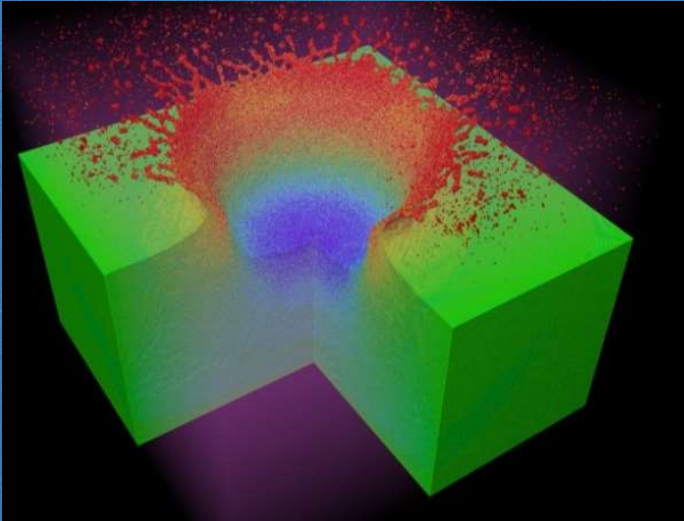


Tesina final de carrera



Eduardo M. Bringa
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CONICET

FI, Universidad de
Mendoza, Argentina

FING, Universidad
Nacional de Cuyo
Mendoza, Argentina

<https://sites.google.com/site/simafweb>

Funding:

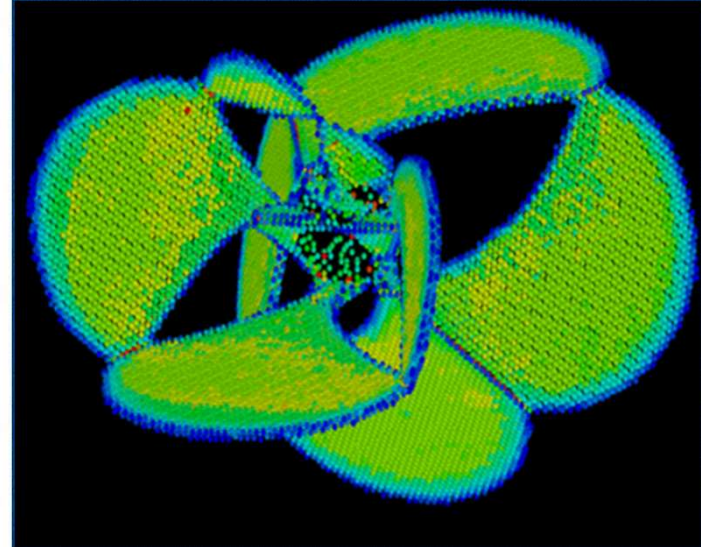
Agencia CyT, Argentina

FING, U Mendoza

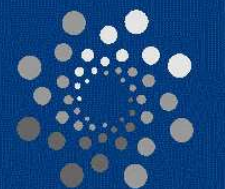
SIIP, UN Cuyo

Introduction

FING-UNCUYO



<https://meet.jit.si/TesinaFinal-FING-UNCU>



SiMAF

Investigación y docencia: direcciones y subsidios

4 tesinas finalizadas + 1 en curso, 5 doctorados finalizados + 4 en curso



BARILOCHE, ARG.
Comportamiento de clusters en plasmas



LIVERMORE, CA
Lásers, tokamaks,
nanotecnología,
rayos cósmicos.



UVa, CHARLOTTESVILLE
Iones bombardeando superficies,
viento solar bombardeando Europa
(luna de Júpiter). **DOCENCIA**



U DE MENDOZA, UN CUYO, ARG
Nanotecnología, condiciones extremas
de presión y temperatura, radiación, etc.
DOCENCIA

| Máquina | CPUs |
|--------------------------|--------|
| <u>IB (1995)</u> | |
| 386 | 1 |
| <u>UVa (2000)</u> | |
| T3E | 256 |
| <u>LLNL (2007)</u> | |
| Atlas | 9000 |
| BGL | 213000 |
| <u>NERSC (2006-2008)</u> | |
| Seaborg | 6900 |
| Franklin | 19320 |
| <u>UNCuyo (2008)</u> | |
| ITU | 24 |
| <u>SNCAD (2019)</u> | |
| TOKO | 350 |

E.M. Bringa's group: Simulations in Materials Science, Astrophysics, and Physics

<https://sites.google.com/site/simafweb>



Expertise in molecular dynamics (MD), granular mechanics, Monte Carlo (MC), and high performance computing (HPC) in general.

More than 10 papers published per year in international journals.

2 researchers, 1 postdoc, 3 Ph.D. students, 2 undergraduate students, “visiting” students

Researchers: D. Tramontina (mechanical properties, organic materials, irradiation) y G. Dos Santos (magnetism)

Postdoctoral Researcher: B. Planes (granular mechanics for astrophysics),

Graduate students: G. Mora (nanoscale thermal conduction), G. Garcia Vidable (nanodiamonds), O. Deluigi (Fe phase transitions and HEA).

