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Forschungsgebiete

I am interested in understanding the basic physics that controls how biological and synthetic materials change shape through the influence of processes such as growth or swelling. Our work uses both experimental and theoretical methods and has relevance in basic biology (morphogenesis), healthcare (tissue engineering) and robotics (the design of actuators).

Organisationszugehörigkeiten

Universitätsprofessor/in
Chemie und Physik der Materialien
Paris Lodron Universität Salzburg
Salzburg, Österreich
1 Okt. 2017 → present

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Aktivitäten

Examiner Of Bachelor Thesis
Dunlop, J. (Prüfer)
9 Okt. 2026

The paths of bone cells on curved surfaces
Dunlop, J. (Redner/in)
2 Sept. 2026

Examiner in Masters Chemistry and Physics of Materials
Dunlop, J. (Prüfer)
26 Aug. 2026

PhD Defence Examiner
Dunlop, J. (Prüfer)
24 Aug. 2026

Examination MSc Chemistry and Physics of Materials
Dunlop, J. (Prüfer)
21 Aug. 2026

Examination MSc Degree Science and Technology of Materials
Dunlop, J. (Prüfer)
17 Juli 2026

Examination BSc Degree Ing Wiss
Dunlop, J. (Prüfer)
16 Juli 2026

Examination BSc Degree Ing Wiss
Dunlop, J. (Prüfer)
17 März 2026

Examination BSc Degree Ing Wiss
Dunlop, J. (Prüfer)
13 März 2026

Examiner BSc Degree Ing Wiss
Dunlop, J. (Prüfer)
12 März 2026

Materialökologie - die Wechselwirkungen zwischen Materialien und Umwelt
Dunlop, J. (Redner/in)
21 Nov. 2025

Geometric clues direct tissue patterning, how surface curvature influences cell behavior.
Dunlop, J. (Redner/in)
11 Okt. 2025

Examiner MSc Degree Chemistry and Physics of Materials
Dunlop, J. (Prüfer)
10 Sept. 2025

Fire and Water - Exploring the Biomechanics of Banksia Follicles
Dunlop, J. (Redner/in)
25 Juli 2025

Examiner MSc Degree Chemistry and Physics of Materials
Dunlop, J. (Prüfer)
18 Juli 2025

Examiner BSc Ing Wiss
Dunlop, J. (Prüfer)
17 Juli 2025

Examiner BSc Ing Wiss
Dunlop, J. (Prüfer)
17 Juli 2025

Examiner of MSc Degree Chemistry and Physics of Materials
Dunlop, J. (Prüfer)
17 Juli 2025

Chair of Examination Committee MSc Degree Chemistry and Physics of Materials
Dunlop, J. (Prüfer)
26 Juni 2025

Reviewer and Chair of MSc Degree Chemistry and Physics of Materials
Dunlop, J. (Prüfer)
26 Juni 2025

Chair (and reviewer) of comittee for MSc Chemistry and Physics of Materials
Dunlop, J. (Prüfer)
27 Mai 2025

Packing Fibres on Curved Surfaces – Towards a model for 3D tissue growth in bone
Dunlop, J. (Redner/in)
19 Mai 2025

Examiner BSc Ing Wiss
Dunlop, J. (Prüfer)
16 Mai 2025

Examiner of MSc Degree Chemistry and Physics of Materials
Dunlop, J. (Prüfer)
16 Mai 2025

Examiner BSc Ing Wiss
Dunlop, J. (Prüfer)
14 März 2025

Chair of Examination Committee Masters Lehramt
Dunlop, J. (Prüfer)
6 März 2025

External Evaluator of PhD Thesis for TU Eindhoven
Dunlop, J. (Gutachter/in)
5 Feb. 2025

Growing Fibres on Curved Surfaces—Towards an Understanding of Tissue Growth in Bone
Dunlop, J. (Invited speaker), Pertl-Obermeyer, A. (Präsentator/in), Belska, P. (Präsentator/in), Schamberger, B. (Präsentator/in), Anoop, P. (Präsentator/in), Roschger, A. (Präsentator/in), Fischer, F. D. (Präsentator/in), Fratzl, P. (Präsentator/in) & Antretter, T. (Präsentator/in)
4 Dez. 2024

