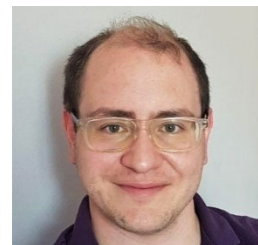


CURRICULUM VITAE

Andrea Giuntoli

Zernike Institute for Advanced Materials, University of Groningen
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1. PERSONAL

Place and Date of birth: Lucca (Italy), December 5, 1990

Nationality: Italian

Languages: Italian (mother tongue), English (fluent), Dutch (intermediate – B1/B2)

Education

Ph.D., Physics, University of Pisa, full marks with honors **2014-2018**

Dissertation: *Elasticity and scalings in amorphous solids and thin polymer films*

Advisor: Prof. Dino Leporini

M.A., Theoretical Physics, University of Pisa, full marks with honors **2012-2014**

Thesis: *A theoretical investigation of the fundamental properties of the minimalist models for proteins*

Advisor: Dr. Valentina Tozzini

B.A., Physics, University of Pisa, full marks with honors **2009-2012**

Academic Employment

Assistant Professor (tenure track), University of Groningen **Oct 2021-present**

Postdoctoral Researcher, Northwestern University **2019-2021**

Group Leader: Prof. Sinan Ketten

Postdoctoral Researcher, National Institute of Standards and Technology (NIST) **2018-2019**

Group Leader: Dr. Jack F. Douglas (NIST Fellow)

Awards and honors

- NWO XS research grant (2022), funded postdoc position **2022**
- University of Groningen FSE research grant, funded PhD position **2022**
- “Best Pitch Award”, Proposal Pitch Competition, Northwestern University. **2020**
- PhD full scholarship, University of Pisa. **2014**
- “Master Degree Award”, University of Pisa for full marks with honors. **2014**

Membership of professional societies

- Member of the American Physical Society (APS), DPOLY division.

2. TEACHING & MENTORING

Teaching

- Course coordinator for Biomechanics (BSc), University of Groningen **2022-present**
- Lecturer for Physics for Modern Technology (BSc), University of Groningen **2022-present**
- Guest Lecturer for Designer Materials (MSc), University of Wageningen **2022-2023**
- Teaching assistant Computational Material Design (MSc), Northwestern University **2020-2021**
- Teaching Assistant for Physics 1 (BSc), University of Pisa **2014-2017**

Master and bachelor theses (co-)supervised

- Ilija Gjerapic, Applied Physics - BSc research project **2023**
- Ties Leenstra, Applied Physics - BSc research project **2023**
- Tushar Singh, Biomedical Engineering - BSc research project **2023**
- Ian Soede, Applied Physics - BSc research project **2022**
- Ilija Gjerapic, Applied Physics – BSc Honors College research project **2022**
- Madeline Durmowicz, Mechanical Engineering – BSc summer internship **2020**
- Eleanor Colligan, Mechanical Engineering – BSc summer internship **2020**
- Daniel Oh, Mechanical Engineering – BSc summer internship **2020**
- Matteo Becchi, Physics – MSc research project **2018**
- Nicola Calonaci, Physics – MSc research project **2017**

3. RESEARCH ACTIVITY

RESEARCH TOPIC

Multiscale modeling of functional supramolecular materials. Molecular dynamics of polymer composites, glass forming systems, self-assembly, and material design.

PhD theses (co-)supervised

- Yang Wang, conjugated polymers. Funding: CSC scholarship **2022-present**
- Nayan Vengallur, polyelectrolyte-based materials. Funding: Faculty grant **2022-present**
- Utku Gurel, branched polymers composites. Funding: Start-up grant **2021-present**

Postdoctoral researchers

- Jose Ruiz Lopez, self-healing in glasses. Funding: NWO XS grant **2022-present**

PUBLICATIONS

Google scholar link: <https://scholar.google.com/citations?user=WXfWAbkAAAAJ&hl=en>

1. S. Pal, K. Dansuk, **A. Giuntoli**, T. W. Sirk, S. Keten, “Predicting the Effect of Hardener Composition on the Mechanical and Fracture Properties of Epoxy Resins Using Molecular Modeling”, **Macromolecules** **2023**, June 13, [myux24itrtwl465365764fhx3r fhwt r t@h57:<<](https://doi.org/10.1021/acs.macromol.3c01457)
2. A. van Beek, **A. Giuntoli**, N. Hansoge, S. Keten, W. Chen, “Semi-Parametric Functional Calibration Using Uncertainty Quantification Based Decision Support”, **J. Verif. Valid. Uncert.** **2023**, 1-35.