Undergraduate students: F. Aquistapace (Machine Learning, Defects), Federico Cartellone (HEA)

Reviews for thesis, scientific papers and projects from Argentina and abroad

E.M. Bringa's group: Simulations in Materials Science, Astrophysics, and Physics

<https://sites.google.com/site/simafweb>



SiMAF

Simulaciones en Materiales Astrofísica y Física

Expertise in molecular dynamics (MD), granular mechanics, Monte Carlo (MC), and high performance computing (HPC) in general

Research activity in last 5 years:

Nano-science:

Mechanical and thermal properties of materials under extreme conditions. Magnetism.

Materials at high pressures:

Strength, plasticity, phase transformations.

Radiation damage and astrophysics:

Materials for GenIV and fusion reactors, cosmic rays, interstellar and solar grains.

Granular mechanics:

Cohesive grains, with dissipative dynamics. Collisions, cratering, fracture, densification.

Ecosystem modeling:

Ecosystem networks, plant distribution.

Software development:

Open-source codes, including some work on Machine Learning.

Active collaborations & joint funding with groups in Argentina, USA, EU and LatAm

Tesina

Tesina-PROGRAMA-2023.pdf disponible en:

<https://aulaabierta.ingenieria.uncuyo.edu.ar/course/view.php?id=1883>

Plataforma (para consultas virtuales): *Jitsi*

<https://meet.jit.si/TesinaFinal-FING-UNCU>

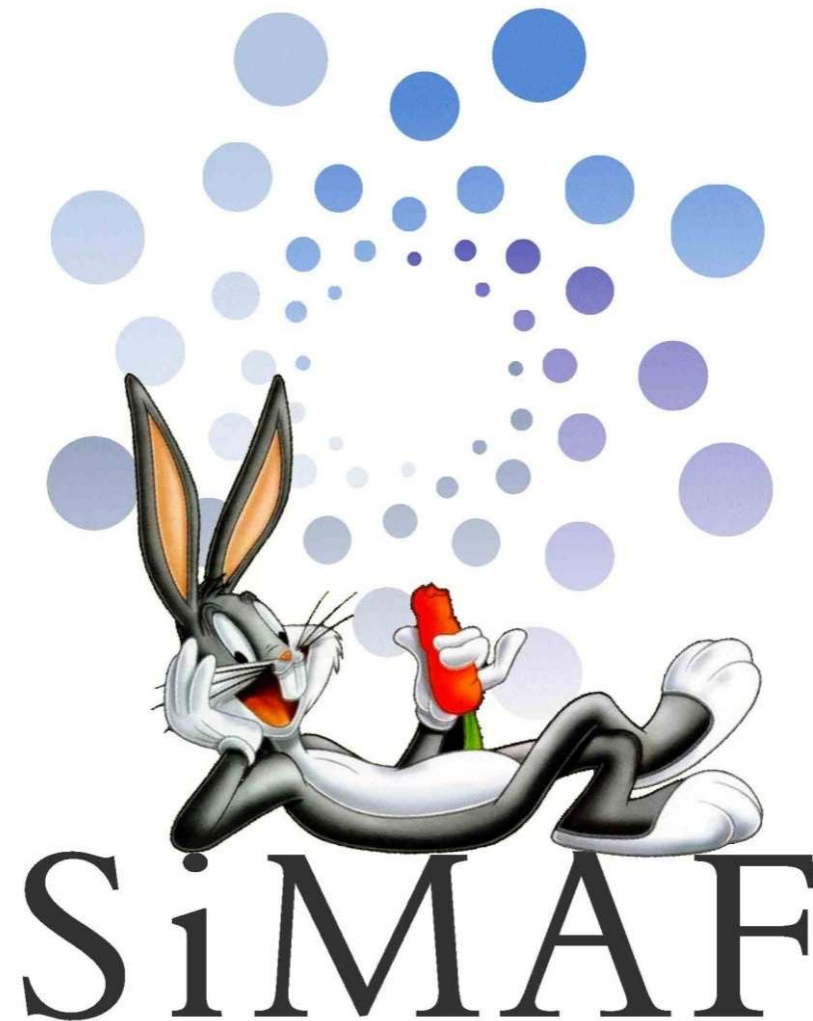
Feel free to suggest course material based on your specific needs

Contact: e-mail and WhatsApp chat

Outline

- **Introduction to the Scientific Method.**
- **Scientific “system”.**
- **Presenting scientific results in publications and meetings.**
- **Thesis planning**
- **Thesis writing.**
- **Thesis defense.**

That's all folks!!



Simulations in Materials Science, Astrophysics,
and Physics

<https://sites.google.com/site/simafweb>

Web master: M.J. Erquiaga; design: E. Rim