

Europass Curriculum Vitae

Updated
June 20, 2019

Personal information

Surname / First name

Address

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Nationality

Date of birth

Gender

Dias, António

Rua dos Escritores 7, 7C
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Portugal

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amcbd89@gmail.com

Portuguese

November 21, 1989

Male



Education

2014–Present

PhD Student of Physics Engineering, Faculdade de Ciências, Lisbon, Portugal

2007–2012

Master of Physics Engineering, Instituto Superior Técnico, Lisbon, Portugal

Master Thesis

- Title
- Supervisors
- Description

Modeling of Low Pressure Plasmas in CH₄-H₂ Mixtures

Luís Lemos Alves

Collisional-radiative (0-dimensional) study of methane-hydrogen study. Various kinetic pathways were reviewed and updated. Results were simulated for several experimental parameters (input power, neutral gas flow and discharge composition). A study of charged species in ambipolar electric fields is also performed and an updated method of calculating edge to center ratios of charge species density is proposed.

Experience

2015–current

Development of DAQBroker, universal experimental monitoring platform

2016–2017

Data acquisition consultant at the CLOUD experiment, Centre Européen pour la Recherche Nucléaire (CERN), Switzerland

2013–2016

Marie Curie Fellow - CLOUD experiment data acquisition expert, Centre Européen pour la Recherche Nucléaire (CERN), Switzerland

2019 - Present

Full-stack software developer & mentor - Mov.AI, Portugal

Languages

Mother tongue

*Self-assessment
European level^(*)*

English

French

Spanish

Portuguese

Understanding		Speaking		Writing
Listening	Reading	Spoken interaction	Spoken production	
C2 Proficient user	C2 Proficient user	C2 Proficient user	C2 Proficient user	C2 Proficient user
B2 Independent user	B2 Independent user	A2 Basic user	A2 Basic user	A2 Basic user
B2 Independent user	B2 Independent user	B2 Independent user	B2 Independent user	B2 Independent user

^(*) Common European Framework of Reference (CEF) level

Relevant skills

OS

Linux, Unix, Windows

Programming
Scientific

C/C++, PHP, Shell, Python, JavaScript
R, Matlab, Autocad, L^AT_EX, Solid Works

Web design

HTML, CSS, jQuery, Flask, nodeJS, React (Hooks & Classes), Webpack, Vue, Material UI, Bootstrap, D3, WebGL, internationalization, JWT, OAuth

Storage
Administration

MySQL, Postgres, Oracle, MSSQL, Redis
Apache, Nginx, Celery, ZeroMQ, HTTPS compliance

Interests

Professional Interests

Leveraging web technologies to provide the most useful data with the least amount of effort for users.

Private Interests

Tinkering with electronics and remote sensing/actuating enabled via Web. Developing web applications to solve shortcomings in everyday life.

Sports

Avid swimmer & scuba diver. Team sports - football, volleyball, water polo

Travelling

Aiming to visit every country in the world.

Publications

- [1] A. Dias, A. Amorim, and A. Tomé. Daqbroker - a general purpose instrument monitoring framework. In *23rd International Conference on Computing in High Energy and Nuclear Physics*, July 2018. Under publication.
- [2] C. Frege, I. K. Ortega, M. P. Rissanen, A. P. Praplan, G. Steiner, M. Heinritzi, L. Ahonen, A. Amorim, A.-K. Bernhammer, F. Bianchi, S. Brilke, M. Breitenlechner, L. Dada, A. Dias, J. Duplissy, S. Ehrhart, I. El-Haddad, L. Fischer, C. Fuchs, O. Garmash, M. Gonin, A. Hansel, C. R. Hoyle, T. Jokinen, H. Junninen, J. Kirkby, A. Kürten, K. Lehtipalo, M. Leiminger, R. L. Mauldin, U. Molteni, L. Nichman, T. Petäjä, N. Sarnela, S. Schobesberger, M. Simon, M. Sipilä, D. Stolzenburg, A. Tomé, A. L. Vogel, A. C. Wagner, R. Wagner, M. Xiao, C. Yan, P. Ye, J. Curtius, N. M. Donahue, R. C. Flagan, M. Kulmala, D. R. Worsnop, P. M. Winkler, J. Dommen, and U. Baltensperger. Influence of temperature on the molecular composition of ions and charged clusters during pure biogenic nucleation. *Atmospheric Chemistry and Physics*, 18(1):65–79, 2018.
- [3] A. Dias, S. Ehrhart, A. Vogel, C. Williamson, J. Almeida, J. Kirkby, S. Mathot, S. Mumford, and A. Onnela. Temperature uniformity in the cern cloud chamber. 10(12):5075–5088.

