Georg Meisl

List of Publications by Year in Descending Order

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	The C-terminal tail of α-synuclein protects against aggregate replication but is critical for oligomerization.. *Communications Biology*, **2022**, 5, 123	6.7	3
85	Microfluidic characterisation reveals broad range of SARS-CoV-2 antibody affinity in human plasma. *Life Science Alliance*, **2022**, 5,	5.8	3
84	Microfluidic Antibody Affinity Profiling Reveals the Role of Memory Reactivation and Cross-Reactivity in the Defense Against SARS-CoV-2.. *ACS Infectious Diseases*, **2022**, 8, 790-799	5.5	0
83	Proliferation of Tau 304-380 Fragment Aggregates through Autocatalytic Secondary Nucleation. *ACS Chemical Neuroscience*, **2021**, 12, 4406-4415	5.7	2
82	Kinetic and Thermodynamic Driving Factors in the Assembly of Phenylalanine-Based Modules. *ACS Nano*, **2021**,	16.7	4
81	In vivo rate-determining steps of tau seed accumulation in Alzheimer's disease. *Science Advances*, **2021**, 7, eabh1448	14.3	10
80	Surface-Catalyzed Secondary Nucleation Dominates the Generation of Toxic IAPP Aggregates. *Frontiers in Molecular Biosciences*, **2021**, 8, 757425	5.6	6
79	Kinetic analysis reveals that independent nucleation events determine the progression of polyglutamine aggregation in. *Proceedings of the National Academy of Sciences of the United States of America*, **2021**, 118,	11.5	1
78	Antibody Affinity Governs the Inhibition of SARS-CoV-2 Spike/ACE2 Binding in Patient Serum. *ACS Infectious Diseases*, **2021**, 7, 2362-2369	5.5	10
77	Pulsed Hydrogen-Deuterium Exchange Reveals Altered Structures and Mechanisms in the Aggregation of Familial Alzheimer's Disease Mutants. *ACS Chemical Neuroscience*, **2021**, 12, 1972-1982	5.7	1
76	Super-resolution imaging reveals α-synuclein seeded aggregation in SH-SY5Y cells. *Communications Biology*, **2021**, 4, 613	6.7	5
75	Squalamine and Its Derivatives Modulate the Aggregation of Amyloid-β and α-Synuclein and Suppress the Toxicity of Their Oligomers. *Frontiers in Neuroscience*, **2021**, 15, 680026	5.1	11
74	Scaling analysis reveals the mechanism and rates of prion replication in vivo. *Nature Structural and Molecular Biology*, **2021**, 28, 365-372	17.6	7
73	Alpha Synuclein only Forms Fibrils In Vitro when Larger than its Critical Size of 70 Monomers. *ChemBioChem*, **2021**, 22, 2867-2871	3.8	4
72	Mechanism of Secondary Nucleation at the Single Fibril Level from Direct Observations of Aβ42 Aggregation. *Journal of the American Chemical Society*, **2021**, 143, 16621-16629	16.4	5
71	The binding of the small heat-shock protein Bβ-crystallin to fibrils of α-synuclein is driven by entropic forces. *Proceedings of the National Academy of Sciences of the United States of America*, **2021**, 118,	11.5	2
70	In situ kinetic measurements of α-synuclein aggregation reveal large population of short-lived oligomers. *PLoS ONE*, **2021**, 16, e0245548	3.7	4

69	Kinetic diversity of amyloid oligomers. *Proceedings of the National Academy of Sciences of the United States of America*, **2020**, 117, 12087-12094	11.5	55
68	Templating S100A9 amyloids on A fibrillar surfaces revealed by charge detection mass spectrometry, microscopy, kinetic and microfluidic analyses. *Chemical Science*, **2020**, 11, 7031-7039	9.4	6
67	Identification of on- and off-pathway oligomers in amyloid fibril formation. *Chemical Science*, **2020**, 11, 6236-6247	9.4	23
66	The Influence of Pathogenic Mutations in Synuclein on Biophysical and Structural Characteristics of Amyloid Fibrils. *ACS Nano*, **2020**, 14, 5213-5222	16.7	24
65	The molecular processes underpinning prion-like spreading and seed amplification in protein aggregation. *Current Opinion in Neurobiology*, **2020**, 61, 58-64	7.6	15
64	Autoantibodies against the prion protein in individuals with mutations. *Neurology*, **2020**, 95, e2028-e2037	7.5	5
63	The catalytic nature of protein aggregation. *Journal of Chemical Physics*, **2020**, 152, 045101	3.9	16
62	Transthyretin Inhibits Primary and Secondary Nucleations of Amyloid- Peptide Aggregation and Reduces the Toxicity of Its Oligomers. *Biomacromolecules*, **2020**, 21, 1112-1125	6.9	28
61	Dynamics of oligomer populations formed during the aggregation of Alzheimer's A42 peptide. *Nature Chemistry*, **2020**, 12, 445-451	17.6	103
60	Ultrastructural evidence for self-replication of Alzheimer-associated A42 amyloid along the sides of fibrils. *Proceedings of the National Academy of Sciences of the United States of America*, **2020**, 117, 11265-11273	11.5	16
59	The role of fibril structure and surface hydrophobicity in secondary nucleation of amyloid fibrils. *Proceedings of the National Academy of Sciences of the United States of America*, **2020**, 117, 25272-25283	11.5	21
58	Synuclein strains target distinct brain regions and cell types. *Nature Neuroscience*, **2020**, 23, 21-31	25.5	91
57	Kinetic fingerprints differentiate the mechanisms of action of anti-A antibodies. *Nature Structural and Molecular Biology*, **2020**, 27, 1125-1133	17.6	35
56	Thermodynamic and kinetic design principles for amyloid-aggregation inhibitors. *Proceedings of the National Academy of Sciences of the United States of America*, **2020**, 117, 24251-24257	11.5	15
55	Effects of sedimentation, microgravity, hydrodynamic mixing and air-water interface on synuclein amyloid formation. *Chemical Science*, **2020**, 11, 3687-3693	9.4	7
54	Mechanism of Fibril and Soluble Oligomer Formation in Amyloid Beta and Hen Egg White Lysozyme Proteins. *Journal of Physical Chemistry B*, **2019**, 123, 5678-5689	3.4	11
53	Direct observation of prion protein oligomer formation reveals an aggregation mechanism with multiple conformationally distinct species. *Chemical Science*, **2019**, 10, 4588-4597	9.4	19
52	A method of predicting the in vitro fibril formation propensity of A40 mutants based on their inclusion body levels in E. coli. *Scientific Reports*, **2019**, 9, 3680	4.9	4

