

# Xiang-Lei Yang

## List of Publications by Year in Descending Order

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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.

104  
papers

3,879  
citations

37  
h-index

60  
g-index

112  
ext. papers

4,567  
ext. citations

12.5  
avg, IF

5.18  
L-index

#	Paper	IF	Citations
104	The uniqueness of AlaRS and its human disease connections. <i>RNA Biology</i> , <b>2021</b> , 18, 1501-1511	4.8	2
103	Inhibitory mechanism of reveromycin A at the tRNA binding site of a class I synthetase. <i>Nature Communications</i> , <b>2021</b> , 12, 1616	17.4	3
102	CMT2N-causing aminoacylation domain mutants enable Nrp1 interaction with AlaRS. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2021</b> , 118,	11.5	2
101	PANDORA-seq expands the repertoire of regulatory small RNAs by overcoming RNA modifications. <i>Nature Cell Biology</i> , <b>2021</b> , 23, 424-436	23.4	25
100	Serum-circulating His-tRNA synthetase inhibits organ-targeted immune responses. <i>Cellular and Molecular Immunology</i> , <b>2021</b> , 18, 1463-1475	15.4	10
99	Glucose-sensitive acetylation of Seryl tRNA synthetase regulates lipid synthesis in breast cancer. <i>Signal Transduction and Targeted Therapy</i> , <b>2021</b> , 6, 303	21	4
98	X-shaped structure of bacterial heterotetrameric tRNA synthetase suggests cryptic prokaryote functions and a rationale for synthetase classifications. <i>Nucleic Acids Research</i> , <b>2021</b> , 49, 10106-10119	20.1	5
97	Human diseases linked to cytoplasmic aminoacyl-tRNA synthetases. <i>The Enzymes</i> , <b>2020</b> , 48, 277-319	2.3	5
96	Novel functions of cytoplasmic aminoacyl-tRNA synthetases shaping the hallmarks of cancer. <i>The Enzymes</i> , <b>2020</b> , 48, 397-423	2.3	1
95	Cross-editing by a tRNA synthetase allows vertebrates to abundantly express mischargeable tRNA without causing mistranslation. <i>Nucleic Acids Research</i> , <b>2020</b> , 48, 6445-6457	20.1	7
94	Phosphorylation of seryl-tRNA synthetase by ATM/ATR is essential for hypoxia-induced angiogenesis. <i>PLoS Biology</i> , <b>2020</b> , 18, e3000991	9.7	4
93	Multi-Omics Database Analysis of Aminoacyl-tRNA Synthetases in Cancer. <i>Genes</i> , <b>2020</b> , 11,	4.2	2
92	Extracellular tyrosyl-tRNA synthetase cleaved by plasma proteinases and stored in platelet Egranules: Potential role in monocyte activation. <i>Research and Practice in Thrombosis and Haemostasis</i> , <b>2020</b> , 4, 1167-1177	5.1	1
91	Phosphorylation of seryl-tRNA synthetase by ATM/ATR is essential for hypoxia-induced angiogenesis <b>2020</b> , 18, e3000991		
90	Phosphorylation of seryl-tRNA synthetase by ATM/ATR is essential for hypoxia-induced angiogenesis <b>2020</b> , 18, e3000991		
89	Phosphorylation of seryl-tRNA synthetase by ATM/ATR is essential for hypoxia-induced angiogenesis <b>2020</b> , 18, e3000991		
88	Phosphorylation of seryl-tRNA synthetase by ATM/ATR is essential for hypoxia-induced angiogenesis <b>2020</b> , 18, e3000991		

