PERSONAL INFORMATION

Name: Rasmus Christensen
Date of birth: 23rd of October 1996
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EDUCATION

2018 - 2020	M.Sc. in Chemistry (average grade 11.9), Aalborg University, Denmark, *with external stay at University of California, Los Angeles in USA (3 months)*
2015 – 2018	B.Sc. in Chemistry (average grade 11.1), Aalborg University, Denmark

EMPLOYMENT

2022 –	Ph.D. Fellow in the group of Prof. Morten M. Smedskjær at Department of Chemistry and Bioscience, Aalborg University, Denmark
2020 – 2022	Research Assistant in the group of Prof. Morten M. Smedskjær at Department of Chemistry and Bioscience, Aalborg University, Denmark

GRANTS

2022 – 2025	PhD fellowship grant from Danish Data Science Academy for project "Computational design of disordered electrode materials for batteries" (1,890,000 DKK)

PUBLICATIONS

Journal articles

- **Christensen, R.**, Bleile, Y., Sørensen, S. S., Biscio, C. A. N., Fajstrup, L., & Smedskjær, M. M. (2023). Medium-range order structure controls thermal stability of pores in zeolitic imidazolate frameworks. Submitted to *ACS Materials Letters*

- Zhang, Q., **Christensen, R.**, Bødker M. L., Du, T., To, T., Muñoz, F., Bauchy, M., & Smedskjær, M. M. (2023) Mechanical Properties of Transparent Sodium Phosphosilicate Glass-Ceramics. Under review in *Physical Review Materials*

- Pedersen, E. J., To, T., Sørensen S. S., **Christensen, R.**, Christensen, J. F. S., Jensen L. R., Bockowski, M., Magdysyuk, O. V., Diaz-Lopez, M., Yue, Y, Smedskjær, M. M. Effect of short- and medium-range structure on fracture toughness of densified aluminoborate glasses. Under review in *Physical Review Materials*

- Chen, Z., Du, T., **Christensen, R**., M., Bauchy, M., Smedskjær, M. M. (2023) Deciphering how anion clusters govern lithium conduction in glassy thiophosphate electrolytes through machine learning. *ACS Energy Letters* DOI: 10.1021/acsenergylett.3c00237

- Chen, Z., Du, T., Sørensen S. S., **Christensen, R**., Zhang, Q., Jensen L. R., Magdysyuk, O. V., Diaz-Lopez, M., Bauchy, M., Yue, Y, Smedskjær, M. M. (2023) Structure dependence of fracture toughness and ionic conductivity in lithium borophosphate glassy electrolytes for all-solid-state batteries. *Journal of Power Sources* **553**, 232302

- **Christensen, R.**, Sørensen, S. S., Liu, H., Li, K., Bauchy, M., & Smedskjær, M. M. (2021). Interatomic potential parameterization using particle swarm optimization: Case study of glassy silica. *Journal of Chemical Physics* **154**, 134505.
- To, T., Sørensen, S. S., Christensen, J. F. S., **Christensen, R.**, Jensen, L. R., Bockowski, M., Bauchy, M., & Smedskjær, M. M. (2021). Bond Switching in Densified Oxide Glass Enables Record-High Fracture Toughness. *ACS Applied Materials & Interfaces* **13**, 17753–17765.
- Bødker, M. S., **Christensen, R.**, Sørensen, L. G., Østergaard, M. B., Youngman, R. E., Mauro, J. C., & Smedskjær, M. M. (2020). Predicting Cation Interactions in Alkali Aluminoborate Glasses using Statistical Mechanics. *Journal of Non-Crystalline Solids* **544**, 120099.

Patent applications

- 2022 Co-inventor of patent application 'Process to produce a glass-based article and glass-based articles' with To, T. and Smedskjær, M. M (P066817WO, EP2022/086278)

SCIENTIFIC FOCUS AREAS
Disordered materials; energy materials; structure/property relationships; molecular dynamics; machine learning; topological data analysis.

CONFERENCE PRESENTATIONS
- Interatomic potential parameterization using particle swarm optimization: Case study of glassy silica. Poster presented at *Topical Meeting on Molecular Dynamics. V*, Copenhagen, Denmark (August 2021)
- Characterizing diffusion channels in glassy electrolytes using topological data analysis. Oral presentation given at *26th International Congress on Glass*, Berlin, Germany (July 2022)

SOFTWARE COMPETENCES
Programming:	Python, PyTorch, Bash, Slurm, Singularity
Simulation codes:	LAMMPS and CP2K
HPC experience:	State-of-the-art national and international GPU- and CPU-based high-performance computing clusters