

# Rachel C Thomson

## List of Publications by Year in descending order

Source: <https://exaly.com/author-pdf/4158322/publications.pdf>

Version: 2024-02-01

82  
papers

1,988  
citations

236925

25  
h-index

265206

42  
g-index

83  
all docs

83  
docs citations

83  
times ranked

1652  
citing authors

#	ARTICLE	IF	CITATIONS
1	Swelling-induced telephone cord blisters in hydrogel films. <i>Composite Structures</i> , 2022, 280, 114909.	5.8	3
2	Modelling carburisation in 9Cr-1Mo ferritic steel tube substrates in experimental CO <sub>2</sub> atmospheres. <i>Corrosion Science</i> , 2020, 163, 108248.	6.6	7
3	Influence of microstructure on cavitation in the heat affected zone of a Grade 92 steel weld during long-term high temperature creep. <i>Materials Characterization</i> , 2020, 170, 110663.	4.4	9
4	A new spallation mechanism of thermal barrier coatings and a generalized mechanical model. <i>Composite Structures</i> , 2019, 227, 111314.	5.8	8
5	Determination of residual stress and interface adhesion toughness of thin films by blisters. <i>Material Design and Processing Communications</i> , 2019, 1, e60.	0.9	1
6	Spontaneous formation and morphology of telephone cord blisters in thin films: The $\hat{I}$ formulae. <i>Composite Structures</i> , 2019, 225, 111108.	5.8	5
7	Calculation of Diffusion Coefficients in $\hat{I}^3$ -Ni. <i>Key Engineering Materials</i> , 2019, 795, 15-21.	0.4	0
8	Microstructural Characterization of the Heat-Affected Zones in Grade 92 Steel Welds: Double-Pass and Multipass Welds. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2018, 49, 1211-1230.	2.2	20
9	Determination of mode I and II adhesion toughness of monolayer thin films by circular blister tests. <i>Theoretical and Applied Fracture Mechanics</i> , 2018, 94, 34-39.	4.7	7
10	An investigation on oxidation/carburisation of 9Cr-1Mo steel heat exchanger tube in an AGR environment. <i>Materials at High Temperatures</i> , 2018, 35, 56-65.	1.0	5
11	A new spallation mechanism of thermal barrier coatings on aero-engine turbine blades. <i>Theoretical and Applied Mechanics Letters</i> , 2018, 8, 7-11.	2.8	7
12	Effect of intermetallic particles and grain boundaries on short fatigue crack growth behaviour in a cast Al-4Cu-3Ni-0.7Si piston alloy. <i>Fatigue and Fracture of Engineering Materials and Structures</i> , 2017, 40, 1428-1442.	3.4	9
13	Effects of three-dimensional coating interfaces on thermo-mechanical stresses within plasma spray thermal barrier coatings. <i>Materials and Design</i> , 2017, 125, 189-204.	7.0	45
14	The Influence of Thermal Cycles on the Microstructure of Grade 92 Steel. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2017, 48, 5396-5414.	2.2	16
15	Modelling of microstructural evolution in multi-layered overlay coatings. <i>Journal of Materials Science</i> , 2017, 52, 12279-12294.	3.7	1
16	Modelling of Nb influence on phase transformation behaviours from austenite to ferrite in low carbon steels. <i>Modelling and Simulation in Materials Science and Engineering</i> , 2016, 24, 035016.	2.0	0
17	Effects of Solute Nb Atoms and Nb Precipitates on Isothermal Transformation Kinetics from Austenite to Ferrite. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2016, 47, 3387-3396.	2.2	6
18	Microstructural and Chemical Rejuvenation of a Ni-Based Superalloy. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2016, 47, 6330-6338.	2.2	14

