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PROFILE

Experienced protein biochemist with a passion for solving biological puzzles and transforming raw data into meaningful insights.

SKILLS

Data analysis and visualization.

Python, knowledge of statistical methods and machine learning.

Project development and management (R&D).

Protein Engineering.

Biologics purification and analytical characterization.

Structural biology and structural-functional analysis of protein complexes.

Basic understanding of R.

ANA R. CORREIA

Experience

SCIENTIST | AMGEN INC. — Thousand Oaks, CA, USA | Apr 2018 - Sept 2022

- Integrated multidisciplinary teams focused on leveraging and structuring data for ML/AI applications.
- Project development and management.
- Protein engineering, development of purification and analytical characterization workflows for established and novel antibody-like formats (including bi- and multivalent biologics).
- Mentoring, cross-training and supervision of junior scientists in purification, data analysis, and high throughput sample tracking systems.

POSTDOC | CALTECH — Los Angeles, CA, USA | Nov 2013 - Mar 2018

- Expression, purification, assembly and characterization of large macromolecular complexes.
- Structural determination of protein complex by X-ray crystallography.
- Expression and characterization of synthetic antibodies, for further use in crystallization assays.

POSTDOC | CNB-CSIC — Madrid, SPAIN | Aug 2011 - Oct 2013

- Production of virus in mammalian and fish cell lines. Purification of virus and viral like particles and subsequent biochemical and structural characterization (negative-stain and Cryo-EM).
- Viral ribonucleoprotein complexes extraction and characterization.

VISITNG RESEARCHER | BONN UNIVERSITY — Bonn, GERMANY | Feb 2010 - Jul 2010

- In vivo (yeast cells) and ex vivo (isolated mitochondria) characterization of a mitochondrial protein biogenesis.

INTERN AND VISITNG PHD STUDENT | NIMR-MRC — London, UK | 2005 - 2009

- Research training on molecular biology and NMR.

PHD STUDENT | ITQB-NOVA — Lisbon, PORTUGAL | 2006 - 2010

- Conformational and functional characterization of a mitochondrial protein using different biophysical techniques namely: fluorescence spectroscopy, differential scanning calorimetry, calorimetry, circular dichroism and NMR.

CO-FOUNDER | EUROINGREDIENTES — Lisbon, PORTUGAL | 2000 - 2005

- Co-founder, responsible for business development and establishing new suppliers.

Education

Ph.D. DEGREE, BIOCHEMISTRY, 2010 | ITQB-NOVA

BACHELOR'S DEGREE, BIOCHEMISTRY, 2005 | University of Lisbon (FCUL)

LANGUAGES

English

Spanish

Portuguese (native)

HOBBIES & INTERESTS

Hiking, scubadiving, ocean conservacy, MTB and traveling

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Additional Courses (Online)

- Python 3 Programming by University of Michigan on Coursera. Certificate earned in 2022
- Applied Machine Learning in Python by University of Michigan on Coursera. Certificate earned in 2023
- Applied Text Mining in Python by University of Michigan on Coursera. Certificate earned in 2023
- Machine Learning Specialization by Stanford University & DeepLearning.AI on Coursera. Certificate earned at August 30, 2023
- Deep Learning Specialization by DeepLearning.AI on Coursera. Certificate earned at September 21, 2023
- Data Science Specialization by Johns Hopkins University on Coursera. (8 courses from the specialization including R programming, certificates earned in 2021)
- Bioinformatics I and II by University of Toronto on Coursera. Certificate earned in 2023.
- Algorithms for DNA sequencing by Johns Hopkins University on Coursera. Certificate earned in 2023.

Actively developing and expanding my skills in computational biology and data science.

Publications

- Utility of physiologically based pharmacokinetic modeling to predict inter-antibody variability in monoclonal antibody pharmacokinetics in mice. (2023) **mAbs**, 15(1): 2263926.
- Development of in silico models to predict viscosity and mouse clearance using a comprehensive analytical data set collected on 83 scaffold-consistent monoclonal antibodies (2023) **mAbs**, 15(1):2256745.
- Architecture of the cytoplasmic face of the nuclear pore (2022) **Science**, 376 (6598):1174-1192.
- Enhancing the Prefusion Conformational Stability of SARS-CoV-2 Spike Protein Through Structure-Guided Design (2021) **Front. Immunol.**, 12, article 660198.
- Rational selection of building blocks for the assembly of bispecific antibodies (2020) **mAbs**, 13 (1), e1870058.
- Structural and functional analysis of mRNA export regulation by the nuclear pore complex (2018) **Nat. Commun.**, 9 (1):2319-2338.
- A new MR-SAD algorithm for the automatic building of protein models from low-resolution X-ray data and a poor starting model (2018) **IUCrJ.**, 5 (Prt 2):166-171.
- Nuclear pores. Architecture of the nuclear pore complex coat (2015) **Science**, 347, 1148-52.
- Probing the kinetic stabilities of Friedreich's Ataxia clinical variants using a solid phase GroEL chaperonin capture platform (2014) **Biomolecules**, 4 (4): 956-79.
- Revertants, low temperature, and correctors reveal the mechanism of F508del-CTFR rescue by VX-809 and suggest multiple agents for full correction (2013) **Chem. Biol.**, 20 (7):943-55.
- Iron binding activity in yeast frataxin entails a trade off with stability in the a1/b1 acidic ridge region (2010) **Biochem. J.**, 426(2):197-203.
- No evidence of direct binding between ursodeoxycholic acid and the p53 DNA-binding domain (2010) **Biosci Rep.**, 30(5):359-64.
- The conserved Trp-155 in human frataxin as a hotspot for oxidative stress related chemical modifications (2009) **BBRC**, 390(3):1007-11.
- Dynamics, stability and iron-binding activity of frataxin clinical mutants (2008) **FEBS J.**, 275, 3680-3690.
- Conformational stability of human frataxin and effect of Friedreich's ataxia related mutations on Protein Folding (2006) **Biochem. J.**, 398, 605-611.