

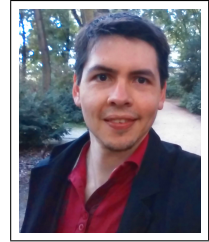
Diego Herbin Stalder Díaz

PHD in Applied Computing,

Languages: Spanish, Guarani, Portuguese, English and French
Engineering Faculty Researcher, Married, Barrio San Isidro Ybera,
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Technical skills

Physics , Space Weather, Earth Magnetic Field, Ionospheric Research.

Electronics , Instrumentation, Embedded System, Data Acquisition.

Machine Learning , classification, regression, clustering, data augmentation, neural networks, convolutional neural networks .

Statistical Methods , time series, regression models, hypothesis testing and confidence intervals, principal component analysis, feature selection and Bayesian Inference.

Software and Programming Languages , C, C++, Python(scikit-learn, numpy, scipy, pandas, tensorflow, Keras), Weka, R, Jupyter, Fortran90, CUDA and Java.

Linux, Shells, Scripting, and Data Management, High Performance Computing .

Databases , SQL, SQLite, Hdf5, , Postgres.

Recent Work Experience

- 2019–Recent **Full Time Researcher**, Engineering Faculty-FIUNA- National University of Asunción, Paraguay, Research Interests: Space Weather, Earth Magnetic Field, Ionospheric, Instrumentation, Embedded System, Data Acquisition Research, Scientific Computing, Data Science.
<http://www.ing.una.py/>
- 2018–2019 **Research Coordinator** , Paraguay Space Agency, Paraguay, Research Interests: Basic Space Engineering.
<http://www.aep.gov.py/>
- 2017–2019 **Part Time Researcher, thesis advisor and lecturer** , NIDTEC-FPUNA- National University of Asunción, Paraguay, Research Interests: Scientific Computing, Data Science, Galaxy Morphology, Face Recognition with Deep Learning.
<http://www.cc.pol.una.py/>
- 2017–Present **Teaching C Programming and Physics**, Engineering School-National University of Asunción(FIUNA), Paraguay.
<http://www.ing.una.py/>
- 2013–2018 **Bayesian Surface Photometry Analysis**, Develop of a new tool called PyPiGALPHAT (Python Pipelining GALPHAT) to access and analyze efficiently, samples of galaxies images (with thousand objects) in a CPU Cluster, INPE, in a collaboration with UMass, Brazil-USA.
- 2016 **Modeling Environmental effects on galaxies probed with MAGGIE with Fortran90 and Python**, Improving and applying MAGGIE to large datasets. MAGGIE is a prior- and halo-based, probabilistic, abundance matching (AM) grouping algorithm for doubly complete subsamples (in distance and luminosity) of flux-limited samples, IAP, France.

Education

- 2013-2017 **Phd in Applied Computing**, *National Institute for Space Research (INPE), Brazil*, Bayesian Surface Photometry Analysis, Develop of a new tool called PyPiGALPHAT (Python Pipelining GALPHAT) to access and analyze efficiently, samples of galaxies images (with thousand objects) in a CPU Cluster.
INPE, in a colaboration with UMass, Brazil-USA
- 2016 **Sandwich Research Scholarship**, *Institut Astrophysique de Paris, France*, Modeling Environmental effects on galaxies probed with MAGGIE with Fortran90 and Python, Improving and applying MAGGIE to large datasets. MAGGIE is a prior- and halo-based, probabilistic, abundance matching (AM) grouping algorithm for doubly complete subsamples (in distance and luminosity) of flux-limited samples.
IAP, France
- 2011-2013 **Master in Applied Computing**, *National Institute for Space Research (INPE), Brazil*.
- 2004–2010 **Bachelor Degree**, *Electronic Engineering -National University of Asunción, Paraguay*.

