

Author Index

The numbers in this index are paper numbers.

- Acar, M., 6
Al-Gadhib, A.H., 67
Allsop, R., 75
Alyami, M., 72
Amaral-Teixeira, J., 70
Andersen, L., 80
Armstrong, C.G., 34, 77
Askes, H., 5, 14, 57
- Baxter, S.C., 23
Bažant, Z., 63
Bennett, T., 5, 22
Bhanuprakash, T.V.K., 69
Bicanic, N., 2, 7, 19, 21, 27
Bonet, J., 62
Bordas, S., 38, 49, 51
Brands, D., 8
Brischetto, S., 31
Bui Xuan, V., 28
- Calvo, F.J., 26
Carrera, E., 31
Caylak, I., 39
Chan, A.H.C., 45, 56
Chapman, J., 37
Chen, Z.J., 53
Cirak, F., 61
Cocchi, G.M., 50
Croft, T.N., 1
Cross, M., 1, 76
Crouch, R., 15
Crouch, R.S., 17
Csébfalvi, A., 59
Csébfalvi, G., 59
- Davie, C.T., 19
- Davies, T.G., 46
De Matteis, G., 73
Deeks, A.J., 48
Deiterding, R., 61
Dong, L.Y., 35
Duan, G., 45
Duflo, M., 49
- Edwards, M.G., 13, 44, 66
Engelhardt, M., 65, 75
Esat, V., 6
Eurviriyankul, S., 57
- Fan, J., 42
Feng, Y.T., 9, 84
Ferguson, W.J., 16
Formisano, A., 73
- Gessner, A., 74
Gethin, D.T., 16
Gil, A.J., 62
Gitman, I.M., 5
Gosling, P.D., 30, 33
Grassl, P., 63, 82, 83
Gu, X., 43
Guan, Z.W., 47
Guo, Z.Y., 7, 64
Gupta, D., 13
- Harun, Z., 16
Haslam, I.W., 17
Hassan, O., 9, 62
He, H.D., 35
Heng, B.C.P., 55
Hiley, R.A., 33
Hu, J., 56

Hung, N.D., 38
Hung, N.X., 38

Irles, R., 36
Ivankovic, A., 11
Ivorra, S., 36
Izzuddin, B.A., 78

Jahromi, H.Z., 78
James, C.J., 13
Jefferson, A.D., 22
Jendele, L., 79
Jirásek, M., 82

Kaczmarczyk, L., 21, 29
Kalkanis, K., 32
Karac, A., 11
Kato, J., 84
Kelly, S., 10
Kidgell, V.L., 9
Klawonn, A., 8
Kozziara, T., 27, 46
Kukla, K., 19
Kutilek, M., 79

Laghrouche, O., 41
Lamine, S., 66
Laschet, G., 39
Leal, N., 68
Lee, J.I., 81
Lees, A.W., 76
Lengyel, A., 12
Leung, A.Y.T., 35, 42
Lewis, R.W., 16, 18, 67
Li, T., 15
Li, X.Q., 53
Limbert, G., 28
Little, A.P.F., 65, 75
Lu, B., 34
Lu, W.Z., 35

Mackie, R.I., 55
Mahnken, R., 39
Makem, J., 77
Margetts, L., 26, 54
Marti, K., 3
Masters, I., 37
Mauch, S.P., 61

Maunder, E.A.W., 24
Mazzolani, F.M., 73
McBride, D., 1
Miranda, V., 71
Mohamed, M.S., 41
Moldovan, I.D., 4
Moran, B., 64

Niu, Z.R., 47

O'Rourke, M., 10
Orme, J.A.C., 37
Ou, H., 34, 77
Ozer, A., 20

Pal, M., 13, 44
Pallarés, F., 36
Panico, S., 73
Pao, W., 18, 67
Papathanassiou, Th.K., 32
Pearce, C.J., 19, 21, 29, 83
Peng, X.Q., 64
Pinho-da-Cruz, J., 71
Pintér, E., 12
Pomezanski, V., 58

