, TMS – 2019
- Emeritus Professor of the State by Rio de Janeiro, FAPERJ – 2020
- Leadership Award, TMS – 2020
- Brazilian Army Medal – 2020

- Scientific and Technological Research Work X Award, CREA – 2022
- Emeritus Professor of the Military Institute of Engineering (IME) – 2022
- Scientific and Technological Research Work XI Award, CREA – 2023
- Scientific Honor Award, Brazilian Army Agency of Innovation and Technology (AGITEC) - 2023