#	ARTICLE	IF	CITATIONS
19	Modelling the coefficient of thermal expansion in Ni-based superalloys and bond coatings. <i>Journal of Materials Science</i> , 2016, 51, 4213-4226.	3.7	60
20	Microstructural Analysis of IN617 and IN625 Oxidised in the Presence of Steam for use in Ultra-Supercritical Power Plant. <i>Oxidation of Metals</i> , 2013, 79, 553-566.	2.1	27
21	Microstructural Evolution of Boron Nitride Particles in Advanced 9Cr Power Plant Steels. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2013, 44, 3411-3418.	2.2	28
22	Effect of rejuvenation heat treatments on gamma prime distributions in a Ni based superalloy for power plant applications. <i>Materials Science and Technology</i> , 2013, 29, 775-780.	1.6	19
23	Microstructural analysis of steam oxidation of IN617 for use in ultra-supercritical steam plants. <i>Materials at High Temperatures</i> , 2012, 29, 81-88.	1.0	3
24	The use of combined three-dimensional electron backscatter diffraction and energy dispersive X-ray analysis to assess the characteristics of the gamma/gamma-prime microstructure in alloy 720Liâ„¢. <i>Ultramicroscopy</i> , 2012, 114, 1-10.	1.9	12
25	Modeling of Microstructural Evolution in an MCrAlY Overlay Coating on Different Superalloy Substrates. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2012, 43, 774-788.	2.2	25
26	Short Fatigue Crack Growth Micromechanisms in a Cast Aluminium Piston Alloy. , 2012, , 485-490.		1
27	A Survey of Fitness-for-Service Trends in Industry. <i>Journal of Pressure Vessel Technology, Transactions of the ASME</i> , 2011, 133, .	0.6	6
28	Assessment of surface hardening effects from shot peening on a Ni-based alloy using electron backscatter diffraction techniques. <i>Acta Materialia</i> , 2011, 59, 4825-4834.	7.9	104
29	Microstructural characterization of oxide scales formed on steels P91 and P92. <i>Materials at High Temperatures</i> , 2011, 28, 361-368.	1.0	14
30	Effect of crack depth on fatigue crack growth rates for a Câ€“Mn pipeline steel in a sour environment. <i>International Journal of Fatigue</i> , 2010, 32, 288-296.	5.7	37
31	Investigation of mechanical properties of intermetallic phases in multi-component Alâ€“Si alloys using hot-stage nanoindentation. <i>Intermetallics</i> , 2010, 18, 499-508.	3.9	85
32	Study on thermal expansion of intermetallics in multicomponent Alâ€“Si alloys by high temperature X-ray diffraction. <i>Intermetallics</i> , 2010, 18, 1750-1757.	3.9	46
33	The combined use of EBSD and EDX analyses for the identification of complex intermetallic phases in multicomponent Alâ€“Si piston alloys. <i>Journal of Alloys and Compounds</i> , 2010, 490, 293-300.	5.5	63
34	A holistic approach to structural integrity of high temperature welds in power plants. , 2009, , .		0
35	MCrAlY creep behaviour modelling by means of finite-element unit cells and self-consistent constitutive equations. <i>Proceedings of the Institution of Mechanical Engineers, Part L: Journal of Materials: Design and Applications</i> , 2009, 223, 41-51.	1.1	2
36	The Behavior of Shallow Cracks in a Pipeline Steel Operating in a Sour Environment. <i>Journal of Offshore Mechanics and Arctic Engineering</i> , 2009, 131, .	1.2	0

#	ARTICLE	IF	CITATIONS
37	Microstructural characterisation of oxide formation from MCrAlY coatings on nickel-based superalloys. <i>Materials at High Temperatures</i> , 2009, 26, 161-168.	1.0	5
38	Finite element modelling of development of stresses in thermal barrier coatings. <i>Energy Materials</i> , 2009, 4, 133-140.	0.1	3
39	Influence of Fatigue Loading on the Engineering Critical Assessment of Steel Catenary Risers in Sour Deepwater Oil and Gas Developments. <i>Key Engineering Materials</i> , 2009, 413-414, 313-325.	0.4	1
40	Combined EBSD/EDS tomography in a dual-beam FIB/FEG-SEM. <i>Journal of Microscopy</i> , 2009, 233, 442-450.	1.8	41
41	Modelling the high temperature behaviour of TBCs using sequentially coupled microstructural-mechanical FE analyses. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2009, 513-514, 302-310.	5.6	25
42	A multicomponent diffusion model for prediction of microstructural evolution in coated Ni based superalloy systems. <i>Materials Science and Technology</i> , 2009, 25, 287-299.	1.6	40
43	Mechanical properties of intermetallic phases in multi-component Al-Si alloys using nanoindentation. <i>Intermetallics</i> , 2009, 17, 634-641.	3.9	97
44	Microstructural evolution in coated superalloy systems. <i>Energy Materials</i> , 2009, 4, 11-16.	0.1	0
45	Hot stage nanoindentation in multi-component Al-Ni-Si alloys: Experiment and simulation. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2008, 494, 367-379.	5.6	26
46	A computational interface for thermodynamic calculations software MTDATA. <i>Calphad: Computer Coupling of Phase Diagrams and Thermochemistry</i> , 2008, 32, 129-134.	1.6	11
47	The Behaviour of Shallow Cracks in a Pipeline Steel Operating in a Sour Environment. , 2008, , .		1
48	Characterization of isothermally aged Grade 91 (9Cr-1Mo-Nb-V) steel by electron backscatter diffraction. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2007, 460-461, 261-267.	5.6	18
49	Effect of NiO on the Phase Stability and Microstructure of Ytria-Stabilized Zirconia. <i>Journal of the American Ceramic Society</i> , 2007, 90, 918-924.	3.8	28
50	Materials behaviour and intermetallics characteristics in the reaction between SnAgCu and Sn-Pb solder alloys. <i>Journal of Materials Science</i> , 2007, 42, 4076-4086.	3.7	7
51	Microstructural considerations for ultrafine lead free solder joints. <i>Microelectronics Reliability</i> , 2007, 47, 1997-2006.	1.7	23
52	Holographic diffractive optical elements allow improvements in conduction laser welding of steels. , 2006, , .		6
53	Reliability issues in Pb-free solder joint miniaturization. <i>Journal of Electronic Materials</i> , 2006, 35, 1761-1772.	2.2	38
54	Modeling the interdependence of processing and alloy composition on the evolution of microstructure in Sn-based lead-free solders in fine pitch flip chip. <i>IEEE Transactions on Components and Packaging Technologies</i> , 2006, 29, 98-104.	1.3	2

