

## 2023 Inspec Thesaurus and Classification Code Changes

### ***About Thesaurus and Classification Codes***

The Inspec Thesaurus and Classification scheme are valuable search tools to help you refine your search results.

The Thesaurus contains over 10 000 Index Terms and is a terminology based subject index. The Index Terms are themselves interrelated to allow you either to find the most exact term(s) to add to your search or to broaden out your search with additional terms.

The Inspec Classification is a subject categorisation scheme containing over 3600 Classification Codes. These codes can be used to specify a subject area without needing to specify all the sub-concepts that might be used to define it, and to restrict the results of Index Term searches which may cross subject areas.

### ***About Revisions***

Inspec regularly assesses and updates these taxonomies in line with advances in scientific and technological terminology and changes in the focus of research.

New Classification Codes may be added to allow access to formerly hard to access concepts and codes may be amended to reflect changes in terminology or to make explicit indexing practice. For 2023, 18 new codes are being added and 1 code is being retired.

Similarly new Index Terms may be introduced to allow new concepts to be specified, to subdivide growing research areas, or to match changes in the terminology of the material being indexed. 44 new Index Terms are being introduced for 2023. In addition, 90 concepts are being added which are synonyms, or explain, and lead to the Index Terms to use for those concepts. There are also a number of corrections and additions to the inter-term and code-term relationships. There are no Index Terms being retired.

The improved Thesaurus and Classification tools containing all these changes will be available in January in time for the first update of 2023.

### ***Changes for 2023***

If your Saved Search (or Alert) contains Full Terms or Classification Codes from the following lists, you may wish to consider the related new concepts for addition into your strategy.

#### List of New Classification Codes linked to Pre-2023 Practice

Pre 2023 Code	New Code	New Code Text
A8170	A8172	Destructive materials testing methods
A8170	A8172C	Destructive testing: compressive testing
A8170	A8172E	Destructive testing: tensile testing
A8170	A8172G	Destructive testing: impact testing
A8170	A8172J	Destructive testing: other methods
A8170	A8175	Testing of material properties
A8170	A8175B	Corrosion testing
A8170	A8175D	Creep testing
A8170	A8175F	Fracture toughness and fatigue testing

A8170	A8175H	Hardness testing
A8170	A8175J	Flaw detection
A8170	A8175M	Wear testing
B8260	B8257	Battery energy storage systems
C5620	C5620D	Internet of Things
C6130	C6130J	Big Data
C7185	C7175	Transportation administration
C6180N	C7820N	Natural language processing
C7810	C7870	Sport
C7820	C7870	Sport

List of New Index Terms Linked to Pre-2023 Terms

Pre 2023 Index Term	Relationship	New Index Term
5G mobile communication	Related term	edge computing
accelerometers	Related term	human activity recognition
actuators	Narrow term	soft actuators
adsorption	Narrow term	Brunauer-Emmett-Teller method
agricultural pollution	Related term	pesticides
agriculture	Related term	pesticides
agrochemicals	Narrow term	pesticides
air pollution	Related term	natural gas
alarm systems	Related term	human activity recognition
antennas	Narrow term	optical antennas
array signal processing	Related term	semidefinite programming
artificial intelligence	Related term	digital twins
artificial intelligence	Related term	soft actuators
assisted living	Related term	human activity recognition
assistive robots	Related term	soft robotics
augmented reality	Related term	digital twins
automata theory	Related term	soft actuators
behavioural sciences	Related term	human activity recognition
behavioural sciences computing	Related term	human activity recognition
biochemistry	Related term	hydrolysis
biocybernetics	Related term	soft actuators
biodegradable materials	Related term	cellulose
bio-inspired materials	Related term	self-healing materials
biomechanics	Related term	human activity recognition
biomimetics	Related term	soft robotics
biotechnology	Related term	hydrolysis
blackbody radiation	Related term	colour temperature
body area networks	Related term	human activity recognition
body sensor networks	Related term	human activity recognition
building integrated photovoltaics	Broader term	solar panels (photovoltaic)

