

List of Publications

Dr. Jonas Wessén

Refereed original research

Equal contribution first authorships are indicated by asterisks (*).

- **Differential Effects of Sequence-Local versus Nonlocal Charge Patterns on Phase Separation and Conformational Dimensions of Polyampholytes as Model Intrinsically Disordered Proteins**
T. Pal*, **J. Wessén***, S. Das*, H. S. Chan
(submitted to journal)
Preprint: [arXiv:2407.07226](https://arxiv.org/abs/2407.07226)
- **Electrostatics of Salt-Dependent Reentrant Phase Behaviors Highlights Diverse Roles of ATP in Biomolecular Condensates**
Y.-H. Lin*, T. H. Kim*, S. Das*, T. Pal, **J. Wessén**, A. K. Rangadurai, L. E. Kay, J. D. Forman-Kay, H. S. Chan
(submitted to journal)
Preprint: [arXiv:2401.04873](https://arxiv.org/abs/2401.04873)
- **Biological condensates form percolated networks with molecular motion properties distinctly different from dilute solutions**
Z. Shen, B. Jia, Y. Xu, **J. Wessén**, T. Pal, H. S. Chan, S. Du, M. Zhang
eLife **12**:e81907 (2023)
DOI: doi.org/10.7554/eLife.81907
Preprint: doi.org/10.1101/2022.07.20.500769
- **Analytical Formulation and Field-Theoretic Simulation of Sequence-Specific Phase Separation of Proteinlike Heteropolymers with Short- and Long-Spatial-Range Interactions**
J. Wessén, S. Das, T. Pal, and H. S. Chan
J. Phys. Chem. B **2022**, *126*, 45, 9222–9245
DOI: doi.org/10.1021/acs.jpcc.2c06181
Preprint: [arXiv:2209.04016](https://arxiv.org/abs/2209.04016)
- **Field theory description of ion association in re-entrant phase separation of polyampholytes**
J. Wessén*, T. Pal*, and H. S. Chan
J. Chem. Phys. **156**, 194903 (2022)
DOI: doi.org/10.1063/5.0088326
Preprint: [arXiv:2201.11834](https://arxiv.org/abs/2201.11834)
- **A Simple Explicit-Solvent Model of Polyampholyte Phase Behaviors and Its Ramifications for Dielectric Effects in Biomolecular Condensates**
J. Wessén*, T. Pal*, S. Das*, Y.-H. Lin and H. S. Chan
J. Phys. Chem. B **2021**, *125*, 17, 4337–4358
DOI: doi.org/10.1021/acs.jpcc.1c00954
Preprint: [arXiv:2102.03687](https://arxiv.org/abs/2102.03687)