Quigley, S.F., 56
Quinn, N.M., 11

Rabczuk, T., 38, 51
Ramesh, K., 69
Rheinbach, O., 8
Robaldo, A., 31
Ross, C.T.F., 65, 75
Rouainia, M., 33, 72

Sansour, C., 52
Scanlon, A., 81
Schröder, J., 8
Segovia, E., 36
Semião, V., 68
Shaw, A.J., 30
Silva, G., 68
Skatulla, S., 52
Slone, A.K., 1
Smith, C., 75
Smith, C.W., 24
Smith, I.M., 26
Sofuoglu, H., 20

Spence, R.R.G., 70

Stewart, E.J.C., 56

Svendsen, B., 43

Szeremi, V., 54

Tabor, G., 28

Taft, A.D., 76

Teixeira De Freitas, J.A., 4

Teixeira-Dias, F., 71

Toma, M., 4

Topal, U., 60

Tsamasphyros, G.J., 32

Tuominen, P.O., 40

Uthman, Z., 14

Vishnuvardhan, L., 69

Vrettos, C., 32

Wan, X.P., 53

Wilkinson, S.M., 72

Williams, A.J., 1

Williams, T.O., 23

Wong, S.W., 18, 67

Wood, C., 62

Yang, Z.J., 48

You, S.H., 53

Young, P., 28

Zdravkovic, L., 78

Zervos, A., 25

Zheng, H., 44

Zhou, H.L., 47

Zhou, J.X., 46

Zi, G., 51

Keyword Index

The numbers in this index are paper numbers.

a posteriori error estimation, 49
a posteriori truncation error, 50
ABAQUS, 69
abdominal aortic aneurysm, 10
accuracy, 17
adaptive scheme, 46
aerofoil blades, 77
aluminium foam, 71
analytical integral, 47
ANSYS, 65
ant colony optimization, 59
Arbitrary Eulerian Lagrangian method, 14
Arbitrary Lagrangian Eulerian formulations, 62
area bubble functions, 39
artificial immune genetic algorithm, 53
asperity micro contacts, 20
axisymmetric deformation, 65

background arbitrary grid, 50
bamboo stem, 12
beam-column, 42
bell, 36
Bessel functions, 41
bi-modal, 79
biological soft tissues, 8
bisection method, 74
blade element, 37
bone, 9
boundary element method, 46, 47
brevity, 40
buckling, 42
bypass valve, 69

C^0 -continuity, 5
capillary valve, 68
carbon and glass fibre composites, 65
cellular automaton, 35
cellular solids, 24
cementitious composite, 22
cementitious media, 67
centrifugal, 70
centrifugal pressure, 68
CFD, 1, 68, 69, 70
CFX, 69
checkerboard patterns, 58
chemo-osmotic effect, 18
chiral, 24
circular tubes, 65
clamp connectors, 76
clapper, 36
closed form solutions, 31
cohesive crack model, 29, 48, 51
component mode synthesis, 55
composite, 64
composite patch repair, 32
computational homogenization, 21
computing the modifications, 74
concrete, 82, 83
concrete beams, 48
condensed tangent stiffness, 78
configurational force, 14, 57
constitutive modelling, 22, 33, 64, 72, 79
contact dynamics, 27
control volume distributed, 13, 44
convective drying, 16
coordinate measurement, 77
corner contact, 58
corner node, 58
Cosserat, 24
Coulomb friction, 27
couple stress, 25

coupled heat and mass transfer, 16
 coupled problems, 18
 coupled systems, 62
 coupling, 17, 19
 CPPM, 15
 crack analysis, 32
 crash behaviour, 71
 creep, 81
 critical density, 35

