

# Georg Meisl

## List of Publications by Citations

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

86 papers	3,451 citations	30 h-index	58 g-index
97 ext. papers	4,757 ext. citations	8.7 avg, IF	5.45 L-index

#	Paper	IF	Citations
86	Lipid vesicles trigger $\beta$ synuclein aggregation by stimulating primary nucleation. <i>Nature Chemical Biology</i> , <b>2015</b> , 11, 229-34	11.7	355
85	Molecular mechanisms of protein aggregation from global fitting of kinetic models. <i>Nature Protocols</i> , <b>2016</b> , 11, 252-72	18.8	342
84	Differences in nucleation behavior underlie the contrasting aggregation kinetics of the A $\beta$ 0 and A $\beta$ 2 peptides. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2014</b> , 111, 9384-9	11.5	294
83	A natural product inhibits the initiation of $\beta$ synuclein aggregation and suppresses its toxicity. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2017</b> , 114, E1009-E1017	11.5	177
82	Secondary nucleation in amyloid formation. <i>Chemical Communications</i> , <b>2018</b> , 54, 8667-8684	5.8	174
81	Mutations associated with familial Parkinson's disease alter the initiation and amplification steps of $\beta$ synuclein aggregation. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2016</b> , 113, 10328-33	11.5	159
80	Dynamics of oligomer populations formed during the aggregation of Alzheimer's A $\beta$ 2 peptide. <i>Nature Chemistry</i> , <b>2020</b> , 12, 445-451	17.6	103
79	Secondary nucleation of monomers on fibril surface dominates $\beta$ synuclein aggregation and provides autocatalytic amyloid amplification. <i>Quarterly Reviews of Biophysics</i> , <b>2017</b> , 50, e6	7	102
78	Chemical Kinetics for Bridging Molecular Mechanisms and Macroscopic Measurements of Amyloid Fibril Formation. <i>Annual Review of Physical Chemistry</i> , <b>2018</b> , 69, 273-298	15.7	98
77	The A $\beta$ 0 and A $\beta$ 2 peptides self-assemble into separate homomolecular fibrils in binary mixtures but cross-react during primary nucleation. <i>Chemical Science</i> , <b>2015</b> , 6, 4215-4233	9.4	91
76	$\beta$ synuclein strains target distinct brain regions and cell types. <i>Nature Neuroscience</i> , <b>2020</b> , 23, 21-31	25.5	91
75	Physical determinants of the self-replication of protein fibrils. <i>Nature Physics</i> , <b>2016</b> , 12, 874-880	16.2	73
74	Trodusquemine enhances A $\beta$ aggregation but suppresses its toxicity by displacing oligomers from cell membranes. <i>Nature Communications</i> , <b>2019</b> , 10, 225	17.4	69
73	Quantitative analysis of intrinsic and extrinsic factors in the aggregation mechanism of Alzheimer-associated A $\beta$ peptide. <i>Scientific Reports</i> , <b>2016</b> , 6, 18728	4.9	64
72	On the role of sidechain size and charge in the aggregation of A42 with familial mutations. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2018</b> , 115, E5849-E5858	11.5	58
71	Kinetic diversity of amyloid oligomers. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2020</b> , 117, 12087-12094	11.5	55
70	Solvent and conformation dependence of amide I vibrations in peptides and proteins containing proline. <i>Journal of Chemical Physics</i> , <b>2011</b> , 135, 234507	3.9	55

