

Keywords index

3D Modeling	208	Detonation Nanodiamond (DND)	166
Aluminide coatings	372	Development of New Curricula for	
Analysis and modelling	146, 198-328, 435	BSc and MSc Studies in the field of Materials Science	466
Annealing	84	Diamond Powder Particles (DPP)	166
Application	51	Ductility minimum	78
Applied mechanics	198	Duplex structures	178
Artificial intelligence methods	230, 275	Dynamic	260
Artificial neural network	275	Education and research trends	466
Back-diffusion	324	Electrical properties	172
BHF schemes	315	Energy absorption	36
Binary phase Ti-Al ($\alpha_2 + \gamma$) alloy	153	Engineering design	146
Bioactivity	166	Engineering polymers	131, 137
Biomaterials	146	Environmental management	456
CAD/CAM	146, 267	Extrusion	413
Capacitance measurement	382	Failure	212
Cast steel	84	Fatigue	131
Casting	430	Fibre-Reinforced thermoplastic	390
Cavitation	307	Fined elements method	237, 307
Cavity filling	382	Finite element analysis	315
Cellular material	115	Forced convection	297
Ceramics and glasses	43	Forging	413
Challenges of the Widening Labour Market	466	Formation multi-layers	324
Closed die forging	443	Fracture toughness	43
CNC programming	340	Friable medium	283
Coatings	51	Functional surface characterization	91
Composite materials	36	FWHM	193
Composite reinforces concrete	397	GA	340
Composites	131	Gigacycle fatigue	153
Computational material science and mechanics	219	Glass fibre	36
Computer assistance in the engineering		Grain growth	307
tasks and scientific research	253	Grinding	230
Computer simulation	275	Growth temperature	193
Constructional design	267	Hard machining	405
Contact infiltration	178	Hard turning	350
Contact methodology	162	Heat treatment	68, 84, 219
Cooling, Additivity rule	275	High speed machine tools	405
Copper concentration	297	High-speed filming	333
Corrosion resistance	178	High-speed milling	357
Crushing mode	36	Hole concentration	193
Cubic boron nitride	230	Hollow product	413
Cutting tools	421	Hot rolling	78
Damage mechanism	153	Hydroforming	212
Deep drawing	315	Hydrogen	162
Deposition methods	188	Hypereutectoid cementite	84

Image analysis	253	Nanofabrication	382
Industrial management and organisation	456	Nanoimprint	382
Insert plate	397	Nanomaterials	68, 166
Integrated risk ratio	456	Nanoparticles	26
Intelligent methods	340	Near-nett forging	443
Intelligent structure	390	Non-destructive testing	131
Intergranular fracture	78	Nugget formation	333
Intermetallic phases	101, 324	Numerical optimization	208, 212, 219, 237, 260, 291
Job shop scheduling	340	Occupational health and safety	456
Jominy-test	275	Operational control	456
 		Optimization	212, 315
Kevlar fibre	36	Orthodontic	450
Knowledge and simulation based systems	435	 	
 		p-GaN	193
Light metals	357	Piezoceramic module	390
Load interaction	162	Plastic forming	123, 219, 413
Local approach	162	Porous material	115
 		Powders	68
Machine tool	245	Precise products	405
Machining	350, 357, 405	Precision machining	405
Machining processes	91	Process estimation	456
Magnetic composites	68	Process planning	443
Magnetic field	297	Proof stress	101
Magnetic materials	26	Properties	153-193
Magnetic properties	68	Prototype testing	208
Magnetorheological fluids	291	Pulse gas metal arc welding	28
 		Quality management	421, 456
Magnetron sputtering	172	 	
Manufacturing	51, 245	Rapid solidification	365
Manufacturing and mechanical engineering	466	Reactive sintering	178
Manufacturing and processing	333-450	Rectangular wires	450
Materials	17-146, 267	Recycle aluminum alloy	365
Materials design	57, 324	Reliability assessment	17
Mathematical modeling	283	Residual stress	350, 390
Mean load carrying capacity	36	Resistance spot welding	333
Mechanical properties	17, 57, 106, 188, 193	Robotics	198
Medicals tools	237	Rolling mill	450
Mesoplasticity	260	 	
Metalic alloys	17, 26, 51, 57, 101, 106, 115	Semi-active vibration control systems	291
Metallic foams	115	Sensitivity	198
Metallic sponges 1	15	Shape memory alloys	291
Metallography	17, 57, 267	Sheet metal forming	315
Methods of calculations	137	Short circuit	328
Microstructure	106, 123	Silicides	101
Microstructure transformation	275	Silicon nitride	43
MMA	397	Silumins	101
Modelling	245	SIMS	193
Modification	198	Simulation	297
Mold deformation	382	Single point diamond turning	260
Mold flow analysis	253	Sintering	43
Monitoring	382	Soft machining	405
Monitoring of polymer flow during injection		Stainless steel	162, 178
molding process	253	Strain	193
Multi parameter surface analysis	91	Structure transformation	297
Multifunctional materials	106	Superplastic deformation	307
Multilayer coatings	372	Superplastic materials	123
Multi-layered	212	Surface engineering	237
Multi-scale model	260		

Surface free energy analysis	137	Tin bronzes	78
Surface properties	51	Titanium alloys	123
Surface topography	260	Tool materials	17, 84
Surface treatment	57, 421	Tribology	230
Surface typology	91	Turning	350
Synthesis	198	Twin roll casting	365
 TBCs	 372	 Ultimate tensile strength	 101
Technological modes	283	Ultrasonic fatigue bending test	153
Thermal behaviour	245	 Vibration treatment	 283
Thermography	131	Vibromachine	283
Thin and thick coatings	372	Vitrified grinding wheels	230
Thin coatings	421	 Welding	 333, 397
Thin films	172, 188	 Zirconium addition	 78
Thin strip	365		
Thixoforming	115		