# Surendra K Makineni

List of Publications by Year
in descending order

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| | | 218592 | 233338 |
|---|---|---|---|
| 52 | 2,181 | 26 | 45 |
| papers | citations | h-index | g-index |

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|---|---|---|---|
| 55 | 55 | 55 | 1132 |
| all docs | docs citations | times ranked | citing authors |

| # | Article | IF | Citations |
|---|---|---|---|
| 1 | A new class of high strength high temperature Cobalt based Î³â€“Î³â€² Coâ€“Moâ€“Al alloys stabilized with Ta addition. Acta Materialia, 2015, 97, 29-40. | 3.8 | 151 |
| 2 | Synthesis of a new tungsten-free Î³â€“Î³â€² cobalt-based superalloy by tuning alloying additions. Acta Materialia, 2015, 85, 85-94. | 3.8 | 151 |
| 3 | A new tungsten-free Î³â€“Î³â€™ Coâ€“Alâ€“Moâ€“Nb-based superalloy. Scripta Materialia, 2015, 98, 36-39. | 2.6 | 145 |
| 4 | Atom probe tomography. Nature Reviews Methods Primers, 2021, 1, . | 11.8 | 131 |
| 5 | Unveiling the Re effect in Ni-based single crystal superalloys. Nature Communications, 2020, 11, 389. | 5.8 | 101 |
| 6 | On the diffusive phase transformation mechanism assisted by extended dislocations during creep of a single crystal CoNi-based superalloy. Acta Materialia, 2018, 155, 362-371. | 3.8 | 89 |
| 7 | On the effect of Re addition on microstructural evolution of a CoNi-based superalloy. Acta Materialia, 2019, 168, 37-51. | 3.8 | 83 |
| 8 | Chemical heterogeneity enhances hydrogen resistance in high-strength steels. Nature Materials, 2021, 20, 1629-1634. | 13.3 | 83 |
| 9 | On the origin of a remarkable increase in the strength and stability of an Al rich Al-Ni eutectic alloy by Zr addition. Acta Materialia, 2019, 170, 205-217. | 3.8 | 77 |
| 10 | On the formation of hierarchical microstructure in a Mo-doped NiCoCr medium-entropy alloy with enhanced strength-ductility synergy. Scripta Materialia, 2020, 175, 1-6. | 2.6 | 75 |
| 11 | On the grain boundary strengthening effect of boron in Î³/Î³â€² Cobalt-base superalloys. Acta Materialia, 2018, 145, 247-254. | 3.8 | 73 |
| 12 | Elemental site occupancy in the L12 A3B ordered intermetallic phase in Co-based superalloys and its influence on the microstructure. Acta Materialia, 2019, 163, 140-153. | 3.8 | 65 |
| 13 | Effect of Cr addition on Î³â€“Î³â€² cobalt-based Coâ€“Moâ€“Alâ€“Ta class of superalloys: a combined experimental and computational study. Journal of Materials Science, 2017, 52, 11036-11047. | 1.7 | 61 |
| 14 | Thermophysical and Mechanical Properties of Advanced Single Crystalline Co-base Superalloys. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2018, 49, 4099-4109. | 1.1 | 58 |
| 15 | Phase evolution and crystallography of precipitates during decomposition of new â€œtungsten-freeâ€• Co(Ni)â€“Moâ€“Alâ€“Nb Î³â€“Î³â€² superalloys at elevated temperatures. Journal of Materials Science, 2016, 51, 7843-7860. | 1.7 | 55 |
| 16 | On the segregation of Re at dislocations in the Î³' phase of Ni-based single crystal superalloys. Materialia, 2018, 4, 109-114. | 1.3 | 51 |
| 17 | Design of high-strength and damage-resistant carbide-free fine bainitic steels for railway crossing applications. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2019, 759, 210-223. | 2.6 | 51 |
| 18 | Growth mechanism of the interdiffusion zone between platinum modified bond coats and single crystal superalloys. Acta Materialia, 2016, 105, 438-448. | 3.8 | 50 |