87	Phosphorylation of seryl-tRNA synthetase by ATM/ATR is essential for hypoxia-induced angiogenesis <b>2020</b> , 18, e3000991		
86	Phosphorylation of seryl-tRNA synthetase by ATM/ATR is essential for hypoxia-induced angiogenesis <b>2020</b> , 18, e3000991		
85	CMT disease severity correlates with mutation-induced open conformation of histidyl-tRNA synthetase, not aminoacylation loss, in patient cells. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2019</b> , 116, 19440-19448	11.5	16
84	Transcriptional dysregulation by a nucleus-localized aminoacyl-tRNA synthetase associated with Charcot-Marie-Tooth neuropathy. <i>Nature Communications</i> , <b>2019</b> , 10, 5045	17.4	10
83	Allele-specific RNA interference prevents neuropathy in Charcot-Marie-Tooth disease type 2D mouse models. <i>Journal of Clinical Investigation</i> , <b>2019</b> , 129, 5568-5583	15.9	24
82	Neurodegenerative Charcot-Marie-Tooth disease as a case study to decipher novel functions of aminoacyl-tRNA synthetases. <i>Journal of Biological Chemistry</i> , <b>2019</b> , 294, 5321-5339	5.4	36
81	Aberrant GlyRS-HDAC6 interaction linked to axonal transport deficits in Charcot-Marie-Tooth neuropathy. <i>Nature Communications</i> , <b>2018</b> , 9, 1007	17.4	63
80	Directed Evolution to Engineer Monobody for FRET Biosensor Assembly and Imaging at Live-Cell Surface. <i>Cell Chemical Biology</i> , <b>2018</b> , 25, 370-379.e4	8.2	16
79	An alternative conformation of human TrpRS suggests a role of zinc in activating non-enzymatic function. <i>RNA Biology</i> , <b>2018</b> , 15, 649-658	4.8	11
78	Bi-allelic Mutations in Phe-tRNA Synthetase Associated with a Multi-system Pulmonary Disease Support Non-translational Function. <i>American Journal of Human Genetics</i> , <b>2018</b> , 103, 100-114	11	20
77	Tyrosyl-tRNA synthetase stimulates thrombopoietin-independent hematopoiesis accelerating recovery from thrombocytopenia. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2018</b> , 115, E8228-E8235	11.5	24
76	Distinct ways of G:U recognition by conserved tRNA binding motifs. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2018</b> , 115, 7527-7532	11.5	13
75	Sphingosine 1-phosphate lyase deficiency causes Charcot-Marie-Tooth neuropathy. <i>Neurology</i> , <b>2017</b> , 88, 533-542	6.5	43
74	Alternative stable conformation capable of protein misinteraction links tRNA synthetase to peripheral neuropathy. <i>Nucleic Acids Research</i> , <b>2017</b> , 45, 8091-8104	20.1	27
73	Trk receptor signaling and sensory neuron fate are perturbed in human neuropathy caused by mutations. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2017</b> , 114, E3324-E3333	11.5	44
72	Neuropilin 1 sequestration by neuropathogenic mutant glycyl-tRNA synthetase is permissive to vascular homeostasis. <i>Scientific Reports</i> , <b>2017</b> , 7, 9216	4.9	16
71	Studying nuclear functions of aminoacyl tRNA synthetases. <i>Methods</i> , <b>2017</b> , 113, 105-110	4.6	4
70	Two crystal structures reveal design for repurposing the C-Ala domain of human AlaRS. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2016</b> , 113, 14300-14305	11.5	12