#	ARTICLE	IF	CITATIONS
55	Microstructural Analysis of Fatigue Initiation in Al-Si Casting Alloys. Materials Science Forum, 2006, 519-521, 1083-1088.	0.3	17
56	Characterisation of Intermetallic Phases in Multicomponent Al-Si Casting Alloys for Engineering Applications. Materials Science Forum, 2006, 519-521, 359-364.	0.3	26
57	A phase-field model for the solidification of multicomponent and multiphase alloys. Journal of Crystal Growth, 2005, 279, 163-169.	1.5	39
58	Microstructural characterization of autogenous laser welds on 316L stainless steel using EBSD and EDS. Journal of Microscopy, 2005, 217, 167-173.	1.8	40
59	Effect of solder bump geometry on the microstructure of Sn-3.5 wt% Ag on electroless nickel immersion gold during solder dipping. Journal of Materials Research, 2005, 20, 649-658.	2.6	11
60	The effect of microstructural and geometrical features on the reliability of ultrafine flip chip microsoldier joints. Journal of Electronic Materials, 2004, 33, 1227-1235.	2.2	16
61	Modelling of microstructural effects in the fatigue of austempered ductile iron. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2003, 346, 273-286.	5.6	10
62	Development of Near-Eutectic Al-Si Casting Alloys for Piston Applications. Materials Science Forum, 2002, 396-402, 625-630.	0.3	9
63	Prediction of multiwire submerged arc weld bead shape using neural network modelling. Science and Technology of Welding and Joining, 2002, 7, 265-279.	3.1	27
64	Title is missing!. Journal of Materials Science, 2001, 36, 5603-5608.	3.7	16
65	Modelling microstructural evolution and mechanical properties of austempered ductile iron. Materials Science and Technology, 2000, 16, 1412-1419.	1.6	28
66	Characterization of Carbides in Steels Using Atom Probe Field-Ion Microscopy. Materials Characterization, 2000, 44, 219-233.	4.4	46
67	Atom probe characterisation of high temperature materials. Materials Science and Technology, 2000, 16, 1199-1206.	1.6	4
68	A Neural Network Approach to the Prediction of Submerged Arc Weld Metal Chemistry.. ISIJ International, 1999, 39, 1096-1105.	1.4	6
69	Carbide precipitation in martensite during the early stages of tempering Cr- and Mo-containing low alloy steels. Acta Materialia, 1998, 46, 2203-2213.	7.9	121
70	Low temperature copper solubilities in Fe-Cu-Ni. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 1998, 250, 49-54.	5.6	62
71	Phase separation in a Ni-37 at.% Co-5% Nb alloy. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 1998, 250, 104-108.	5.6	4
72	An APFIM and TEM Study of Ni <sub>4</sub> Mo Precipitation In a Commercial Ni-28% Mo-1.4 % Fe-0.4% Cr Wt. % Alloy. Microscopy and Microanalysis, 1998, 4, 92-93.	0.4	0

#	ARTICLE	IF	CITATIONS
73	Digital Field Ion Microscopy. <i>Microscopy and Microanalysis</i> , 1998, 4, 88-89.	0.4	0
74	Modeling solid solution strengthening in nickel alloys. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 1997, 28, 1329-1335.	2.2	261
75	An Atom Probe Field Ion Microscope Study of Model Ni-Al Superalloys Containing Be. <i>European Physical Journal Special Topics</i> , 1996, 06, C5-259-C5-264.	0.2	1
76	Characterization of Precipitates with the Atom Probe. <i>European Physical Journal Special Topics</i> , 1996, 06, C5-277-C5-282.	0.2	0
77	Changes in chemical composition of carbides in 2 $\hat{A}$ 25Cr $\hat{A}$ 1Mo power plant steel. <i>Materials Science and Technology</i> , 1994, 10, 193-204.	1.6	44
78	Cementite precipitation during tempering of martensite under the influence of an externally applied stress. <i>Journal of Materials Science</i> , 1994, 29, 6079-6084.	3.7	29
79	Changes in chemical composition of carbides in 2 $\hat{A}$ 25Cr $\hat{A}$ 1Mo power plant steel. <i>Materials Science and Technology</i> , 1994, 10, 205-208.	1.6	22
80	Atom probe and STEM studies of carbide precipitation in 2Cr1Mo steel. <i>Applied Surface Science</i> , 1993, 67, 334-341.	6.1	9
81	Modelling the carbide composition changes in CrMoV steel during long-term tempering. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 1992, 154, 197-205.	5.6	9
82	Carbide precipitation in 12Cr1MoV power plant steel. <i>Metallurgical and Materials Transactions A - Physical Metallurgy and Materials Science</i> , 1992, 23, 1171-1179.	1.4	64