| # | Article | IF | Citations |
|---|---|---|---|
| 19 | Correlative Microscopyâ€"Novel Methods and Their Applications to Explore 3D Chemistry and Structure of Nanoscale Lattice Defects: A Case Study in Superalloys. Jom, 2018, 70, 1736-1743. | 0.9 | 49 |
| 20 | Elemental segregation to antiphase boundaries in a crept CoNi-based single crystal superalloy. Scripta Materialia, 2018, 157, 62-66. | 2.6 | 48 |
| 21 | On the atomic solute diffusional mechanisms during compressive creep deformation of a Co-Al-W-Ta single crystal superalloy. Acta Materialia, 2020, 184, 86-99. | 3.8 | 45 |
| 22 | Elemental partitioning and site-occupancy in Î³/Î³â€² forming Co-Ti-Mo and Co-Ti-Cr alloys. Scripta Materialia, 2018, 154, 159-162. | 2.6 | 44 |
| 23 | Synthesis and stabilization of a new phase regime in a Mo-Si-B based alloy by laser-based additive manufacturing. Acta Materialia, 2018, 151, 31-40. | 3.8 | 42 |
| 24 | Enhancing elevated temperature strength of copper containing aluminium alloys by forming L12 Al3Zr precipitates and nucleating Î¸â€³ precipitates on them. Scientific Reports, 2017, 7, 11154. | 1.6 | 41 |
| 25 | Interfaces and defect composition at the near-atomic scale through atom probe tomography investigations. Journal of Materials Research, 2018, 33, 4018-4030. | 1.2 | 35 |
| 26 | Precipitation formation on â^5 and â^7 grain boundaries in 316L stainless steel and their roles on intergranular corrosion. Acta Materialia, 2021, 210, 116822. | 3.8 | 30 |
| 27 | (Al, Zn)3Zr dispersoids assisted Î·â€² precipitation in anAl-Zn-Mg-Cu-Zr alloy. Materialia, 2020, 10, 100641. | 1.3 | 28 |
| 28 | Effect of interface dislocations on mass flow during high temperature and low stress creep of single crystal Ni-base superalloys. Scripta Materialia, 2021, 191, 23-28. | 2.6 | 28 |
| 29 | Enhancement of High Temperature Strength of 2219 Alloys Through Small Additions of Nb and Zr and a Novel Heat Treatment. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2018, 49, 3047-3057. | 1.1 | 26 |
| 30 | The role of Ti addition on the evolution and stability of Î³/Î³â€² microstructure in a Co-30Ni-10Al-5Mo-2Ta alloy. Acta Materialia, 2021, 208, 116736. | 3.8 | 25 |
| 31 | Development of new Î³â€²-strengthened Co-based superalloys with low mass density, high solvus temperature and high temperature strength. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2020, 790, 139578. | 2.6 | 24 |
| 32 | On the effect of W addition on microstructural evolution and Î³â€² precipitate coarsening in a Coâ€"30Niâ€"10Alâ€"5Moâ€"2Taâ€"2Ti alloy. Materialia, 2020, 10, 100632. | 1.3 | 23 |
| 33 | Understanding creep of a single-crystalline Co-Al-W-Ta superalloy by studying the deformation mechanism, segregation tendency and stacking fault energy. Acta Materialia, 2021, 214, 117019. | 3.8 | 23 |
| 34 | Dynamic strain aging in the intermediate temperature regime of near-<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" altimg="si14.svg"><mml:mi>Î±</mml:mi></mml:math> titanium alloy, IMI 834: Experimental and modeling. Acta Materialia, 2022, 222, 117436. | 3.8 | 18 |
| 35 | Effects of Mo on the mechanical behavior of Î³/Î³Ê¹-strengthened Co-Ti-based alloys. Acta Materialia, 2020, 197, 69-80. | 3.8 | 16 |
| 36 | On the compositional and structural redistribution during partial recrystallisation: a case of Ï*f*-phase precipitation in a Mo-doped NiCoCr medium-entropy alloy. Scripta Materialia, 2021, 194, 113662. | 2.6 | 11 |

