Fernando Oleo Blanco

Curriculum Vitæ

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Education

2020–2022	**Master (M.Sc.) in Mechanical Engineering (*Maschinenwesen*)** Technische Universität München (TUM).
2019–2022	**Master (M.Sc.) in Industrial Engineering** Comillas ICAI University.
2015–2019	**Bachelor of Industrial Engineering** Comillas ICAI university. Specialized in mechanical engineering.

Theses

2021–2022	**Master thesis**, *Max-Planck-Institut für Plasmaphysik (IPP)*, Garching Impact of viscous stress relaxation on the residual stress of a W-Cu joint component designed for the High-Heat-Flux targets of a nuclear fusion reactor. *Result:* developed an advance cutting simulation procedure; better understanding of creep; computational result support for experimental accessibility.
2021	**Semester thesis**, *Max-Planck-Institut für Plasmaphysik (IPP)*, Garching Impact of heat treatment on the mechanical properties of W-3.5Ni-1.5Cu heavy alloy. *Result:* recommended annealing after part production for substantial strength recovery.
2018–2019	**Bachelor thesis**, *CIEMAT, nuclear safety department*, Madrid The challenge of rewetting dry-stored spent nuclear fuel: numerical simulation.

Experience

2022—	**Empresarios Agrupados**, *Mechanical department* Currently working on the ThorCon Molten-Salt Reactor (TMSR-500), a Gen IV Nuclear Power Plant (NPP). Previously worked in the *Trial* project: maintenance and improvements to the Trillo and Almaraz Nuclear Power Plants.
2019–2020	**European project financed by EUROfusion**, *ICAI* Turbomachinery design and analysis for supercritical CO_2 power cycles. *Result:* showed a potential high-efficiency design (89%) using mean-line analysis.
2020	**Concepts NREC** Turbomachinery design workshop.
2020—	**Open Source development** Help and development of projects related to the Ada programming language, Alpine Linux and pkgsrc/NetBSD. User support and organization of community events. *Result:* updated GCC/GNAT for NetBSD in pkgsrc; FOSDEM Ada room organiser.
2017—	**Technical talks** Diverse talks given at the Max-Planck Institute, FOSDEM, ICAI and Youtube regarding a variety of topics: Open Source, $\LaTeX\,2_\varepsilon$, Linux, FEM and Raspberry Pi.

Languages

Spanish	Mother-tongue
English	CEFR C1 — TOEFL 116/120
German	CEFR B2

Professional skills

Mechanical software

CAD	Solid Edge, SolidWorks, Creo, AutoCAD, Salome, FreeCAD.
CAE	COMPAL, AXIAL, 3D printing slicing software.
Simulation	**FEM:** Abaqus/CAE, Code_Aster, FRAPTRAN.
	CFD: OpenFOAM. *In progress:* Code_Saturn.
	Post-processing, data analysis: ParaView, OpenTURNS/Persalys, custom code. *In progress:* Dakota.
Other	Simulink, GAMS, Maxima CAS. *In progress:* Scilab, *Open*Modelica.

Computer skills

Programming languages	**Extensively used:** Fortran 77-08, C (embedded systems), Shell, Matlab, R. **In progress:** Ada/Spark, Python 3, Scheme/Lisp, RISC-V assembly, VHDL.
Tools	Linux (used as primary OS), Git, virtualization, HPC, LaTeX 2_ε, et al.
Personal website	Running on Alpine Linux + NGINX, previously FreeBSD.

Personal information

Volunteer Experience

2017–2019, 2012–2014	**COSOCIAL** (provide help to kids with high risk of social exclusion through teaching)

Interests

- Practice piano since 2019.
- Interested in digital arts (2D and 3D).
- Interested in programming, electronics, mathematics, FEA, HPC...
- I have my own blog. I am interested in text composition, writing and typography.
- Sports: scuba diving (PADI), cycling and physical exercise.