building services	Related term	solar panels (photovoltaic)
buildings (structures)	Related term	solar panels (photovoltaic)
CAD	Narrow term	digital twins
catalysis	Related term	hydrolysis
chemical exchanges	Narrow term	hydrolysis
chemical industry	Related term	pesticides
chemical products	Related term	pesticides
civil engineering	Narrow term	stormwater
climatology	Related term	land surface ice
cloud computing	Related term	network function virtualisation
cloud computing	Related term	energy Internet
cloud computing	Related term	edge computing
colour	Narrow term	colour gamut
colour	Narrow term	colour temperature
colour displays	Related term	colour gamut
compliance control	Related term	soft actuators
compliant mechanisms	Related term	soft robotics
computational complexity	Related term	semidefinite programming
computer crime	Related term	security of hardware
computer network management	Related term	network function virtualisation
computer network security	Related term	security of hardware
computer networks	Narrow term	network function virtualisation
computer networks	Related term	edge computing
computer simulation	Related term	digital twins
computer vision	Related term	data augmentation
computer vision	Related term	conditional random fields
convex programming	Narrow term	semidefinite programming
convolutional neural nets	Related term	graph neural networks
crops	Related term	plantations
cryptography	Related term	security of hardware
crystal microstructure	Related term	electron backscatter diffraction
cyber-physical systems	Related term	digital twins
data analysis	Related term	digital twins
data handling	Narrow term	data augmentation
data visualisation	Related term	graph neural networks
decision making	Related term	top management
deep learning (artificial intelligence)	Related term	data augmentation
deep learning (artificial intelligence)	Related term	graph neural networks
deformation	Related term	self-healing materials
deformation	Related term	electron backscatter diffraction
design engineering	Related term	digital twins
disasters	Related term	stormwater
dissociation	Related term	hydrolysis

distributed processing	Narrow term	edge computing
DP management	Related term	security of hardware
elastic deformation	Related term	tensile modulus
elastic moduli	Narrow term	tensile modulus
elastomers	Related term	soft robotics
electric power generation	Related term	energy Internet
electroactive polymer actuators	Related term	soft actuators
electromechanical actuators	Related term	soft actuators
electron backscattering	Narrow term	electron backscatter diffraction
electron diffraction	Narrow term	electron backscatter diffraction
emergency management	Related term	stormwater
engineering computing	Related term	digital twins
engineering graphics	Narrow term	digital twins
enzymes	Related term	hydrolysis
failure (mechanical)	Related term	shear testing
fall detection	Related term	human activity recognition
farming	Narrow term	plantations
feature extraction	Related term	data augmentation
feature extraction	Related term	graph neural networks
feature extraction	Related term	conditional random fields
field programmable gate arrays	Related term	security of hardware
flexible manipulators	Related term	soft robotics
floods	Related term	stormwater
food safety	Related term	pesticides
forestry	Related term	plantations
fossil fuels	Narrow term	natural gas
fracture	Related term	self-healing materials
game theory	Related term	multi-armed bandit problems
geotechnical engineering	Related term	stormwater
geotechnical structures	Related term	stormwater
geriatrics	Related term	human activity recognition
glaciology	Related term	land surface ice
grain boundaries	Related term	electron backscatter diffraction
grain size	Related term	electron backscatter diffraction
graph theory	Narrow term	graph neural networks
graph theory	Narrow term	conditional random fields
grippers	Related term	soft robotics
groundwater	Related term	stormwater
groundwater	Related term	watersheds
heat treatment	Related term	thermomechanical effects
high-speed optical techniques	Related term	laser pulses
horticulture	Related term	plantations
hydrocarbon reservoirs	Related term	natural gas
hydrology	Narrow term	stormwater