51	Increased Secondary Nucleation Underlies Accelerated Aggregation of the Four-Residue N-Terminally Truncated A42 Species A5-42. *ACS Chemical Neuroscience*, **2019**, 10, 2374-2384	5.7	11
50	Autocatalytic amplification of Alzheimer-associated A42 peptide aggregation in human cerebrospinal fluid. *Communications Biology*, **2019**, 2, 365	6.7	28
49	Plant Polyphenols Inhibit Functional Amyloid and Biofilm Formation in Strains by Directing Monomers to Off-Pathway Oligomers. *Biomolecules*, **2019**, 9,	5.9	18
48	Dynamics and Control of Peptide Self-Assembly and Aggregation. *Advances in Experimental Medicine and Biology*, **2019**, 1174, 1-33	3.6	5
47	Physical Determinants of Amyloid Assembly in Biofilm Formation. *MBio*, **2019**, 10,	7.8	40
46	Trodusquemine enhances Aaggregation but suppresses its toxicity by displacing oligomers from cell membranes. *Nature Communications*, **2019**, 10, 225	17.4	69
45	Chemical Kinetics for Bridging Molecular Mechanisms and Macroscopic Measurements of Amyloid Fibril Formation. *Annual Review of Physical Chemistry*, **2018**, 69, 273-298	15.7	98
44	On-chip measurements of protein unfolding from direct observations of micron-scale diffusion. *Chemical Science*, **2018**, 9, 3503-3507	9.4	5
43	Microfluidic Diffusion Platform for Characterizing the Sizes of Lipid Vesicles and the Thermodynamics of Protein-Lipid Interactions. *Analytical Chemistry*, **2018**, 90, 3284-3290	7.8	16
42	Measurement of Tau Filament Fragmentation Provides Insights into Prion-like Spreading. *ACS Chemical Neuroscience*, **2018**, 9, 1276-1282	5.7	51
41	Extrinsic Amyloid-Binding Dyes for Detection of Individual Protein Aggregates in Solution. *Analytical Chemistry*, **2018**, 90, 10385-10393	7.8	14
40	Secondary nucleation in amyloid formation. *Chemical Communications*, **2018**, 54, 8667-8684	5.8	174
39	On the role of sidechain size and charge in the aggregation of A42 with familial mutations. *Proceedings of the National Academy of Sciences of the United States of America*, **2018**, 115, E5849-E5858	11.5	58
38	Kinetic Analysis of Amyloid Formation. *Methods in Molecular Biology*, **2018**, 1779, 181-196	1.4	14
37	Origin of metastable oligomers and their effects on amyloid fibril self-assembly. *Chemical Science*, **2018**, 9, 5937-5948	9.4	48
36	Direct Observation of Murine Prion Protein Replication in Vitro. *Journal of the American Chemical Society*, **2018**, 140, 14789-14798	16.4	18
35	Kinetic barriers to synuclein protofilament formation and conversion into mature fibrils. *Chemical Communications*, **2018**, 54, 7854-7857	5.8	14
34	Multistep Inhibition of Synuclein Aggregation and Toxicity in Vitro and in Vivo by Trodusquemine. *ACS Chemical Biology*, **2018**, 13, 2308-2319	4.9	52

