

Martin Cramer Pedersen

List of publications

- **Survey of mechanical and structural properties of highly symmetric sp²-hybridized carbon allotropes**
Eom & Pedersen
In preparation
- **Curvature-driven self-assembly on minimal surfaces**
Pedersen, Hyde, & Kirkensgaard
In preparation
- **Stuck in a loop: Motifs and friction in jammed systems**
Pedersen, Mukherjee, Ma, Mondal, & Doostmohammadi
In preparation
- **Reconstitution of the membrane protein Aquaporin Z into swollen lipid mesophases**
Szathmáry, Pedersen, van t'Hag, & Kirkensgaard (2024)
In preparation
- **New Phase Transition reveals Anti-Hyperuniformity/hyperfluctuations of Topological Defects in Active Nematics**
Andersen, Katsume, Pedersen, & Doostmohammadi
In preparation
- 40 **Gauss Curvature Heterogeneity of Minimal Surface Models for Amorphous Bicontinuous Phases**
Himmelfmann, Evans, Klatt, Schönhöfer, Pedersen, & Schröder-Turk (2024)
Proc. Nat. Acad. Sci., In review
- 39 **Sum-weighted casein micelle AF4-UV-SAXS data disentangled; a new method for characterization and evaluation of widely size distributed samples**
Bolinsson, Pedersen, Glantz, Herranz-Trillo, Kirkensgaard, & Nilsson (2024)
Food Hydrocolloids, In review
- 38 **SASTutorials.org - online tutorials on small-angle scattering**
Larsen, Jacobsen, Graewert, Grøndahl, Svaneborg, Kihkney, Tyler, Kihara, Lytje, Moslehi, Voets, Fehér, Holm-Janás, Bruun, Pedersen, & Kirkensgaard (2024)
J. Appl. Crystallogr., In review
- 37 **Collapse of active nematic order through a two-stage dynamic transition**
Ardasheva, Veléz-Cerón, Pedersen, Ignés-Mullol, Saguéz, & Doostmohammadi (2024)
Phys. Rev. Lett., In review
doi.org/10.48550/arXiv.2407.03723
- 36 **Characterization of Aquaporin Z proteoliposome structure and functionality via microscopic and scattering methods**
Szathmáry, Pedersen, Michels, Bak, & Kirkensgaard (2024)
Eur. Biophys. J., In review
- 35 **Membrane Domain-Targeting DNA Nanopores: Beyond Selective Transport**
Sayed, Czogalla, Kauert, Kielar, Tidemand, Pedersen, Fahmy, & Seidel (2024)
ACS Nano, In review

- 34 **Active particles knead three-dimensional gels into open crumbs**
Pedersen*, Mukherjee*, Doostmohammadi, Mondal, & Thijssen (*Equally contributing authors) (2024)
 Phys. Rev. Lett. 133, 228301
doi.org/10.1103/PhysRevLett.133.228301
- 33 **Analysis of small-angle scattering data of complex biological systems**
Pedersen & Arleth (2024)
 Book chapter in *Neutrons, X-rays and Light: Scattering Methods applied to Soft Condensed Matter*, Elsevier, Amsterdam, Editors: Oberdisse & Lindner
- 32 **Structural characterisation of α -synuclein-membrane interactions and the resulting aggregation using small angle scattering**
Galvignon, Barclay, Makasewicz, Marlet, Moulin, Devos, Linse, Martel, Porcar, Sparr, Pedersen, Roosen-Runge, Arleth, & Buell (2023)
 Phys. Chem. Chem. Phys. 26, 10998–11013
doi.org/10.1039/D3CP05928F
- 31 **Shape2SAS - a website to simulate small-angle scattering data and pair distance distribution functions from geometrical shapes**
Larsen, Brookes, Pedersen, & Kirkensgaard (2023)
 J. Appl. Crystallogr. 56, 1287–1294
doi.org/10.1107/S1600576723005848
- 30 **Exploring hyperbolic order in curved materials**
Pedersen, Hyde, Ramsden, & Kirkensgaard (2023)
 Soft Matter 19, 1586-1595
doi.org/10.1039/D2SM01403C
- 29 **Modeling of flexible membrane-bound biomolecular complexes for solution small-angle scattering**
Barclay, Kragelund, Arleth, & Pedersen (2022)
 J. Colloid Interface Sci. 635, 611–621
doi.org/10.1016/j.jcis.2022.12.024
- 28 **Refining structural models of membrane proteins with disordered domains in phospholipid nanodiscs**
Pedersen, Johansen, Roche, Järvå, Törnroth-Horsefield, & Arleth (2022)
doi.org/10.1101/2022.10.28.512841 (Preprint)
- 27 **Travel light: Essential packing tips for membrane proteins with an active lifestyle**
Johansen, Tidemand, Pedersen, & Arleth (2022)
 Biochimie 205, 3–26
doi.org/10.1016/j.biochi.2022.07.014
- 26 **Global fitting of multiple data frames from SEC-SAXS to investigate the structure of next-generation nanodiscs**
Barclay, Johansen, Tidemand, Arleth, & Pedersen (2022)
 Acta Crystallogr. Sect. D Biol. Crystallogr. 78(4), 483–493
doi.org/10.1107/s2059798322001838
- 25 **Non-ionic detergent facilitates formation of supercharged nanodiscs and the insertion of membrane protein**
Tidemand, Blemmer, Johansen, Arleth, & Pedersen (2022)
 Biochim. Biophys. Acta Biomembr. 1864(6), 183884
doi.org/10.1016/j.bbamem.2022.183884

