ACHRAF ATILA

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Marie-Curie-Strasse.31
91052, Erlangen
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EDUCATION

PhD Student Friedrich-Alexander-University of Erlangen-Nürnberg,
Thesis: "Influence of the topology and network connectivity on the deformation and fracture of oxide glasses"
Advisor: Prof. Dr.-Ing. Erik Bitzek

MS2 **University of Hassan II**, Physics of Materials and Nanomaterials, *2017*
Thesis: "Molecular dynamics simulation of the thermodynamic and structural properties of calcium aluminosilicate glasses"
Advisors: Prof. Said Ouaskit, Prof. Abdellatif Hasnaoui

MS1 **University of Hassan II**, Physics and New Technologies, *2016*

BS **University of Hassan II**, Physics and Applications, *2015*

RESEARCH EXPERIENCE

Research Associate, Friedrich-Alexander-University of Erlangen-Nürnberg (2018 –)

Teaching assistance, Friedrich-Alexander-University of Erlangen-Nürnberg (2018 – 2019)

- Precourse MatLab/Octave and Linux
- Introduction to atomistic simulation methods
- Student exams supervision

Master Research Internship, Faculty of Sciences Ben M'SIK – (LPMC), CASABLANCA, 2017
Advisor: Prof. Said Ouaskit, Prof. Abdellatif Hasnaoui
Project Title: "Molecular dynamics simulation of thermodynamics and structural properties of calcium aluminosilicate glasses".

Bachelor Internship Faculty of Sciences Ben M'SIK – (LPMC), CASABLANCA, 2015
Advisor: Prof. Mohamed Bennai
Project Title: "Introduction to Quantum Information Processing".

PUBLICATIONS

Publications:

- Computational Insights into the Structure of Barium Titanosilicate Glasses. E.M. Ghardi, **A. Atila**, M. Badawi, A. Hasnaoui, S. Ouaskit, *Journal of American Ceramic Society*, 102, 6626 (2019), doi: 10.1111/jace.16536

- Alumina effect on the structure and properties of calcium aluminosilicate in the percalcic region: A molecular dynamics invistigation. **A. Atila**, M.Ghardi, A. Hasnaoui, S. Ouaskit, *Journal of Non-Crystalline Solids*, 525, 119470 (2019), doi: 10.1016/j.jnoncrysol.2019.119470

- Atomistic insights into the impact of charge balancing cations on the structure and properties of aluminosilicate glasses. **A. Atila**, M. Ghardi A. Hasnaoui, S. Ouaskit, *Physical. Review. B*, 100, 144109 (2019), doi: 10.1103/PhysRevB.100.144109

Publications in Progress:

- Structural Relaxation of Glass at Room Temperature from a Direct Molecular Dynamics Simulation. **A. Atila**, S. Ouaskit, A. Hasnaoui (in progress)
- The impact of charge balancing cations on the structure and dynamics of aluminosilicate glasses: insights from atomistic simulations. **A. Atila**, A. Hasnaoui, S. Ouaskit, (in progress)

PRESENTATIONS AND POSTERS

Talk, "Atomistic Study of Mechanical and Structural Anisotropy of Metaphosphate Glasses". ISAM^4 Symposium, Erlangen, Germany on August 5-8, 2019. **A. Atila**, E. Bitzek

Poster, "Mixed alkaline-earth effect in metaphosphate glasses". DGG conference, Nürenberg, Germany on May 13-15, 2019. **A. Atila**, E. Bitzek

Poster, "Structural and mechanical properties of sodium, magnesium and calcium metaphosphate glasses: insights from molecular dynamics simulations". DPG spring meeting, Regensburg, Germany on April 1-5, 2019. **A. Atila**, E. Bitzek

Poster, "Atomistic simulations of silica and metaphosphate glasses: mechanical properties and mechanically-induced structural anisotropy". SPP1594 Spring school "Glass under load" Dusseldorf, Germany on February 19-22, 2019. **A. Atila**, S. Ganisetti, E. Bitzek

Poster, "The role of disorder in the BaO-TiO_2-SiO_2 glass plasticity: a molecular dynamics study". 9ème Rencontre nationale des jeunes chercheurs

en physique in Casablanca, Morocco on 27-29 December 2018. E.M. Ghardi, **A. Atila**, A. Hasnaoui, S. Ouaskit.