69	Multistep Inhibition of $\beta$ Synuclein Aggregation and Toxicity in Vitro and in Vivo by Trodusquemine. <i>ACS Chemical Biology</i> , <b>2018</b> , 13, 2308-2319	4.9	52
68	N-Terminal Extensions Retard A $\beta$ 2 Fibril Formation but Allow Cross-Seeding and Coaggregation with A $\beta$ 2. <i>Journal of the American Chemical Society</i> , <b>2015</b> , 137, 14673-85	16.4	51
67	Measurement of Tau Filament Fragmentation Provides Insights into Prion-like Spreading. <i>ACS Chemical Neuroscience</i> , <b>2018</b> , 9, 1276-1282	5.7	51
66	Origin of metastable oligomers and their effects on amyloid fibril self-assembly. <i>Chemical Science</i> , <b>2018</b> , 9, 5937-5948	9.4	48
65	Self-assembly of MPG1, a hydrophobin protein from the rice blast fungus that forms functional amyloid coatings, occurs by a surface-driven mechanism. <i>Scientific Reports</i> , <b>2016</b> , 6, 25288	4.9	48
64	$\beta$ Synuclein suppresses both the initiation and amplification steps of $\beta$ Synuclein aggregation via competitive binding to surfaces. <i>Scientific Reports</i> , <b>2016</b> , 6, 36010	4.9	45
63	Scaling behaviour and rate-determining steps in filamentous self-assembly. <i>Chemical Science</i> , <b>2017</b> , 8, 7087-7097	9.4	43
62	Modulation of electrostatic interactions to reveal a reaction network unifying the aggregation behaviour of the A $\beta$ 2 peptide and its variants. <i>Chemical Science</i> , <b>2017</b> , 8, 4352-4362	9.4	42
61	Phage display and kinetic selection of antibodies that specifically inhibit amyloid self-replication. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2017</b> , 114, 6444-6449	11.5	41
60	Physical Determinants of Amyloid Assembly in Biofilm Formation. <i>MBio</i> , <b>2019</b> , 10,	7.8	40
59	Electrostatically-guided inhibition of Curli amyloid nucleation by the CsgC-like family of chaperones. <i>Scientific Reports</i> , <b>2016</b> , 6, 24656	4.9	39
58	Kinetic fingerprints differentiate the mechanisms of action of anti-A $\beta$ antibodies. <i>Nature Structural and Molecular Biology</i> , <b>2020</b> , 27, 1125-1133	17.6	35
57	Oligomer Diversity during the Aggregation of the Repeat Region of Tau. <i>ACS Chemical Neuroscience</i> , <b>2018</b> , 9, 3060-3071	5.7	32
56	Transthyretin Inhibits Primary and Secondary Nucleations of Amyloid- $\beta$ Peptide Aggregation and Reduces the Toxicity of Its Oligomers. <i>Biomacromolecules</i> , <b>2020</b> , 21, 1112-1125	6.9	28
55	Autocatalytic amplification of Alzheimer-associated A $\beta$ 2 peptide aggregation in human cerebrospinal fluid. <i>Communications Biology</i> , <b>2019</b> , 2, 365	6.7	28
54	The Influence of Pathogenic Mutations in $\beta$ Synuclein on Biophysical and Structural Characteristics of Amyloid Fibrils. <i>ACS Nano</i> , <b>2020</b> , 14, 5213-5222	16.7	24
53	Identification of on- and off-pathway oligomers in amyloid fibril formation. <i>Chemical Science</i> , <b>2020</b> , 11, 6236-6247	9.4	23
52	The role of fibril structure and surface hydrophobicity in secondary nucleation of amyloid fibrils. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2020</b> , 117, 25272-25283	11.5	21