hydrology	Related term	watersheds
ice	Narrow term	land surface ice
image classification	Related term	data augmentation
image colour analysis	Related term	colour gamut
image motion analysis	Related term	human activity recognition
image recognition	Related term	human activity recognition
image segmentation	Related term	conditional random fields
industrial property	Related term	security of hardware
integrated circuit design	Related term	security of hardware
integrated optics	Related term	nanoantennas
integrated optoelectronics	Related term	nanoantennas
intelligent actuators	Related term	soft actuators
intelligent materials	Related term	self-healing materials
Internet	Related term	energy Internet
Internet	Related term	edge computing
Internet of Things	Related term	digital twins
Internet of Things	Related term	energy Internet
Internet of Things	Related term	edge computing
land pollution	Related term	pesticides
land use	Related term	plantations
laser beams	Narrow term	laser pulses
lasers	Related term	laser pulses
learning (artificial intelligence)	Related term	data augmentation
learning (artificial intelligence)	Related term	logistic regression
learning (artificial intelligence)	Related term	conditional random fields
learning (artificial intelligence)	Related term	human activity recognition
light attenuation	Related term	optical fibre attenuation
light sources	Related term	colour gamut
management	Narrow term	top management
management science	Related term	top management
Markov processes	Related term	multi-armed bandit problems
materials	Narrow term	self-healing materials
matrix algebra	Related term	semidefinite programming
mechanical properties	Narrow term	thermomechanical effects
mechanical testing	Narrow term	shear testing
mechatronics	Related term	soft actuators
medical image processing	Related term	data augmentation
medical image processing	Related term	human activity recognition
medical robotics	Related term	soft robotics
medical signal processing	Related term	human activity recognition
metamaterial antennas	Related term	optical antennas
metamaterial antennas	Related term	nanoantennas
microactuators	Related term	soft actuators
microprocessor chips	Related term	security of hardware

mobile computing	Related term	edge computing
mobile robots	Related term	soft robotics
molecular communication (telecommunication)	Related term	nanoantennas
nanocommunication (telecommunication)	Related term	nanoantennas
nanoelectromechanical devices	Related term	nanoantennas
nanoelectronics	Related term	nanoantennas
nanophotonics	Related term	optical metasurfaces
nanophotonics	Related term	nanoantennas
nanostructured materials	Related term	nanoantennas
nanotechnology	Narrow term	nanoantennas
nanotube devices	Related term	nanoantennas
natural language processing	Related term	conditional random fields
natural resources	Related term	natural gas
networked control systems	Related term	soft actuators
neural nets	Related term	data augmentation
neural nets	Narrow term	graph neural networks
ocean circulation	Related term	ocean dynamics
ocean temperature	Related term	ocean dynamics
ocean waves	Related term	ocean dynamics
oceanography	Narrow term	ocean dynamics
optical communication equipment	Related term	optical antennas
optical communication equipment	Related term	nanoantennas
optical fibre losses	Related term	optical fibre attenuation
optical fibres	Narrow term	optical fibre attenuation
optical lattices	Related term	ultracold atoms
optical metamaterials	Related term	optical antennas
optical metamaterials	Narrow term	optical metasurfaces
optical metamaterials	Related term	nanoantennas
optics	Narrow term	optical antennas
optimisation	Narrow term	multi-armed bandit problems
optoelectronic devices	Related term	optical antennas
organic compounds	Related term	natural gas
organic-inorganic hybrid materials	Narrow term	metal-organic frameworks
organisational aspects	Related term	top management
paper	Related term	cellulose
paper industry	Related term	cellulose
paper pulp	Related term	cellulose
pattern classification	Related term	data augmentation
pattern classification	Related term	graph neural networks
pattern classification	Related term	logistic regression
pattern recognition	Narrow term	human activity recognition
pest control	Related term	pesticides
phononic crystals	Related term	phonon density of states