3. Y. Zhu, **A. Giuntoli**, W. Zhang, Z. Lin, S. Keten, F. W. Starr, J. F. Douglas, “*The effect of nanoparticle softness on the interfacial dynamics of a model polymer nanocomposite*”, **J. Chem. Phys.** **2022**, 157 (9), 094901.
4. Y. Zhu, **A. Giuntoli**, N. Hansoge, Z. Lin, S. Keten, “*Scaling for the inverse thickness dependence of specific penetration energy in polymer thin film impact tests*”, **JMPS** **2022**, 161, 104808
5. **A. Giuntoli**, S. Keten, “*Tuning star architecture to control mechanical properties and impact resistance of polymer thin films*”, **Cell Rep. Phys. Sci.** **2021**, 2 (10), 100596.
6. **A. Giuntoli**, N. K. Hansoge, Z. Meng, A. van Beek, W. Chen, S. Keten, “*Systematic coarse-graining of epoxy resins with machine learning-informed energy renormalization*”, **npj Comput. Mat.** **2021**, 7 (1), 168.
7. N. K. Hansoge, A. Gupta, H. White, **A. Giuntoli**, S. Keten, “*Universal relation for effective interaction between polymer grafted nanoparticles*”, **Macromolecules** **2021**, 54 (7), 3052-3064
8. **A. Giuntoli**, N. K. Hansoge, S. Keten, “*Star topology increases ballistic resistance in thin polymer films*”, **Extreme Mechanics Letters** **2020**, 41, 101038.
9. **A. Giuntoli**, F. Puosi, D. Leporini, F. W. Starr, J. F. Douglas, “*Predictive relation for the α -relaxation time of a coarse-grained polymer melt under steady shear*”, **Science Advances** **2020**, 6 (17), eaaz0777.
10. **A. Giuntoli**, A. Chremos, J. F. Douglas, “*Influence of polymer topology on crystallization in thin films*”, **J. Chem. Phys.** **2020**, 152 (4), 044501.
11. A. Tripodo, **A. Giuntoli**, M. Malvaldi, D. Leporini, “*Mutual information does not detect growing correlations in the properties of a model molecular liquid*”, **Soft Matter** **2019**, 15 (34), 6784-6790.
12. **A. Giuntoli**, D. Leporini, “*Boson Peak decouples from elasticity in glasses with low connectivity*”, **PRL** **2018**, 121 (18), 185502.
13. M. Becchi, **A. Giuntoli**, D. Leporini, “*Molecular layers in thin supported films exhibit the same scaling as the bulk between slow relaxation and vibrational dynamics*”, **Soft Matter** **2018** 14 (43), 8814-8820.
14. **A. Giuntoli**, D. Leporini, “*Elastic modulus and yield strength of semicrystalline polymers with bond disorder are higher than in atomic crystals*” **J. Phys. Chem. Solids** **2018**, 118, 40-46.
15. **A. Giuntoli**, N. Calonaci, S. Bernini, D. Leporini, “*Effect of nematic ordering on the elasticity and yielding in disordered polymeric solids*” **J. Polym. Sci. B** **2017**, 55 (23), 1760-1769.
16. **A. Giuntoli**, S. Bernini, D. Leporini, “*Bond disorder, frustration and polymorphism in the spontaneous crystallization of a polymer melt*” **J. Non-Cryst. Sol.** **2016**, 453, 88.
17. **A. Giuntoli**, V. Tozzini, “*A theoretical investigation of the fundamental properties of the minimalist models for proteins*” Master thesis 2014, available at <https://etd.adm.unipi.it/t/etd-09022014-144841/>.

SELECTION OF INVITED LECTURES AND SEMINARS

- Invited Outreach Lecture “Emergence: a Paradigm Shift in the Science of the New Millenium”, YAG Pub Lectures serie, Groningen (May 2023) <https://www.youtube.com/watch?v=VQwUp3xsNm8>.
- Keynote talk “Trends and challenges in molecular- and particle-based mechanics”, EM graduate school symposium, Netherlands (Oct 2022).
- Invited Talk “Molecular dynamics to accelerate material design”, R&D workshop, Groningen (June 2022).
- Invited Seminar “Energy renormalization: a temperature-transferable coarse-graining scheme for glass-forming systems”, University of Eindhoven (May 2022).

- Invited Seminar “A world of information from the picosecond dynamics” University of Groningen (Nov. 2020).
- Invited Talk, “Energy Renormalization Approach to Coarse-Grained Epoxy Resins” SES annual meeting (Oct. 2020).
- Invited Talk, “A world of information from the picosecond dynamics”, Northwestern University (Oct. 2020). <https://www.youtube.com/watch?v=Z2c4kUsDcEc>.
- Talk, “Rejuvenation of a polymer melt after shear thinning and thermal jumps”, XV International Workshop on Complex Systems, Andalo (March 2019).
- Invited Talk, “The third way” University of Pisa (Apr. 2015).

4. PROFESSIONAL SERVICE

Institutional service at the University of Groningen

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|--|---------------------|
| • Member of the FSE Faculty Council | 2023-present |
| • Organizer of the Zernike Colloquia seminar series | 2021-present |
| • Committee member for the new Applied Physics BSc+MSc Rubrics | 2022-present |
| • Co-organized the Zernike Institute PhD symposium | Sept. 2022 |

Peer reviewing

- Reviewer for several journals, including Science Advances, Cell Reports Physical Science, npj Computational Materials, Soft Matter, Macromolecules, Materials.
- Grant reviewer for the German Research Foundation.

Professional development

- UTQ (national teaching qualification) – in progress.
- Mentoring PhD students.
- Managing PhD students with autism.
- 3 Dutch language courses, from 0 to B1/B2.