Curvature and its role in tissue chirality
Belska, P. (Redner/in), Schamberger, B. (Präsentator/in), Pertl-Obermeyer, A. (Präsentator/in), Roschger, A. (Präsentator/in) & Dunlop, J. (Präsentator/in)
28 Aug. 2024 → 30 Aug. 2024

CurvoBio 2024
Dunlop, J. (Mitwirkende/r)
28 Aug. 2024 → 30 Aug. 2024

The role of curvature gradients on collective cell behaviour
Anoop, P. (Redner/in), Belska, P. (Präsentator/in), Pertl-Obermeyer, A. (Präsentator/in), Schamberger, B. (Präsentator/in), Roschger, A. (Präsentator/in) & Dunlop, J. (Präsentator/in)
28 Aug. 2024 → 30 Aug. 2024

PhD Defence - Examiner
Dunlop, J. (Prüfer)
3 Juni 2024

Reviewer and Examiner JD Engineering Science
Dunlop, J. (Prüfer)
17 Mai 2024

Substrate curvature and its control on tissue chirality
Belska, P. (Redner/in), Schamberger, B. (Präsentator/in), Roschger, A. (Präsentator/in) & Dunlop, J. (Präsentator/in)

15 Apr. 2024 → 18 Apr. 2024

Examiner MSc Degree Chemistry and Physics of Materials
Dunlop, J. (Prüfer)
21 März 2024

Rubbing Powders: Interfacial Radical Formation in Compacted Nanoparticle Ensembles
Diwald, O. (Redner/in), Schwab, T. (Redner/in), Aicher, K. (Redner/in), McKenna, K. (Redner/in) & Dunlop, J. (Redner/in)
2 Okt. 2023

Examination of Masters Thesis in Biophysics at the HU Berlin
Dunlop, J. (Prüfer)
21 Sept. 2023

Examiner and Reviewer of BSc Ing Wiss
Dunlop, J. (Prüfer)
21 Juli 2023

Examiner Masters Science and Technology of Materials
Dunlop, J. (Prüfer)
10 Juli 2023

Examiner Masters CPM
Dunlop, J. (Prüfer)
20 Juni 2023

Examiner Masters Medical Biology
Dunlop, J. (Prüfer)
13 März 2023

PhD Defence - Examiner
Dunlop, J. (Prüfer)
24 Feb. 2023

MorphoPhysics - Physical Explorations into Growth and Form
Dunlop, J. (Redner/in)
15 Dez. 2022

Biophysical modelling of the role of geometry on tissue patterning and growth
Dunlop, J. (Redner/in)
13 Dez. 2022

PhD Defence Committee Reviewer and Examiner
Dunlop, J. (Prüfer)
13 Dez. 2022

Wissenstransfer zur UniBrennt Besetzung
Leik, L. (Redner/in), Klackl, J. (Redner/in), Blechert, J. (Redner/in), Knoll, M. (Redner/in), Koch, A. (Redner/in), Dunlop, J. (Redner/in) & Zeller, C. (Redner/in)
Nov. 2022 → …

MorphoPhysics, an introduction to our research in Salzburg
Dunlop, J. (Redner/in)
28 Okt. 2022

Reviewer and Examiner PhD Defence
Dunlop, J. (Prüfer)
20 Sept. 2022

Chair of Examination Board
Dunlop, J. (Prüfer)
14 Sept. 2022

Helical fibrous materials architectures in biology
Dunlop, J. (Redner/in)
14 Sept. 2022

Modelling the role of curvature on tissue patterning and growth (Keynote)
Dunlop, J. (Redner/in)
11 Apr. 2022 → 13 Apr. 2022

Chair of Examination Board - Masters Medical Biology
Dunlop, J. (Prüfer)
23 März 2022