 damage, 22, 67
 deformation profiles, 11
 degrees of freedom per wavelength, 41
 delamination, 63
 Delaunay triangulation, 9
 derivative recovery, 49
 deterministic substitute problems, 3
 detonations, 61
 diagonal chains, 58
 differential equations, 40
 diffraction problem, 41
 diffusion model, 67
 dimensional accuracy, 77
 discontinuous enrichment, 51
 discontinuous modelling, 2
 discrete, 82, 83
 discrete crack propagation, 48
 discrete element method, 2, 84
 discrete truss design, 59
 distorted meshes, 38
 domain decomposition, 8, 78
 double entry, 70
 double pendulum, 36
 double-lead worm, 74
 dynamic fracture, 51
 dynamic stability, 42

 earthquake, 72
 effective stress, 72
 efficiency, 17
 elastic, 30
 elastic buckling, 65
 elasticity with microstructure, 25
 elasto-plasticity, 38
 electroencephalographic, 13
 element by element, 54
 elevated temperatures, 19

 energy, 37
 energy absorption, 71
 energy minimisation, 57
 equivalent single layer models, 31
 evolutionary, 45
 extended element free Galerkin method, 51
 extended finite element method, 49
 extended global recovery, 49
 extended moving least squares, 49
 external hydrostatic pressure, 65
 external pressure, 75

 face worm gear, 74
 failure, 12
 femur, 9
 FETI, 8
 fibre reinforced composite, 30, 64
 fibre-matrix shear interaction, 64
 finite difference, 15, 56
 finite element, 1, 6, 7, 9, 13, 17, 18, 20, 25, 28, 30, 31, 32, 34, 38, 40, 41, 48, 57, 65, 71, 73, 77, 81
 finite volume, 1, 10, 11, 28, 44, 66
 fitting, 79
 floating point, 56
 flow coefficient, 69
 fluid-flow, 38
 fluid-structure interaction, 10, 11, 61, 62
 flux-continuous schemes, 13
 foam-filled columns, 71
 follower tension, 42
 forging, 34, 77
 Fortran, 33
 foundations, 80
 Fourier p -elements, 42
 fractal, 84
 fractal geometry, 20
 fracture, 9, 29, 61, 82, 83
 full pressure continuity, 44
 full tensor, 66
 full-scale tests, 73
 functionally graded materials, 31

 gamma nail, 9
 general instability, 75
 generalized continua, 52
 generalized minimal residual, 45
 genetic algorithm, 59

gradient elasticity, 5, 25
green wave, 35

hardware acceleration, 56
head-disk interface mechanics, 20
Helmholtz equation, 41
high pressure, 76
high strength concrete, 19
high velocity impact, 51
higher order, 66
higher order continua, 5, 25
honeycomb, 24
hybrid element, 4, 24
Hybrid-Trefftz elements, 29
hydraulic conductivity, 79
hyperelasticity, 64
hyperelastoplasticity, 14

ill-conditioning, 42
image based meshing, 28
imaging, 28
impact, 6, 71
impulse wave, 46
incompressibility, 38
incompressible soft tissues, 4
independent component analysis, 13
inelastic buckling, 65
inertia forces, 36
injury prevention, 6
interface relaxation, 78
intervertebral disc, 6
inverse problem, 7, 47
irregularity, 84
iterative, 45
iterative coupling, 78

Kosugi, 79

Lab-on-a-CD, 68
Lagrange multipliers, 51
laminate, 30
laminated composite plates, 60
large deformations, 26, 51, 61
lattice Boltzmann, 17
layer wise models, 31
leakage, 76
length scale, 5
limit load/shakedown analysis, 3

liquefaction, 72
local arc-length method, 48
local search, 59
locking, 38
low flow, 70

material characterisation, 28
material force, 14
mean criterion, 50
mechanistic approach, 16
medical, 9
mesh motion, 10
mesh optimization, 43
mesh quality, 43
meshfree methods, 51, 52
metal seals, 76
metal shear panels, 73
method of enhanced strains, 39
method of incompatible modes, 39
micro-mechanics, 22
micro-polar, 24
Microsoft .NET, 55
mixed finite elements, 39
mode superposition, 55
modified feasible direction, 60
modular modelling, 33
multi-body contact, 27
multi-body modelling, 6
multi-layer ceramic mould system, 16
multi-physics, 1, 62
multi-scale, 21, 84
multithreaded array processor, 54