69	Evolutionary Gain of Alanine Mischarging to Noncognate tRNAs with a G4:U69 Base Pair. <i>Journal of the American Chemical Society</i> , <b>2016</b> , 138, 12948-12955	16.4	27
68	Neddylation requires glycyl-tRNA synthetase to protect activated E2. <i>Nature Structural and Molecular Biology</i> , <b>2016</b> , 23, 730-7	17.6	29
67	Alternative splicing creates two new architectures for human tyrosyl-tRNA synthetase. <i>Nucleic Acids Research</i> , <b>2016</b> , 44, 1247-55	20.1	5
66	Extracellular Tyrosyl-tRNA Synthetase Is a Potent Stimulator of Thrombocytopoiesis. <i>Blood</i> , <b>2016</b> , 128, 1476-1476	2.2	
65	Impaired protein translation in Drosophila models for Charcot-Marie-Tooth neuropathy caused by mutant tRNA synthetases. <i>Nature Communications</i> , <b>2015</b> , 6, 7520	17.4	67
64	CMT2D neuropathy is linked to the neomorphic binding activity of glycyl-tRNA synthetase. <i>Nature</i> , <b>2015</b> , 526, 710-4	50.4	93
63	Secreted histidyl-tRNA synthetase splice variants elaborate major epitopes for autoantibodies in inflammatory myositis. <i>Journal of Biological Chemistry</i> , <b>2014</b> , 289, 19269-75	5.4	34
62	RNA function. Ribosome stalling induced by mutation of a CNS-specific tRNA causes neurodegeneration. <i>Science</i> , <b>2014</b> , 345, 455-9	33.3	263
61	Human tRNA synthetase catalytic nulls with diverse functions. <i>Science</i> , <b>2014</b> , 345, 328-32	33.3	81
60	Oxidative stress diverts tRNA synthetase to nucleus for protection against DNA damage. <i>Molecular Cell</i> , <b>2014</b> , 56, 323-332	17.6	42
59	The selective tRNA aminoacylation mechanism based on a single GU pair. <i>Nature</i> , <b>2014</b> , 510, 507-11	50.4	61
58	tRNA synthetase counteracts c-Myc to develop functional vasculature. <i>ELife</i> , <b>2014</b> , 3, e02349	8.9	46
57	tRNA-derived G-quadruplex protects motor neurons. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2014</b> , 111, 18108-9	11.5	1
56	Architecture and metamorphosis. <i>Topics in Current Chemistry</i> , <b>2014</b> , 344, 89-118		27
55	Crystal structure of human Seryl-tRNA synthetase and Ser-SA complex reveals a molecular lever specific to higher eukaryotes. <i>Structure</i> , <b>2013</b> , 21, 2078-86	5.2	13
54	Structural disorder in expanding the functionome of aminoacyl-tRNA synthetases. <i>Chemistry and Biology</i> , <b>2013</b> , 20, 1093-9		13
53	ATP-directed capture of bioactive herbal-based medicine on human tRNA synthetase. <i>Nature</i> , <b>2013</b> , 494, 121-4	50.4	110
52	Structural switch of lysyl-tRNA synthetase between translation and transcription. <i>Molecular Cell</i> , <b>2013</b> , 49, 30-42	17.6	104