51	Early peak and rapid decline of SARS-CoV-2 seroprevalence in a Swiss metropolitan region		20
50	Direct observation of prion protein oligomer formation reveals an aggregation mechanism with multiple conformationally distinct species. <i>Chemical Science</i> , <b>2019</b> , 10, 4588-4597	9.4	19
49	Plant Polyphenols Inhibit Functional Amyloid and Biofilm Formation in Strains by Directing Monomers to Off-Pathway Oligomers. <i>Biomolecules</i> , <b>2019</b> , 9,	5.9	18
48	Direct Observation of Murine Prion Protein Replication in Vitro. <i>Journal of the American Chemical Society</i> , <b>2018</b> , 140, 14789-14798	16.4	18
47	The catalytic nature of protein aggregation. <i>Journal of Chemical Physics</i> , <b>2020</b> , 152, 045101	3.9	16
46	Microfluidic Diffusion Platform for Characterizing the Sizes of Lipid Vesicles and the Thermodynamics of Protein-Lipid Interactions. <i>Analytical Chemistry</i> , <b>2018</b> , 90, 3284-3290	7.8	16
45	Ultrastructural evidence for self-replication of Alzheimer-associated A $\beta$ 2 amyloid along the sides of fibrils. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2020</b> , 117, 11265-11273	11.5	16
44	Absolute Quantification of Amyloid Propagons by Digital Microfluidics. <i>Analytical Chemistry</i> , <b>2017</b> , 89, 12306-12313	7.8	15
43	The molecular processes underpinning prion-like spreading and seed amplification in protein aggregation. <i>Current Opinion in Neurobiology</i> , <b>2020</b> , 61, 58-64	7.6	15
42	Thermodynamic and kinetic design principles for amyloid-aggregation inhibitors. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2020</b> , 117, 24251-24257	11.5	15
41	Extrinsic Amyloid-Binding Dyes for Detection of Individual Protein Aggregates in Solution. <i>Analytical Chemistry</i> , <b>2018</b> , 90, 10385-10393	7.8	14
40	Kinetic Analysis of Amyloid Formation. <i>Methods in Molecular Biology</i> , <b>2018</b> , 1779, 181-196	1.4	14
39	Kinetic barriers to $\beta$ -synuclein protofilament formation and conversion into mature fibrils. <i>Chemical Communications</i> , <b>2018</b> , 54, 7854-7857	5.8	14
38	Physical principles of filamentous protein self-assembly kinetics. <i>Journal of Physics Condensed Matter</i> , <b>2017</b> , 29, 153002	1.8	12
37	Mechanism of Fibril and Soluble Oligomer Formation in Amyloid Beta and Hen Egg White Lysozyme Proteins. <i>Journal of Physical Chemistry B</i> , <b>2019</b> , 123, 5678-5689	3.4	11
36	Increased Secondary Nucleation Underlies Accelerated Aggregation of the Four-Residue N-Terminally Truncated A $\beta$ 2 Species A $\beta$ -42. <i>ACS Chemical Neuroscience</i> , <b>2019</b> , 10, 2374-2384	5.7	11
35	Squalamine and Its Derivatives Modulate the Aggregation of Amyloid- $\beta$ and $\beta$ -Synuclein and Suppress the Toxicity of Their Oligomers. <i>Frontiers in Neuroscience</i> , <b>2021</b> , 15, 680026	5.1	11
34	In vivo rate-determining steps of tau seed accumulation in Alzheimer's disease. <i>Science Advances</i> , <b>2021</b> , 7, eabh1448	14.3	10

33	Antibody Affinity Governs the Inhibition of SARS-CoV-2 Spike/ACE2 Binding in Patient Serum. <i>ACS Infectious Diseases</i> , <b>2021</b> , 7, 2362-2369	5.5	10
32	Preventing peptide and protein misbehavior. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2015</b> , 112, 5267-8	11.5	7
31	Effects of sedimentation, microgravity, hydrodynamic mixing and air-water interface on $\beta$ -synuclein amyloid formation. <i>Chemical Science</i> , <b>2020</b> , 11, 3687-3693	9.4	7
30	Scaling analysis reveals the mechanism and rates of prion replication in vivo. <i>Nature Structural and Molecular Biology</i> , <b>2021</b> , 28, 365-372	17.6	7
29	Templating S100A9 amyloids on A $\beta$ -fibrillar surfaces revealed by charge detection mass spectrometry, microscopy, kinetic and microfluidic analyses. <i>Chemical Science</i> , <b>2020</b> , 11, 7031-7039	9.4	6
28	Surface-Catalyzed Secondary Nucleation Dominates the Generation of Toxic IAPP Aggregates. <i>Frontiers in Molecular Biosciences</i> , <b>2021</b> , 8, 757425	5.6	6
27	Microfluidic Antibody Affinity Profiling for In-Solution Characterisation of Alloantibody - HLA Interactions in Human Serum		6
26	Autoantibodies against the prion protein in individuals with mutations. <i>Neurology</i> , <b>2020</b> , 95, e2028-e2037	3.5	5
25	On-chip measurements of protein unfolding from direct observations of micron-scale diffusion. <i>Chemical Science</i> , <b>2018</b> , 9, 3503-3507	9.4	5
24	Dynamics and Control of Peptide Self-Assembly and Aggregation. <i>Advances in Experimental Medicine and Biology</i> , <b>2019</b> , 1174, 1-33	3.6	5
23	Dynamics of oligomer populations formed during the aggregation of Alzheimer's A $\beta$ 2 peptide		5
22	Kinetic fingerprints differentiate anti-A $\beta$ therapies		5
21	Super-resolution imaging reveals $\beta$ -synuclein seeded aggregation in SH-SY5Y cells. <i>Communications Biology</i> , <b>2021</b> , 4, 613	6.7	5
20	Mechanism of Secondary Nucleation at the Single Fibril Level from Direct Observations of A $\beta$ 2 Aggregation. <i>Journal of the American Chemical Society</i> , <b>2021</b> , 143, 16621-16629	16.4	5
19	A method of predicting the in vitro fibril formation propensity of A $\beta$ 0 mutants based on their inclusion body levels in E. coli. <i>Scientific Reports</i> , <b>2019</b> , 9, 3680	4.9	4
18	Kinetic and Thermodynamic Driving Factors in the Assembly of Phenylalanine-Based Modules. <i>ACS Nano</i> , <b>2021</b> ,	16.7	4
17	Alpha Synuclein only Forms Fibrils In Vitro when Larger than its Critical Size of 70 Monomers. <i>ChemBioChem</i> , <b>2021</b> , 22, 2867-2871	3.8	4
16	In situ kinetic measurements of $\beta$ -synuclein aggregation reveal large population of short-lived oligomers. <i>PLoS ONE</i> , <b>2021</b> , 16, e0245548	3.7	4