nearly singular integral, 47
neo-Hookean, 64
Neumann expansion Monte Carlo method, 53
Newton's method, 74
non destructive testing, 28
non linear contact analysis, 76
non-linear material, 10
nonlinear soil-structure interaction, 78
numeric iteration, 12
numerical method, 58
NURBS, 34

object-oriented programming, 55
objective function, 43
open-celled foam, 26

optimal designs, 60
optimization, 58
optimum adaptive grid generation, 50
oriented material behaviour, 52
orthotropic, 12
orthotropic potential, 47

parallel computing, 1, 8, 26, 55, 61, 62, 78
partitioned analysis, 62
penalty methods, 25
performance based design, 73
permeability, 19
plane waves, 41
plastic buckling, 75
plastic dissipation, 71
plasticity, 15
plates, 38
Poisson's equation, 13
polyconvex, 8
polygonal meshes, 38
polypropylene fibres, 19
polyurethane rubber arteries, 11
poroelasticity, 18
pre-stressed concrete structures, 57
preconditioned conjugate gradient, 45, 54
pressure pulsation, 70
principal stress, 15
principle of virtual displacements, 31
pseudo-rigid bodies, 27
pump, 70

quadratic loss functions, 3
quay wall, 72

random field, 53
random heterogeneous materials, 23
random model parameters, 3
RBSM, 82
reconstruction, 7
reinforced concrete buildings, 73
relaxation factors, 45
reliability, 53
renewable, 37
representative volume, 5
restarting strategy, 45
retention, 79
ring-stiffened cones, 75
robust decisions, 3

rough surface, 84

saturated porous media, 4
saturation, 79
scale transition, 21
scaled boundary finite element method, 48
seal ring, 76
second-order continuum, 21
seismic retrofitting, 73
self-adapt, 45
semismooth Newton step, 27
sensitivity analysis, 59
shells, 38
shrinkage, 81
signal strategy, 35
simplicity, 40
size effect, 63
size-scale effects, 52
smoothing, 43
soft tissue elastography, 7
software engineering, 33
soil, 79
soil dynamics, 80
soil mechanics, 33
solid mechanics, 1
solution vector, 45
source localization, 13
space-time, 46
Spanish system, 36
spine, 6
square medium errors, 50
stabilised conforming nodal integration, 38
stability, 12
star size quality parameter, 50
steepest decent method, 43
stochastic interaction law, 84
stochastic meshless point interpolation method, 53
stochastic micromechanics, 23
stochastic nonlinear programming, 3
strain gradient theory, 52
strain/stress smoothing, 49
strength, 12
stress intensity factor reduction, 32
structural analysis and design, 3
structural vibration, 80
submarines, 65
successive over-relaxation, 45

surface tension, 68

temperature, 83

tendon layouts, 57

tension stiffening, 81

tetrahedral elements, 9

tetrahedron, 34

theory, 37, 40

thermal, 17

thermal stresses, 69

thermo-elastic-plastic deformation, 20

thermophysical, 16

thin-shells, 61

tidal, 37

time-dependent, 46, 81

topology, 58

traffic flow, 35

traffic light, 35

transverse isotropy, 8, 64

transverse shear, 30

trimming, 34

Tsai-Hill, 60

TSVD, 47

turbine, 37

two-phase microfluidics, 68

two-way slab, 81

undulating-curve method, 47

unified, 40

unified formulation, 31

unstructured, 66

unstructured mesh, 1

untangling, 43

vector equations, 40

verification, 33

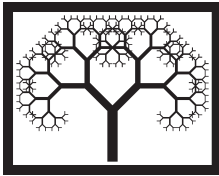
wave dispersion, 5

wave propagation, 80

wrinkling, 63

yaw, 37

yoke, 36



CIVIL-COMP PRESS
Stirlingshire, Scotland
mmvii