51	Exome sequencing identifies a significant variant in methionyl-tRNA synthetase (MARS) in a family with late-onset CMT2. <i>Journal of Neurology, Neurosurgery and Psychiatry</i> , <b>2013</b> , 84, 1247-9	5.5	95
50	Regulated capture by exosomes of mRNAs for cytoplasmic tRNA synthetases. <i>Journal of Biological Chemistry</i> , <b>2013</b> , 288, 29223-8	5.4	11
49	Internally deleted human tRNA synthetase suggests evolutionary pressure for repurposing. <i>Structure</i> , <b>2012</b> , 20, 1470-7	5.2	25
48	Secreted human glycyl-tRNA synthetase implicated in defense against ERK-activated tumorigenesis. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2012</b> , 109, E640-7	11.5	93
47	Trp-tRNA synthetase bridges DNA-PKcs to PARP-1 to link IFN- $\lambda$ and p53 signaling. <i>Nature Chemical Biology</i> , <b>2012</b> , 8, 547-54	11.7	72
46	Uncovering of a short internal peptide activates a tRNA synthetase procytokine. <i>Journal of Biological Chemistry</i> , <b>2012</b> , 287, 20504-8	5.4	9
45	tRNA-controlled nuclear import of a human tRNA synthetase. <i>Journal of Biological Chemistry</i> , <b>2012</b> , 287, 9330-4	5.4	33
44	Unique domain appended to vertebrate tRNA synthetase is essential for vascular development. <i>Nature Communications</i> , <b>2012</b> , 3, 681	17.4	76
43	Functional expansion of the tRNA world under stress. <i>Molecular Cell</i> , <b>2011</b> , 43, 500-2	17.6	11
42	Structural context for mobilization of a human tRNA synthetase from its cytoplasmic complex. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2011</b> , 108, 8239-44	11.5	30
41	Dissociating quaternary structure regulates cell-signaling functions of a secreted human tRNA synthetase. <i>Journal of Biological Chemistry</i> , <b>2011</b> , 286, 11563-8	5.4	22
40	Dispersed disease-causing neomorphic mutations on a single protein promote the same localized conformational opening. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2011</b> , 108, 12307-12	11.5	46
39	p23H implicated as cis/trans regulator of AlaXp-directed editing for mammalian cell homeostasis. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2011</b> , 108, 2723-8	11.5	12
38	Charcot-Marie-Tooth-linked mutant GARS is toxic to peripheral neurons independent of wild-type GARS levels. <i>PLoS Genetics</i> , <b>2011</b> , 7, e1002399	6	87
37	Novel Protein Agonist of Thrombopoiesis Acts Via a Physiocrine Pathway Distinct From That of Thrombopoietin. <i>Blood</i> , <b>2011</b> , 118, 2376-2376	2.2	
36	Orthogonal use of a human tRNA synthetase active site to achieve multifunctionality. <i>Nature Structural and Molecular Biology</i> , <b>2010</b> , 17, 57-61	17.6	63
35	New functions of aminoacyl-tRNA synthetases beyond translation. <i>Nature Reviews Molecular Cell Biology</i> , <b>2010</b> , 11, 668-74	48.7	228
34	Packaging HIV virion components through dynamic equilibria of a human tRNA synthetase. <i>Journal of Physical Chemistry B</i> , <b>2010</b> , 114, 16273-9	3.4	13

33	Functional expansion of human tRNA synthetases achieved by structural inventions. <i>FEBS Letters</i> , <b>2010</b> , 584, 434-42	3.8	81
32	Introduction of a leucine half-zipper engenders multiple high-quality crystals of a recalcitrant tRNA synthetase. <i>Acta Crystallographica Section D: Biological Crystallography</i> , <b>2010</b> , 66, 243-50		6
31	Structure of a tryptophanyl-tRNA synthetase containing an iron-sulfur cluster. <i>Acta Crystallographica Section F: Structural Biology Communications</i> , <b>2010</b> , 66, 1326-34		16
30	Dominant mutations in the tyrosyl-tRNA synthetase gene recapitulate in Drosophila features of human Charcot-Marie-Tooth neuropathy. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2009</b> , 106, 11782-7	11.5	76
29	Crystal structures and biochemical analyses suggest a unique mechanism and role for human glycyI-tRNA synthetase in Ap4A homeostasis. <i>Journal of Biological Chemistry</i> , <b>2009</b> , 284, 28968-76	5.4	29
28	Paradox of mistranslation of serine for alanine caused by AlaRS recognition dilemma. <i>Nature</i> , <b>2009</b> , 462, 808-12	50.4	76
27	Mutational separation of aminoacylation and cytokine activities of human tyrosyl-tRNA synthetase. <i>Chemistry and Biology</i> , <b>2009</b> , 16, 531-9		15
26	The C-Ala domain brings together editing and aminoacylation functions on one tRNA. <i>Science</i> , <b>2009</b> , 325, 744-7	33.3	65
25	Natural homolog of tRNA synthetase editing domain rescues conditional lethality caused by mistranslation. <i>Journal of Biological Chemistry</i> , <b>2008</b> , 283, 30073-8	5.4	50
24	Crystal structure of tetrameric form of human lysyl-tRNA synthetase: Implications for multisynthetase complex formation. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2008</b> , 105, 2331-6	11.5	71
23	Evidence for annexin II-S100A10 complex and plasmin in mobilization of cytokine activity of human TrpRS. <i>Journal of Biological Chemistry</i> , <b>2008</b> , 283, 2070-7	5.4	30
22	Effect of mini-tyrosyl-tRNA synthetase on ischemic angiogenesis, leukocyte recruitment, and vascular permeability. <i>American Journal of Physiology - Regulatory Integrative and Comparative Physiology</i> , <b>2008</b> , 295, R1138-46	3.2	13
21	Gain-of-function mutational activation of human tRNA synthetase procytokine. <i>Chemistry and Biology</i> , <b>2007</b> , 14, 1323-33		32
20	Functional and crystal structure analysis of active site adaptations of a potent anti-angiogenic human tRNA synthetase. <i>Structure</i> , <b>2007</b> , 15, 793-805	5.2	39
19	Long-range structural effects of a Charcot-Marie-Tooth disease-causing mutation in human glycyI-tRNA synthetase. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2007</b> , 104, 9976-81	11.5	72
18	Charcot-Marie-Tooth disease-associated mutant tRNA synthetases linked to altered dimer interface and neurite distribution defect. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2007</b> , 104, 11239-44	11.5	116
17	Perfecting the genetic code with an RNP complex. <i>Structure</i> , <b>2006</b> , 14, 1729-30	5.2	1
16	Crystallization and preliminary X-ray analysis of a native human tRNA synthetase whose allelic variants are associated with Charcot-Marie-Tooth disease. <i>Acta Crystallographica Section F: Structural Biology Communications</i> , <b>2006</b> , 62, 1243-6		9