15	Acceleration of $\beta$ -synuclein aggregation. <i>Amyloid: the International Journal of Experimental and Clinical Investigation: the Official Journal of the International Society of Amyloidosis</i> , <b>2017</b> , 24, 20-21	2.7	3
14	An Environmentally Sensitive Fluorescent Dye as a Multidimensional Probe of Amyloid Formation. <i>Journal of Physical Chemistry B</i> , <b>2016</b> , 120, 2087-94	3.4	3
13	Diffuse transition state structure for the unfolding of a leucine-rich repeat protein. <i>Physical Chemistry Chemical Physics</i> , <b>2014</b> , 16, 6448-59	3.6	3
12	The C-terminal tail of $\beta$ -synuclein protects against aggregate replication but is critical for oligomerization.. <i>Communications Biology</i> , <b>2022</b> , 5, 123	6.7	3
11	Microfluidic characterisation reveals broad range of SARS-CoV-2 antibody affinity in human plasma. <i>Life Science Alliance</i> , <b>2022</b> , 5,	5.8	3
10	Microfluidic Affinity Profiling reveals a Broad Range of Target Affinities for Anti-SARS-CoV-2 Antibodies in Plasma of COVID-19 Survivors		3
9	Thermodynamic and kinetic design principles for protein aggregation inhibitors		2
8	Proliferation of Tau 304-380 Fragment Aggregates through Autocatalytic Secondary Nucleation. <i>ACS Chemical Neuroscience</i> , <b>2021</b> , 12, 4406-4415	5.7	2
7	The binding of the small heat-shock protein $\beta$ -crystallin to fibrils of $\beta$ -synuclein is driven by entropic forces. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2021</b> , 118,	11.5	2
6	Autoantibodies against the prion protein in individuals with PRNP mutations		1
5	Amplification, not spreading limits rate of tau aggregate accumulation in Alzheimer's disease		1
4	In vitro measurements of protein-protein interactions show that antibody affinity governs the inhibition of SARS-CoV-2 spike/ACE2 binding in convalescent serum		1
3	Kinetic analysis reveals that independent nucleation events determine the progression of polyglutamine aggregation in. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2021</b> , 118,	11.5	1
2	Pulsed Hydrogen-Deuterium Exchange Reveals Altered Structures and Mechanisms in the Aggregation of Familial Alzheimer's Disease Mutants. <i>ACS Chemical Neuroscience</i> , <b>2021</b> , 12, 1972-1982	5.7	1
1	Microfluidic Antibody Affinity Profiling Reveals the Role of Memory Reactivation and Cross-Reactivity in the Defense Against SARS-CoV-2.. <i>ACS Infectious Diseases</i> , <b>2022</b> , 8, 790-799	5.5	0