33	Oligomer Diversity during the Aggregation of the Repeat Region of Tau. *ACS Chemical Neuroscience*, **2018**, 9, 3060-3071	5.7	32
32	A natural product inhibits the initiation of □synuclein aggregation and suppresses its toxicity. *Proceedings of the National Academy of Sciences of the United States of America*, **2017**, 114, E1009-E1017	11.5	177
31	Physical principles of filamentous protein self-assembly kinetics. *Journal of Physics Condensed Matter*, **2017**, 29, 153002	1.8	12
30	Acceleration of □synuclein aggregation. *Amyloid: the International Journal of Experimental and Clinical Investigation: the Official Journal of the International Society of Amyloidosis*, **2017**, 24, 20-21	2.7	3
29	Secondary nucleation of monomers on fibril surface dominates □synuclein aggregation and provides autocatalytic amyloid amplification. *Quarterly Reviews of Biophysics*, **2017**, 50, e6	7	102
28	Modulation of electrostatic interactions to reveal a reaction network unifying the aggregation behaviour of the A□42 peptide and its variants. *Chemical Science*, **2017**, 8, 4352-4362	9.4	42
27	Phage display and kinetic selection of antibodies that specifically inhibit amyloid self-replication. *Proceedings of the National Academy of Sciences of the United States of America*, **2017**, 114, 6444-6449	11.5	41
26	Absolute Quantification of Amyloid Propagons by Digital Microfluidics. *Analytical Chemistry*, **2017**, 89, 12306-12313	7.8	15
25	Scaling behaviour and rate-determining steps in filamentous self-assembly. *Chemical Science*, **2017**, 8, 7087-7097	9.4	43
24	Mutations associated with familial Parkinson's disease alter the initiation and amplification steps of □synuclein aggregation. *Proceedings of the National Academy of Sciences of the United States of America*, **2016**, 113, 10328-33	11.5	159
23	Quantitative analysis of intrinsic and extrinsic factors in the aggregation mechanism of Alzheimer-associated A□peptide. *Scientific Reports*, **2016**, 6, 18728	4.9	64
22	Physical determinants of the self-replication of protein fibrils. *Nature Physics*, **2016**, 12, 874-880	16.2	73
21	□Synuclein suppresses both the initiation and amplification steps of □synuclein aggregation via competitive binding to surfaces. *Scientific Reports*, **2016**, 6, 36010	4.9	45
20	An Environmentally Sensitive Fluorescent Dye as a Multidimensional Probe of Amyloid Formation. *Journal of Physical Chemistry B*, **2016**, 120, 2087-94	3.4	3
19	Molecular mechanisms of protein aggregation from global fitting of kinetic models. *Nature Protocols*, **2016**, 11, 252-72	18.8	342
18	Self-assembly of MPG1, a hydrophobin protein from the rice blast fungus that forms functional amyloid coatings, occurs by a surface-driven mechanism. *Scientific Reports*, **2016**, 6, 25288	4.9	48
17	Electrostatically-guided inhibition of Curli amyloid nucleation by the CsgC-like family of chaperones. *Scientific Reports*, **2016**, 6, 24656	4.9	39
16	Preventing peptide and protein misbehavior. *Proceedings of the National Academy of Sciences of the United States of America*, **2015**, 112, 5267-8	11.5	7

15	N-Terminal Extensions Retard Aβ42 Fibril Formation but Allow Cross-Seeding and Coaggregation with Aβ42. *Journal of the American Chemical Society*, **2015**, 137, 14673-85	16.4	51
14	The Aβ40 and Aβ42 peptides self-assemble into separate homomolecular fibrils in binary mixtures but cross-react during primary nucleation. *Chemical Science*, **2015**, 6, 4215-4233	9.4	91
13	Lipid vesicles trigger α-synuclein aggregation by stimulating primary nucleation. *Nature Chemical Biology*, **2015**, 11, 229-34	11.7	355
12	Differences in nucleation behavior underlie the contrasting aggregation kinetics of the Aβ40 and Aβ42 peptides. *Proceedings of the National Academy of Sciences of the United States of America*, **2014**, 111, 9384-9	11.5	294
11	Diffuse transition state structure for the unfolding of a leucine-rich repeat protein. *Physical Chemistry Chemical Physics*, **2014**, 16, 6448-59	3.6	3
10	Solvent and conformation dependence of amide I vibrations in peptides and proteins containing proline. *Journal of Chemical Physics*, **2011**, 135, 234507	3.9	55
9	Thermodynamic and kinetic design principles for protein aggregation inhibitors		2
8	Autoantibodies against the prion protein in individuals with PRNP mutations		1
7	Dynamics of oligomer populations formed during the aggregation of Alzheimer's Aβ42 peptide		5
6	Early peak and rapid decline of SARS-CoV-2 seroprevalence in a Swiss metropolitan region		20
5	Microfluidic Antibody Affinity Profiling for In-Solution Characterisation of Alloantibody - HLA Interactions in Human Serum		6
4	Microfluidic Affinity Profiling reveals a Broad Range of Target Affinities for Anti-SARS-CoV-2 Antibodies in Plasma of COVID-19 Survivors		3
3	Amplification, not spreading limits rate of tau aggregate accumulation in Alzheimer's disease		1
2	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
1	Kinetic fingerprints differentiate anti-Aβ therapies		5