- 24** **Mg²⁺-dependent conformational equilibria in CorA: an integrated view on transport regulation**
Johansen, Bonaccorsi, Bengtsen, Larsen, Tidemand, Pedersen, Huda, Berndtsson, Darwish, Yepuri, Martel, Pomorski, Bertarello, Sansom, Rapp, Crehuet, Schubeis, Lindorff-Larsen, Pintacuda, & Arleth (2022)
 eLife 11, e71887
doi.org/10.7554/eLife.71887
- 23** **The intrinsic group-subgroup structures of the Diamond and Gyroid minimal surfaces in their conventional unit cells**
Pedersen, Robins, & Hyde (2021)
 Acta Crystallogr. Sect. A 78(1), 56–58
doi.org/10.1107/S2053273321012936
- 22** **Experimental errors in small-angle scattering can be assessed using Bayesian indirect Fourier transformation**
Larsen & Pedersen* (*Equally contributing authors) (2021)*
 J. Appl. Crystallogr. 54(5), 1281–1289
doi.org/10.1107/S1600576721006877
- 21** **Order and disorder - an integrative structure of the full-length human growth hormone receptor**
Kassem, Araya-Secchi, Bugge, Barclay, Steinocher, Khondker, Wang, Lenard, Bürck, Sahin, Ulrich, Landreh, Pedersen, Rheinstädter, Pedersen, Lindorff-Larsen, Arleth, & Kragelund (2021)
 Sci. Adv. 7, eabh3805
doi.org/10.1126/sciadv.abh3805
- 20** **Structure and biophysical properties of supercharged and circularized nanodiscs**
Johansen, Luchini, Tidemand, Orioli, Martel, Porcar, Arleth, & Pedersen (2021)
 Langmuir 37(22), 6681–6690
doi.org/10.1021/acs.langmuir.1c00560
- 19** **Schwarzite nets: a wealth of 3-valent examples sharing similar topologies and symmetries**
Hyde & Pedersen* (*Equally contributing authors) (2020)*
 Proc. Roy. Soc. A 477, 20200372
doi.org/10.1098/rspa.2020.0372
- 18** **Aescin - a natural soap for the formation of lipid nanodiscs with tunable size**
Geisler, Pedersen, Preisig, Hannappel, Prévost, Dattani, Arleth, & Hellweg (2020)
 Soft Matter 17, 1888–1900
doi.org/10.1039/D0SM02043E
- 17** **Evolution of local motifs and topological proximity in self-assembled quasicrystalline phases**
Pedersen, Robins, Mortensen, & Kirkensgaard (2020)
 Proc. Roy. Soc. A 476, 20200170
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- 16** **Aescin-Induced Conversion of Gel-Phase Lipid Membranes into Bicelle-Like Lipid Nanoparticles**
Geisler, Pedersen, Hannappel, Schweins, Prévost, Dattani, Arleth, & Hellweg (2019)
 Langmuir 35(49), 16244–16255
doi.org/10.1021/acs.langmuir.9b02077
- 15** **PSX: Protein-Solvent Exchange - Software for calculation of deuterium-exchange effects in SANS measurements from protein coordinates**
Pedersen, Wang, Tidemand, Martel, Lindorff-Larsen, & Arleth (2019)
 J. Appl. Crystallogr. 52, 1427–1436
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- 14 **Circularized and solubility-enhanced MSPs facilitate simple and high yield production of stable nanodiscs for studies of membrane proteins in solution**
Johansen, Tidemand, Nguyen, Rand, Pedersen, & Arleth (2019)
 FEBS J. 286(9), 1734–1751
 doi.org/10.1111/febs.14766
- 13 **Introducing SEC-SANS for studies of complex self-organised biological systems**