15	Two conformations of a crystalline human tRNA synthetase-tRNA complex: implications for protein synthesis. <i>EMBO Journal</i> , <b>2006</b> , 25, 2919-29	13	45
14	Variant of human enzyme sequesters reactive intermediate. <i>Biochemistry</i> , <b>2005</b> , 44, 4216-21	3.2	6
13	Relationship of two human tRNA synthetases used in cell signaling. <i>Trends in Biochemical Sciences</i> , <b>2004</b> , 29, 250-6	10.3	50
12	Alanyl-tRNA synthetase crystal structure and design for acceptor-stem recognition. <i>Molecular Cell</i> , <b>2004</b> , 13, 829-41	17.6	45
11	Crystal structures that suggest late development of genetic code components for differentiating aromatic side chains. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2003</b> , 100, 15376-80	11.5	77
10	Crystal Structure of an EMAP-II-Like Cytokine Released from a Human tRNA Synthetase. <i>Helvetica Chimica Acta</i> , <b>2003</b> , 86, 1246-1257	2	33
9	Crystal structure of a human aminoacyl-tRNA synthetase cytokine. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2002</b> , 99, 15369-74	11.5	82
8	Mutational switching of a yeast tRNA synthetase into a mammalian-like synthetase cytokine. <i>Biochemistry</i> , <b>2002</b> , 41, 14232-7	3.2	19
7	Crystallographic analysis of a novel complex of actinomycin D bound to the DNA decamer CGATCGATCG. <i>Biochemistry</i> , <b>2001</b> , 40, 5587-92	3.2	27
6	Binding of a Macrocyclic Bisacridine and Ametantrone to CGTACG Involves Similar Unusual Intercalation Platforms. <i>Biochemistry</i> , <b>2000</b> , 39, 10950-10957	3.2	40
5	Structural studies of atom-specific anticancer drugs acting on DNA <b>1999</b> , 83, 181-215		172
4	Binding of AR-1-144, a tri-imidazole DNA minor groove binder, to CCGG sequence analyzed by NMR spectroscopy. <i>FEBS Journal</i> , <b>1999</b> , 263, 646-55		22
3	Structural studies of a stable parallel-stranded DNA duplex incorporating isoguanine:cytosine and isocytosine:guanine basepairs by nuclear magnetic resonance spectroscopy. <i>Biophysical Journal</i> , <b>1998</b> , 75, 1163-71	2.9	49
2	Structural analysis of Z-Z DNA junctions with A:A and T:T mismatched base pairs by NMR. <i>Biochemistry</i> , <b>1997</b> , 36, 4258-67	3.2	6
1	Nucleus translocation of tRNA synthetase mediates late integrated stress response		2