- **Subcompartmentalization of polyampholyte species in organelle-like condensates is promoted by charge-pattern mismatch and strong excluded-volume interaction**
 T. Pal*, **J. Wessén***, S. Das* and H. S. Chan
Phys.Rev. E **103** (2021), no.4, 042406
[DOI: doi.org/10.1103/PhysRevE.103.042406](https://doi.org/10.1103/PhysRevE.103.042406)
[Preprint: arXiv:2006.12776](https://arxiv.org/abs/2006.12776)
- **Scale hierarchies, symmetry breaking and SM-like fermions in SU(3)-family extended SUSY trinification**
 J. E. Camargo-Molina, A. Morais, A. Ordell, R. Pasechnik and **J. Wessén**
Phys.Rev. D **99** (2019), no.3, 035041
[DOI: doi.org/10.1103/PhysRevD.99.035041](https://doi.org/10.1103/PhysRevD.99.035041)
[Preprint: arXiv:1711.05199](https://arxiv.org/abs/1711.05199)
(Authors listed in alphabetical order)
- **Heavy charged scalars from $c\bar{s}$ fusion: A generic search strategy applied to a 3HDM with $U(1) \times U(1)$ family symmetry**
 J. E. Camargo-Molina, T. Mandal, R. Pasechnik and **J. Wessén**
J. High Energ. Phys. (2018) 2018: 24.
[DOI: doi.org/10.1007/JHEP03\(2018\)024](https://doi.org/10.1007/JHEP03(2018)024)
[Preprint: arXiv:1711.03551](https://arxiv.org/abs/1711.03551)
(Authors listed in alphabetical order)
- **Reviving trinification models through an E_6 -extended supersymmetric GUT**
 J. E. Camargo-Molina, A. Morais, A. Ordell, R. Pasechnik, M. Sampaio and **J. Wessén**
Phys.Rev. D **95** (2017) no.7, 075031.
[DOI: doi.org/10.1103/PhysRevD.95.075031](https://doi.org/10.1103/PhysRevD.95.075031)
[Preprint: arXiv:1610.03642](https://arxiv.org/abs/1610.03642)
(Authors listed in alphabetical order)
- **All one-loop scalar vertices in the effective potential approach**
 J. E. Camargo-Molina, A. Morais, R. Pasechnik, M. Sampaio and **J. Wessén**
J. High Energ. Phys. (2016) 2016: 73.
[DOI: doi.org/10.1007/JHEP08\(2016\)073](https://doi.org/10.1007/JHEP08(2016)073)
[Preprint: arXiv:1606.07069](https://arxiv.org/abs/1606.07069)
(Authors listed in alphabetical order)
- **On a radiative origin of the Standard Model from trinification**
 J. E. Camargo-Molina, A. Morais, R. Pasechnik and **J. Wessén**
J. High Energ. Phys. (2016) 2016:129.
[DOI: doi.org/10.1007/JHEP09\(2016\)129](https://doi.org/10.1007/JHEP09(2016)129)
[Preprint: arXiv:1606.03492](https://arxiv.org/abs/1606.03492)
(Authors listed in alphabetical order)
- **Thermodynamics of amyloid formation and the role of intersheet interactions**
 A. Irbäck and **J. Wessén**
J. Chem. Phys. **143**, 105104 (2015)
[DOI: doi.org/10.1063/1.4930280](https://doi.org/10.1063/1.4930280)
[Preprint: arXiv:1601.00478](https://arxiv.org/abs/1601.00478)

Chapters in scientific books

- **Numerical Techniques for Applications of Analytical Theories to Sequence-Dependent Phase Separations of Intrinsically Disordered Proteins**

Y.-H. Lin*, **J. Wessén***, T. Pal*, S. Das and H. S. Chan

In: Zhou, HX., Spille, JH., Banerjee, P.R. (eds) Phase-Separated Biomolecular Condensates (2023). Methods in Molecular Biology, vol 2563. Humana, New York, NY.

DOI: doi.org/10.1007/978-1-0716-2663-4_3

Preprint: [arXiv:2201.01920](https://arxiv.org/abs/2201.01920)

Conference contributions

- **Charged scalars from $SU(3)^3$ theories**

J. E. Camargo-Molina, R. Pasechnik and **J. Wessén**

PoS(CHARGED2016)030

DOI: doi.org/10.22323/1.286.0030

Preprint: [arXiv:1701.02757](https://arxiv.org/abs/1701.02757)

(Authors listed in alphabetical order)

- **On a radiative origin of the Standard Model in non-supersymmetric trinification with global $SU(3)_F$**

J. E. Camargo-Molina, A. Morais, R. Pasechnik and **J. Wessén**

PoS LHCP2016 (2016) 241

DOI: doi.org/10.22323/1.276.0241

(Authors listed in alphabetical order)

Other scientific publications

- Wessén, J. (2018). *Family symmetries and radiative corrections in multi-scalar extensions of the Standard Model*.
Lund: Lund University, Faculty of Science, Department of Astronomy and Theoretical Physics.
e-print: <https://lup.lub.lu.se/record/cc5a60f5-450b-4439-8db2-5929ad1798e6> (Ph.D. thesis)
- Wessén, J. (2014). *Amyloid nucleation in presence of crowders*.
Lund: Lund University, Faculty of Science, Department of Astronomy and Theoretical Physics.
e-print: <http://lup.lub.lu.se/student-papers/record/4519439> (Master's thesis)
- Wessén, J. (2012). *Dark matter signatures in cosmic gamma-rays*.
Lund: Lund University, Faculty of Science, Department of Astronomy and Theoretical Physics.
e-print: <http://lup.lub.lu.se/student-papers/record/2827051> (Bachelor's thesis)