Johansen, Pedersen, Martel, Porcar, & Arleth (2018)
 Acta Crystallogr. Sect. D Biol. Crystallogr. 74(12), 1178–1191
 doi.org/10.1107/S2059798318007180
- 12 **Polyhedra and packings from hyperbolic honeycombs**
Pedersen & Hyde (2018)
 Proc. Natl. Acad. Sci. U. S. A. 115(27), 6905–6910
 doi.org/10.1073/pnas.1720307115
- 11 **Surface embeddings of the Klein and the Möbius-Kantor graphs**
Pedersen, Delgado-Friedrichs, & Hyde (2018)
 Acta Crystallogr. Sect. A 74(3), 223–232
 doi.org/10.1107/S2053273318002036
- 10 **Invisible detergents for structure determination of membrane proteins by small-angle neutron scattering**
Midtgaard, Darwish, Pedersen, Huda, Larsen, Jensen, Kynde, Skar-Gislinge, Nielsen, Olesen, Blaise, Dorosz, Thorsen, Venskutonytė, Krintel, Møller, Frielinghaus, Gilbert, Martel, Kastrup, Jensen, Nissen, & Arleth (2017)
 FEBS J. 285(2), 357–371
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- 9 **Hyperbolic crystallography of two-periodic surfaces and associated structures**
Pedersen & Hyde (2016)
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- 8 **Structure and crystallinity in water dispersible photoactive nanoparticles for organic solar cells**
Pedersen, Pedersen, Simonsen, Brandt, Böttiger, Andersen, Wu, Zhiyuan, Krebs, Arleth, & Andresen (2015)
 J. Mater. Chem. A 3, 17022–17031
 doi.org/10.1039/C5TA04980F
- 7 **Small-Angle X-Ray Scattering of the Cholesterol Incorporation into Human ApoA1-POPC Discoidal Particles**
Midtgaard, Pedersen, & Arleth (2015)
 Biophys. J. 109(2), 308–318
 doi.org/10.1016/j.bpj.2015.06.032
- 6 **PET/CT Based In Vivo Evaluation of ⁶⁴Cu Labelled Nanodiscs in Tumor Bearing Mice**
Huda, Binderup, Pedersen, Midtgaard, Elema, Kjær, Jensen, & Arleth (2015)
 PLOS ONE 10(7), e0129310
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- 5 **Quantification of the information in small-angle scattering data**
Pedersen, Hansen, Markussen, Arleth, & Mortensen (2014)
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- 4 **Tiling patterns from ABC star molecules: 3-colored foams?**
Kirkensgaard, Pedersen, & Hyde (2014)
Soft Matter 10, 7182–7194
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- 3 **Small-angle scattering gives direct structural information about membrane protein inside lipid environment**
Kynde, Skar-Gislinge, Pedersen, Midtgaard, Simonsen, Schweins, Mortensen, & Arleth (2014)
Acta Crystallogr. Sect. D Biol. Crystallogr. 70(2), 371–383
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- 2 **Self-assembling peptides form nanodiscs that stabilize membrane proteins**
Midtgaard, Pedersen, Kirkensgaard, Sørensen, Mortensen, Jensen, & Arleth (2014)
Soft Matter 10, 738–752
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- 1 **WillItFit - A Framework for Fitting of Constrained Models to Small-angle Scattering Data**
Pedersen, Arleth, & Mortensen (2013)
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doi.org/10.1107/S0021889813026022