Paris International School on Advanced Computational Material Science – PISACMS2018, Paris, France on 26.08-02.09.2018

Poster, "Silica content effects on the elastic and structural properties of calcium aluminate glass: Insights from molecular dynamics." American Ceramic Society GOMD meeting in San Antonio, Texas, USA on May 20-24, 2018. H. Jabraoui, M. Badawi, **A. Atila**, S. Ouaskit, S. Lebègue, Y. P. Vaills

Oral, "Alumina content effect on thermodynamic mechanical and structural properties of calcium silicate glass: a molecular dynamics simulation." 6th International Conference Franco-Maghrebine on Nanomaterials for Energy and Environment (6'CFMNEE), Casablanca, Morocco on 19-21 March 2018. **A. Atila**, A. Hasnaoui, Y. Vaills, S. Ouaskit

Poster, "Charge balancing cations effect on elastic moduli of aluminosilicate glasses revealed by molecular dynamics simulations". 6th International Conference Franco-Maghrebine on Nanomaterials for Energy and Environment (6'CFMNEE), Casablanca, Morocco on 19-21 March 2018. **A.Atila**, M. Ghardi, A. Hasnaoui, S. Ouaskit

Poster, "Structural investigation of TiO_2 role in barium titanosilicate glasses: A molecular dynamics simulation". 6th International Conference Franco-Maghrebine on Nanomaterials for Energy and Environment (6'CFMNEE), Casablanca, Morocco on 19-22 March 2018. M. Ghardi, **A.atila**, A. Hasnaoui, H. Jabraoui , S. Ouaskit

Poster, "Molecular dynamic study of the thermodynamic and structural properties of Calcium Aluminosilicate glass. 2sd International conference of functional materials and their technological applications (CIMFAT). Casablanca, Morocco on 13 October 2017. **A. Atila,** H. Jabraoui, A. Hasnaoui, S. Ouaskit

PROFESSIONAL SERVICE

Member of the organization committee.
6th International Conference Franco-Maghrebine on Nanomaterials for Energy and Environment (6'CFMNEE), 19-21 March 2018

Member of the organization committee.
1st International Conference on Theoretical and High Energy Physics (ICTHP), 22-24 September 2016

REVIEWER

Journal of Non-Crystalline Solids,
Journal of Applied Physics

LANGUAGES

Arabic: Native Language
French: Advanced Listener, Advanced Speaker, Advanced Reading and Writing
English: Advanced Listener, Intermediate Speaker, Advanced Reading and Writing
German: Beginner (A1 level, A2 in progress)

COMPUTER SKILLS

- **Programming**: FORTRAN, C/C++, Python, LATEX
- **Web**: HTML, CSS
- **Software**: MATLAB, LabVIEW, MS Office
- **OS**: Windows, Linux (system administration)
- **Plotting**: GNUPLOT, Origin.
- **Simulations**: Classical MD (LAMMPS), Reactive MD.

REFERENCES

Prof. Abdellatif Hasnaoui,
Professor of physics (LS3M, FPK, University of Hassan I, Khouribga, Morocco)
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Prof. Said Ouaskit,
Professor of physics (LPMC, Faculty of Sciences Ben M'Sik, University of Hassan II Casablanca, Morocco)
Phone: 00212662102497
Email: s.ouaskit@gmail.com

Dr. Shivraj Karewar,
Postdoctoral researcher (Materials science and engineering, Institute I, Friedrich-Alexander-University of Erlangen-Nürnberg)
Gest researcher (Mechanical, maritime and materials engineering (3mE), TU Delft, Netherlands)
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