Publications

- Rafael Adorno, Diego Galeano, D. H. Stalder, Luca Cernuzzi, and Alberto Paccanaro. A recommender system approach for predicting effective antivirals. In *2021 XLVII Latin American Computing Conference (CLEI)*, pages 1–10, 2021.
- P. H. Barchi, F. G. da Costa, R. Sautter, T. C. Moura, D. H. Stalder, R. R. Rosa, and R. R. de Carvalho. Improving galaxy morphology with machine learning. *arXiv e-prints*, page arXiv:1705.06818, May 2017.
- J. V. Bogado, D. H. Stalder, C. E. Schaerer, and S. Gómez-Guerrero. Time series clustering to improve dengue cases forecasting with deep learning. In *2021 XLVII Latin American Computing Conference (CLEI)*, pages 1–10, 2021.
- JV Bogado, DH Stalder, CE Schaerer, and S Gómez-Guerrero. Time series clustering to improve dengue cases forecasting with deep learning. In *2021 XLVII Latin American Computing Conference (CLEI)*, pages 1–10. IEEE, 2021.
- CONNIE collaboration, Alexis Aguilar-Arevalo, Javier Bernal, Xavier Bertou, Carla Bonifazi, Gustavo Cancelo, Victor G. P. B. de Carvalho, Brenda A. Cervantes-Vergara, Claudio Chavez, Gustavo Coelho Corrêa, Juan C. D’Olivo, João C. dos Anjos, Juan Estrada, Aldo R. Fernandes Neto, Guillermo Fernandez Moroni, Ana Foguel, Richard Ford, Julián Gasanego Barbuscio, Juan Gonzalez Cuevas, Susana Hernandez, Federico Izraelevitch, Ben Kilminster, Kevin Kuk, Jr Lima, Herman P., Martin Makler, Mauricio Martinez Montero, Larissa Helena Mendes, Jorge Molina, Philipe Mota, Irina Nasteva, Eduardo Paolini, Dario Rodrigues, Y. Sarkis, Miguel Sofo Haro, Diego Stalder, and Javier Tiffenberg. Search for coherent elastic neutrino-nucleus scattering at a nuclear reactor with CONNIE 2019 data. *arXiv e-prints*, page arXiv:2110.13033, October 2021.
- R. R. de Carvalho, A. L. B. Ribeiro, D. H. Stalder, R. R. Rosa, A. P. Costa, and T. C. Moura. Investigating the relation between galaxy properties and the gaussianity of the velocity distribution of groups and clusters. *The Astronomical Journal*, 154(3):96, aug 2017.
- R. R. de Carvalho, A. L. B. Ribeiro, D. H. Stalder, R. R. Rosa, A. P. Costa, and T. C. Moura. VizieR Online Data Catalog: Groups of galaxies from from SDSS-DR7 (de Carvalho+, 2017). *VizieR Online Data Catalog*, page J/AJ/154/96, November 2017.
- Daniel Madeira, José Ricardo, Diego H. Stalder, Leonardo Rocha, Reinaldo Rosa, Otton T. Silveira Filho, and Esteban Clua. A strategy to workload division for massively particle-particle n-body simulations on gpus. In Beniamino Murgante, Sanjay Misra, Ana Maria A. C. Rocha, Carmelo Torre, Jorge Gustavo Rocha, Maria Irene Falcão, David Taniar, Bernady O. Apduhan, and Osvaldo Gervasi, editors, *Computational Science and Its Applications – ICCSA 2014*, pages 455–465, Cham, 2014. Springer International Publishing.
- Tatiana C Moura, Reinaldo R de Carvalho, Sandro B Rembold, Marina Trevisan, Andre L B Ribeiro, Angeles Pérez-Villegas, Francesco La Barbera, Diego H Stalder, and Reinaldo R Rosa. Stellar population properties of ETGs in compact groups of galaxies. *Monthly Notices of the Royal Astronomical Society*, 493(3):3238–3254, 02 2020.
- R R Rosa, R R de Carvalho, R A Sautter, P H Barchi, D H Stalder, T C Moura, S B Rembold, D R F Morell, and N C Ferreira. Gradient pattern analysis applied to galaxy morphology. *Monthly Notices of the Royal Astronomical Society: Letters*, 477(1):L101–L105, 04 2018.

D. H. Stalder, Reinaldo R. de Carvalho, Martin D. Weinberg, Sandro B. Rembold, Tatiana C. Moura, Reinaldo R. Rosa, and Neal Katz. Bayesian surface photometry analysis for early-type galaxies. *arXiv e-prints*, page arXiv:1711.02188, November 2017.

Diego H. Stalder, Reinaldo R. Rosa, José R. da Silva Junior, Esteban Clua, Renata S. R. Ruiz, Haroldo F. Campos Velho, Fernando M. Ramos, Amarísio Da S. Araújo, and Vitor G. Conrado. A new gravitational n-body simulation algorithm for investigation of cosmological chaotic advection. *AIP Conference Proceedings*, 1483(1):447–452, 2012.

M. Trevisan, G. A. Mamon, and D. H. Stalder. Group galaxy number density profiles far out: Is the ‘one-halo’ term NFW out to >10 virial radii? *Monthly Notices of the Royal Astronomical Society: Letters*, 471(1):L47–L51, 06 2017.