



UNIVERSIDADE FEDERAL DA BAHIA
Instituto de Física

Campus Universitário de Ondina
40210-340, Salvador, Bahia, Brazil
Fone: +55 71 3235 2890,
e-mail: ferreira@fis.ufba.br
FAX +55 71 3283 6606

August 19, 2020

To Whom it May Concern:

This letter is in support of a **PD Position** based preference petition application being submitted on behalf of **JOSÉ LUIS LIMA DE JESUS SILVA**.

I am providing this recommendation based on my qualifications as a previous Coordinator of the Graduate Program in Physics of the Federal University of Bahia, Brazil, Consultant to CAPES (Coordination of Improvement of Higher Education Personnel), and expertise in the field of Condensed Matter Physics.

I am a Full Professor at the Federal University of Bahia (UFBA), Brazil, and worked up to 1999 as a Senior Researcher at the National Institute for Space Research (INPE) in Brazil. My research interests involve a broad range of areas in physics. I have taught physics, for instance, Solid State Physics, for about 20 years, and have published over two hundred papers in condensed matter physics on optical and transport properties of semiconductor systems such as III-nitrides, carbides, oxides, and porous materials, spintronics, diluted magnetic systems, alternative energies, hydrogen production including calculations based on many-body effects by GDM and DFT. I have supervised the work of various undergraduate and graduate students over the years.

In recognition of my scientific contributions, I have been elected twice (National Elections, last time ended /Sept 2018) as Full Member (Steering Committee) to the National Research Council of Scientific and Technological Development – CNPq (Ministry of Science Technology, Innovation - MCTI), and Founded Member of the Bahia Academy of Science.

I have been Guest Professor at Linköping University, Sweden and Visiting Professor at many Institutions in Europe (including Uppsala and KTH-Royal Institute of Technology, Sweden) and the USA, Coordinator of the Natural Sciences Committee of the Bahia Foundation for Scientific and Innovation Development, Consultant to CAPES, Senior Research (Highest Level A) for the CNPq, Vice-Coordinator of the Northwest Strategic Laboratory of Nanotechnology (LMNano) – Recife, SisNano - Brazilian Nanotechnology Laboratories System MCTI, Advisory Committee for the Consortium for Innovation on Nanotechnology, Energy, and Materials (CINEMA)/Brazil-United States. Full Member of the Graduate Programs; Physics, Biotechnology (Health Science Institute), and Renorbio - Brazilian Northeast Network on Biotechnology.

Coordinator of the University Infrastructure Laboratory Program for Physics, Chemistry, Geophysics, Health Sciences, Biology, and Mathematics, running a budget of around US\$7millions and referee of numerous international magazines.

Mr (Ph.D. Candidate) Jose Luis Silva is one of the most brilliant graduate students I have had during the last years. As a graduate student, he showed high performance, and excellent skills during the past years at the Physics Institute-UFBa, as well as the ability to formulate ideas and experiments, especially in general physics, science, and technology.

Recently as a Ph.D. student (at Uppsala, Sweden) I have visited him at least once per year and has spent contact with him getting an even closer investigation of some semiconductor materials and more in-depth use of for instance DFT through VASP code and other programs with unique perspectives under Hybrid Materials for Conversion of Solar Energy.

During that time, I could even observe better his excellent background in, for instance, physics of semiconductors, hydrogen production, density functional theory with software implementations in different steps. Also, in his MSc Dissertation considered both theory and experiment investigations based on such studies.

It is worth to mention that he has started his Ph.D. in 2016, obtained the Licentiate degree in June of 2019, spent his Ph.D. studies at Uppsala University (Department of Physics and Astronomy) working on bringing together experiment and theory, and his Ph.D. thesis entitled: Modelling and Simulation of Electro-catalysts for Green Energy: From Solvated Complexes to Solid-Liquid Interfaces, will be defended on 23th of September.

It is on this basis that I enthusiastically recommend **Mr (Ph.D. Candidate), Jose Luis Silva**, as an outstanding graduate student of exceptional merit and ability who has the potential to make excellent contributions to the science in this ***PD Position***.

Antônio Ferreira da Silva
Professor