| # | Article | IF | Citations |
|---|---|---|---|
| 37 | Low-Density, High-Temperature Co Base Superalloys. Annual Review of Materials Research, 2021, 51, 187-208. | 4.3 | 11 |
| 38 | Achieving lower mass density with high strength in Nb stabilised Î³/Î³â€² Coâ€“Alâ€“Moâ€“Nb base superalloy by the replacement of Mo with V. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2020, 794, 139826. | 2.6 | 7 |
| 39 | Effect of Ru addition on Î³/Î³â€² microstructural stability in a low-density CoNi based superalloy. Scripta Materialia, 2022, 208, 114318. | 2.6 | 7 |
| 40 | Calibration of Atom Probe Tomography Reconstructions Through Correlation with Electron Micrographs. Microscopy and Microanalysis, 2019, 25, 301-308. | 0.2 | 6 |
| 41 | Exploring the correlation between microscopic mechanisms and macroscopic behaviour in creep of a directionally solidified tungsten-free Î³/Î³â€² CoNi-base superalloy. Acta Materialia, 2022, 228, 117738. | 3.8 | 6 |
| 42 | Structural and magnetic properties of ultra-small scale eutectic CoFeZr alloys. Journal of Alloys and Compounds, 2015, 620, 442-450. | 2.8 | 5 |
| 43 | Role of Ti on growth, morphology and microtexture evolution of A15-based V3Ga superconductor by bronze technique. Materials and Design, 2016, 110, 404-413. | 3.3 | 5 |
| 44 | Two phase ferromagnetic composites in Co-Zr and Co-Zr-Fe systems containing anti-phase domain imparting very high strength. Materials Research Bulletin, 2018, 97, 61-70. | 2.7 | 4 |
| 45 | Role of Ti on Phase Evolution, Oxidation and Nitridation of Coâ€“30Niâ€“10Alâ€“8Crâ€“5Moâ€“2Nbâ€“(0, 2 &) Tj ETQq1 1 0.78 Physical Metallurgy and Materials Science, 2021, 52, 5004-5015. | 1.1 | 4 |
| 46 | Enhancement of high temperatureÂstrength of Al-Cu alloys by minor alloying and hot working process. Journal of Alloys and Compounds, 2022, 921, 166136. | 2.8 | 4 |
| 47 | Design of low mass density <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:mi>Î³</mml:mi><mml:mo>/</mml:mo><mml:msup><mml:mi> CoNi-based superalloys with promising high-temperature mechanical properties. Physical Review Materials, 2021, 5, . | 0.9 | 3 |
| 48 | Microstructural engineering of medium entropy NiCo(CrAl) alloy for enhanced room and high-temperature mechanical properties. Materialia, 2022, 22, 101424. | 1.3 | 3 |
| 49 | An Overview on Co-Base Alloys for High Temperature Applications. , 2022, , 323-334. | | 2 |
| 50 | Atomic Structure and Chemical Composition of Planar Fault Structures in Co-Base Superalloys. Minerals, Metals and Materials Series, 2020, , 920-928. | 0.3 | 2 |
| 51 | On the fabrication of atom probe tomography specimens of Al alloys at room temperature using focused ion beam milling with liquid Ga ion source. Microscopy Research and Technique, 2022, 85, 3040-3049. | 1.2 | 1 |
| 52 | Elemental Sub-Lattice Occupation and Microstructural Evolution in Î³/Î³â€² Coâ€“12Tiâ€“4Moâ€“Cr Alloys. Microscopy and Microanalysis, 2021, , 1-5. | 0.2 | 0 |