- [4] A. Dias, A. Amorim, and A. Tomé. CLOUDCLOUD : general-purpose instrument monitoring and data managing software. In *EGU General Assembly Conference Abstracts*, volume 18 of *EGU General Assembly Conference Abstracts*, page 13410, April 2016.
- [5] Jasmin Tröstl, Wayne K. Chuang, Hamish Gordon, Martin Heinritzi, Chao Yan, Ugo Molteni, Lars Ahlm, Carla Frege, Federico Bianchi, Robert Wagner, Mario Simon, Katrianne Lehtipalo, Christina Williamson, Jill S. Craven, Jonathan Duplissy, Alexey Adamov, Joao Almeida, Anne-Kathrin Bernhammer, Martin Breitenlechner, Sophia Brilke, Ant6nio Dias, Sebastian Ehrhart, Richard C. Flagan, Alessandro Franchin, Claudia Fuchs, Roberto Guida, Martin Gysel, Armin Hansel, Christopher R. Hoyle, Tuija Jokinen, Heikki Junninen, Juha Kangasluoma, Helmi Keskinen, Jaeseok Kim, Manuel Krapf, Andreas Kürten, Ari Laaksonen, Michael Lawler, Markus Leiminger, Serge Mathot, Ottmar Möhler, Tuomo Nieminen, Antti Onnela, Tuukka Petäjä, Felix M. Piel, Pasi Miettinen, Matti P. Rissanen, Linda Rondo, Nina Sarnela, Siegfried Schobesberger, Kamalika Sengupta, Mikko Sipilä, James N. Smith, Gerhard Steiner, Ant6nio Tomé, Annele Virtanen, Andrea C. Wagner, Ernest Weingartner, Daniela Wimmer, Paul M. Winkler, Penglin Ye, Kenneth S. Carslaw, Joachim Curtius, Josef Dommen, Jasper Kirkby, Markku Kulmala, Ilona Riipinen, Douglas R. Worsnop, Neil M. Donahue, and Urs Baltensperger. The role of low-volatility organic compounds in initial particle growth in the atmosphere. *Nature*, 533(7604):527–531, may 2016.
- [6] Jasper Kirkby, Jonathan Duplissy, Kamalika Sengupta, Carla Frege, Hamish Gordon, Christina Williamson, Martin Heinritzi, Mario Simon, Chao Yan, João Almeida, Jasmin Tröstl, Tuomo Nieminen, Ismael K. Ortega, Robert Wagner, Alexey Adamov, Antonio Amorim, Anne-Kathrin Bernhammer, Federico Bianchi, Martin Breitenlechner, Sophia Brilke, Xuemeng Chen, Jill Craven, Antonio Dias, Sebastian Ehrhart, Richard C. Flagan, Alessandro Franchin, Claudia Fuchs, Roberto Guida, Jani Hakala, Christopher R. Hoyle, Tuija Jokinen, Heikki Junninen, Juha Kangasluoma, Jaeseok Kim, Manuel Krapf, Andreas Kürten, Ari Laaksonen, Katrianne Lehtipalo, Vladimir Makhmutov, Serge Mathot, Ugo Molteni, Antti Onnela, Otso Peräkylä, Felix Piel, Tuukka Petäjä, Arnaud P. Praplan, Kirsty Pringle, Alexandru Rap, Nigel A. D. Richards, Ilona Riipinen, Matti P. Rissanen, Linda Rondo, Nina Sarnela, Siegfried Schobesberger, Catherine E. Scott, John H. Seinfeld, Mikko Sipilä, Gerhard Steiner, Yuri Stozhkov, Frank Stratmann, Antonio Tomé, Annele Virtanen, Alexander L. Vogel, Andrea C. Wagner, Paul E. Wagner, Ernest Weingartner, Daniela Wimmer, Paul M. Winkler, Penglin Ye, Xuan Zhang, Armin Hansel, Josef Dommen, Neil M. Donahue, Douglas R. Worsnop, Urs Baltensperger, Markku Kulmala, Kenneth S. Carslaw, and Joachim Curtius. Ion-induced nucleation of pure biogenic particles. *Nature*, 533(7604):521–526, may 2016.
- [7] C. R. Hoyle, C. Fuchs, E. Järvinen, H. Saathoff, A. Dias, I. El Haddad, M. Gysel, S. C. Coburn, J. Tröstl, A.-K. Bernhammer, F. Bianchi, M. Breitenlechner, J. C. Corbin, J. Craven, N. M. Donahue, J. Duplissy, S. Ehrhart, C. Frege, H. Gordon, N. Höppel, M. Heinritzi, T. B. Kristensen, U. Molteni, L. Nichman, T. Pinterich, A. S. H. Prévôt, M. Simon, J. G. Slowik, G. Steiner, A. Tomé, A. L. Vogel, R. Volkamer, A. C. Wagner, R. Wagner, A. S. Wexler, C. Williamson, P. M. Winkler, C. Yan, A. Amorim, J. Dommen, J. Curtius, M. W. Gallagher, R. C. Flagan, A. Hansel, J. Kirkby, M. Kulmala, O. Möhler, F. Stratmann, D. R. Worsnop, and U. Baltensperger. Aqueous phase oxidation of sulphur dioxide by ozone in cloud droplets. *Atmospheric Chemistry and Physics*, 16(3):1693–1712, 2016.
- [8] K. Ignatius, T. B. Kristensen, E. Järvinen, L. Nichman, C. Fuchs, H. Gordon, P. Herenz, C. R. Hoyle, J. Duplissy, S. Garimella, A. Dias, C. Frege, N. Höppel, J. Tröstl, R. Wagner, C. Yan, A. Amorim, U. Baltensperger, J. Curtius, N. M. Donahue, M. W. Gallagher, J. Kirkby, M. Kulmala, O. Möhler, H. Saathoff, M. Schnaiter, A. Tomé, A. Virtanen, D. Worsnop, and F. Stratmann. Heterogeneous ice nucleation of viscous secondary organic aerosol produced from ozonolysis of α -pinene. *Atmospheric Chemistry and Physics*, 16(10):6495–6509, 2016.
- [9] A. M. Dias, J. Almeida, J. Kirkby, S. Mathot, A. Onnela, A. Vogel, and S. Ehrhart. Temperature characterisation of the CLOUD chamber at CERN. *AGU Fall Meeting Abstracts*, December 2014.
- [10] A. Dias, J. Almeida, A. Amorim, A. David, A. Tomé, and CLOUD Collaboration. The cloud data acquisition system and online derivation of nucleation rates. *AIP Conference Proceedings*, 1527(1):393–396, 2013.