Alan Cruz Dassie

Rosario Institute of Physics, 27 de Febrero 210Bis, Rosario, Argentina

+54 341 5159190 | dassiealan@gmail.com | github.com/alandassie | Alan Cruz Dassie

Higher Education

National University of Rosario *Rosario, Argentina*
Doctor in Physical Science *2020 - Current*
- **Supervisor:** Rodolfo Id Betan
- **Tesis title:** Microscopic determination of the alpha decay half life
- **Relevant Coursework:** Parallel Computing - HPC, Many-Body Quantum Theory, Superior Quantum Mechanics
- **Estimated graduation date:** October 2023

National University of Rosario *Rosario, Argentina*
MSc in Physical Science *2014 - 2019*
- **Grade Average:** 8.71 of 10
- **Tesis Supervisor:** Rodolfo Id Betan
- **Tesis title:** Study of the stability of Calcium isotopes by the exact solution of the superconductivity hamiltonian
- **Relevant Coursework:** Nuclear Physics, Quantum Mechanics, Statistical Mechanics, Computational Physics, Computation and Numerical Analysis

Publications

JOURNAL ARTICLES

CONFERENCE PROCEEDINGS

University Projects

Determination of the half-life and decay energy of neutrons in atomic nuclei *Rosario, Argentina*
National University of Rosario *Mar 2018 - Feb 2019*
Supervisor: Rodolfo Id Betan

Additional Courses

Michigan State University: FRIB-TA Summer School *Virtual*
A practical walk through formal scattering theory: Connecting bound states, resonances, and *August 2021*
scattering states in exotic nuclei and beyond
- This summer school offered an introduction to nonrelativistic quantum scattering theory, discussing its fundamental assumptions and techniques guided by concrete applications. Formal aspects, centered around the important concept of the S-matrix, were covered in detail, complemented at each step by numerical illustrations and hands-on programming exercises.
- **Organizers and Lecturers:** Kevin Fossez (ANL), Sebastian Koenig (NCSU), Heiko Hergert (MSU).

University of Maryland, The Catholic Univ. of America, Jefferson Lab *Virtual*
Winter School: Applications of Artificial Intelligence to Topics in Nuclear Physics *January 2021*
- The AI4NP Winter School gave to participants a deeper understanding on what Artificial Intelligence and Machine Learning are and how they can be used to analyze nuclear physics data, design new detectors, controls, and calibration systems for nuclear physics experiments and perform theoretical calculations of nuclear many-body systems. The AI4NP lecture topics emphasized in active Nuclear Physics research, both experiment and theory, that relies on AI/ML techniques, as well as synergies between the computer science and the NP communities and inspire areas for possible collaboration in order to foster vital contributions to urgent and long-term challenges for nuclear physics.
- **Lecturers:** Michelle Kuchera (Davidson College), Alessandro Lovato (ANL), Corey Adams (ANL), Cristiano Fanelli (MIT), Nobuo Sato (Jefferson Lab), **Organizers:** Paulo Bedaque (UMD), Amber Boehnlein (JLab), Tanja Horn (CUA).

Balseiro Institute, National University of Cuyo - National Atomic Energy Commission *Bariloche, Argentina*
Research Internship: Calibration of a FD-SOI sensor for dosimetry in low orbits. *February 2020*
- **Supervisors** Fabricio Alcalde Bessia, José Lipovetzky
- This work consisted in the development of an embedded system to carry out experiments of characterization of the response of the sensors at low dose rates, similar to those present in the orbit of the satellite. The experiments will allow in the future to perform a calibration of the devices for the range of dose rate to which they will be exposed in space. The work included the assembly of electronic circuits, programming of an Arduino platform, learning about MOS device physics and how to perform experiments with radiation sources.

Argentine Laboratory of Neutron Beams - National Atomic Energy Commission *Buenos Aires, Argentina*
School of Applied Neutronic Techniques. *October 2019*
Helded in the Constituyentes Atomic Center and Ezeiza Atomic Center/Dan Beninson Institute

National University of Asunción *Asunción, Paraguay*
Operator of personal computers and utility programs. *Mar 2015 - Dec 2015*

Scientific Conferences

Argentine Physical Association *Bariloche, Argentina*
107th Annual Physics Meeting *September 2022*
Conference and poster: Polonium-212 and Titanium-44 alpha decay

Argentine Physical Association *Webinar*
106th Annual Physics Meeting *October 2021*
Conference: Polonium-212 and Titanium-44 microscopic analysis of the alpha clustering

Argentine Physical Association *Webinar*
105th Annual Physics Meeting *September 2020*
Conference: Microscopic determination of the Calcium neutron drip-line

Argentine Physical Association *Buenos Aires, Argentina*
103th Annual Physics Meeting *September 2018*
Poster: Interactive experiences of some applications of Nuclear Physics

University of Buenos Aires *Buenos Aires, Argentina*
Second Conference on Physics teaching *November 2017*
Research and Support Center for Scientific Education

Skills

Programming Fortran, C/C++, Python, Julia
Miscellaneous Linux, Shell (Bash/Zsh), LaTeX(Overleaf/R Markdown), Microsoft Office, Git.

Languages

Spanish Native proficiency
English Professional proficiency
French Basic proficiency

References available upon request.