phonons	Narrow term	phonon density of states
photovoltaic power systems	Narrow term	solar panels (photovoltaic)
piezoelectric actuators	Related term	soft actuators
plant diseases	Related term	pesticides
plasmonics	Related term	optical antennas
plasmonics	Related term	nanoantennas
pneumatic actuators	Related term	soft actuators
pneumatic drives	Related term	soft actuators
polymer fibres	Related term	cellulose
polymers	Narrow term	cellulose
polymers	Related term	self-healing materials
polymers	Related term	soft actuators
porous materials	Related term	metal-organic frameworks
power distribution	Related term	energy Internet
power engineering computing	Related term	energy Internet
power system control	Related term	energy Internet
power system interconnection	Related term	energy Internet
power system management	Related term	energy Internet
power systems	Narrow term	energy Internet
power transmission	Related term	energy Internet
printing	Related term	colour gamut
product design	Related term	digital twins
production engineering computing	Related term	digital twins
pulverised fuels	Related term	natural gas
rain	Related term	stormwater
random processes	Narrow term	conditional random fields
receivers	Related term	optical antennas
recommender systems	Related term	graph neural networks
reflectivity	Narrow term	diffuse reflectance spectra
reflectivity	Narrow term	diffuse reflectance spectroscopy
regression analysis	Narrow term	logistic regression
reinforcement learning	Narrow term	multi-armed bandit problems
remote sensing	Related term	plantations
renewable energy sources	Related term	solar panels (photovoltaic)
resource allocation	Related term	network function virtualisation
resource allocation	Related term	edge computing
resource allocation	Related term	multi-armed bandit problems
rigidity	Related term	tensile modulus
rivers	Related term	stormwater
rivers	Related term	watersheds
robots	Narrow term	soft robotics
safety systems	Related term	human activity recognition
scanning electron microscopy	Related term	electron backscatter diffraction
scheduling	Related term	multi-armed bandit problems

security	Narrow term	security of hardware
security	Related term	human activity recognition
security of data	Related term	security of hardware
semiconductor materials	Narrow term	transition metal dichalcogenides
semiconductor thin films	Related term	transition metal dichalcogenides
sensors	Related term	soft actuators
servomechanisms	Related term	soft actuators
shape memory effects	Related term	self-healing materials
shape memory effects	Related term	thermomechanical effects
shear strength	Related term	shear testing
signal processing	Related term	human activity recognition
smart phones	Related term	human activity recognition
snow	Related term	land surface ice
software defined networking	Related term	network function virtualisation
soil pollution	Related term	pesticides
solar cell arrays	Related term	solar panels (photovoltaic)
solar power	Related term	solar panels (photovoltaic)
solid modelling	Related term	digital twins
solvation	Related term	hydrolysis
spectra	Narrow term	diffuse reflectance spectra
spectra	Narrow term	diffuse reflectance spectroscopy
statistical analysis	Narrow term	conditional random fields
statistical distributions	Narrow term	multi-armed bandit problems
stochastic processes	Related term	multi-armed bandit problems
storms	Related term	stormwater
stress effects	Related term	self-healing materials
supervised learning	Related term	graph neural networks
support vector machines	Related term	logistic regression
surface phenomena	Related term	Brunauer-Emmett-Teller method
surface structure	Related term	optical metasurfaces
surgical robots	Related term	soft robotics
surveillance	Related term	human activity recognition
systems engineering	Related term	digital twins
telecommunication network routing	Related term	network function virtualisation
temperature	Related term	colour temperature
terahertz materials	Related term	optical antennas
terahertz metamaterials	Related term	nanoantennas
text analysis	Related term	conditional random fields
thermal power stations	Related term	natural gas
thermoelasticity	Broader term	thermomechanical effects
transceivers	Related term	optical antennas
transducers	Related term	soft actuators
transition metal compounds	Narrow term	transition metal dichalcogenides



transmission electron microscopes	Related term	high-resolution transmission electron microscopy
transmission electron microscopy	Narrow term	high-resolution transmission electron microscopy
transmitters	Related term	optical antennas
vegetation mapping	Related term	plantations
video signal processing	Related term	human activity recognition
video surveillance	Related term	human activity recognition
virtual machines	Narrow term	network function virtualisation
virtual reality	Related term	digital twins
virtualisation	Narrow term	network function virtualisation
visual servoing	Related term	soft actuators
water pollution	Related term	pesticides
water resources	Related term	watersheds
wear	Related term	self-healing materials
wearable robots	Related term	soft robotics
wearable sensors	Related term	human activity recognition

\*\*\*\* *End of Document* \*\*\*\*