Reviewer and Examiner JD Engineering Science
Dunlop, J. (Prüfer)
18 März 2022

Reviewer and Examiner JD Engineering Science
Dunlop, J. (Prüfer)
18 März 2022

Architecture Naturelles
Dunlop, J. (Redner/in)
18 Jan. 2022

Department of Biomaterials Max Planck Institute of Colloids and Interfaces Potsdam 14476 Germany
Dunlop, J. (Gastforscher/-in)
2 Aug. 2021 → 19 Aug. 2021

Reviewer and Examiner JD Engineering Science
Dunlop, J. (Prüfer)
4 Juni 2021

Reviewer and Examiner JD Engineering Science
Dunlop, J. (Prüfer)
4 Juni 2021

Reviewer and Examiner JD Engineering Science
Dunlop, J. (Prüfer)
4 Juni 2021

Reviewer and Examiner - PhD Defence
Dunlop, J. (Prüfer)
28 Mai 2021

Examiner Bachelor JD Engineering Science
Dunlop, J. (Prüfer)
18 März 2021

Swarming Behaviour in Confinement
Dunlop, J. (Redner/in)
5 März 2021

Delaunay surfaces and the mechanics of tissue patternin
Dunlop, J. (Redner/in)
4 März 2021

CurvoBio2021
Dunlop, J. (Organisator/in)
2021

Visualisation of 3D Biological samples
Dunlop, J. (Redner/in) & Eder, M. (Redner/in)
2021

Reviewer and Examiner - Doctoral Thesis
Dunlop, J. (Prüfer)
20 Nov. 2020

Masters Degree Review
Dunlop, J. (Prüfer)
17 Nov. 2020

Fibrous Delaunay Surfaces - Part 2
Dunlop, J. (Redner/in)
3 Aug. 2020

Fibrous Delaunay Surfaces - Part 1
Dunlop, J. (Redner/in)
27 Juli 2020

Examiner in Masters Defence Committee
Dunlop, J. (Prüfer)
29 Juni 2020

Examiner Bachelor JD Engineering Science
Dunlop, J. (Prüfer)
28 Mai 2020

Examiner Bachelor JD Engineering Science
Dunlop, J. (Prüfer)
28 Mai 2020

Examiner Bachelor JD Engineering Science
Dunlop, J. (Prüfer)
7 Apr. 2020

Examiner and Reviewer for PhD Thesis
Dunlop, J. (Prüfer)
30 Jan. 2020

Anticlastic surfaces for tissue growth
Dunlop, J. (Redner/in)
26 Nov. 2019

Examiner Bachelor JD Engineering Science
Dunlop, J. (Prüfer)
15 Nov. 2019

Examiner Bachelor JD Engineering Science
Dunlop, J. (Prüfer)
15 Nov. 2019

Surfaces shape and influence tissue form
Dunlop, J. (Redner/in)
24 Sept. 2019

The influence of geometric features on cell and extracellular matrix patterning
Dunlop, J. (Redner/in)
18 Sept. 2019

Examiner in Masters Defence Committee
Dunlop, J. (Prüfer)
17 Sept. 2019

Examiner in PhD Defence Committee
Dunlop, J. (Prüfer)
12 Sept. 2019

Morphogenesis on Chip
Dunlop, J. (Redner/in)
11 Sept. 2019

Examiner Bachelor JD Engineering Science
Dunlop, J. (Prüfer)
12 Juli 2019

The influence of geometry on shape-changing soft-matter
Dunlop, J. (Redner/in)
15 Mai 2019

Introduction to X-ray Tomography
Dunlop, J. (Redner/in)
7 März 2019

CurvoBio 2019
Dunlop, J. (Organisator/in), Schamberger, B. (Organisator/in) & Bidan, C. (Organisator/in)
6 Feb. 2019

External Examiner of Masters Thesis
Dunlop, J. (Prüfer)
2019

The physics of tissue growth on curved surfaces
Dunlop, J. (Gastvortragende/r)
13 Sept. 2018 → …

The physics of tissue growth on curved surfaces.
Dunlop, J. (Gastvortragende/r)
16 Jan. 2018 → …