

Author Index

A

Akahori, T., 135
Anderson, Shelly, 248

B

Bloe, L. M., 225
Brezner, Mikhail, 103
Buczynski, B. W., 225
Burian, Björn, 239

C

Caicedo, Marco, 248

D

Dickinson, Jim, 16

F

Foster, R., 225
Freese, Howard L., 3, 30, 83
Fujii, HiDeKi, 103
Fukui, H., 135

G

Gilbert, Jeremy L., 215
Gotoh, Emiko, 120
Graham, Ron, 16
Griggs, Jason, 113
Guo, Qing, 103

H

Hallab, Nadim Kames, 248
Hattori, Y., 135
Herb, Brett, 16
Hunter, Gordon, 16

J

Jablokov, Victor R., 3, 30, 83
Jacobs, Joshua J., 215, 239, 248

K

Kasuga, T., 135
Koike, Marie, 103

Kory, M. M., 225

Kunze, Joachim, 239
Kyo, K., 135

L

Lemons, Jack E., 151
Liu, Jie, 113
Lucas, Linda C., 151

M

Marquardt, Brian, 52, 71
Medlin, D. J., 30
Morikaw, K., 135
Murray, Naomi G. D., 3, 30

N

Niinomi, M., 135
Niwa, S., 135
Nutt, Michael J., 83

O

Okabe, Toru, 103, 113
Okazaki, Yoshimitsu, 120

P

Petersen, Donald W., 151

Q

Qazi, J. I., 52

R

Rack, Henry J., 30, 52
Ramsier, R. D., 225
Richelsoph, Marc E., 83
Roach, Michael D., 166, 177, 196

S

Saimoto, Akihide, 113
Schneider, Erich, 239
Scrafton, J., 30
Seabolt, J. W., 225
Shetty, Ravi, 30, 71

Sprecher, Christoph M., 239

W

Steiner, R. P., 225

Watanabe, Ikuya, 113

Stojilovic, N., 225

Williamson, R. Scott, 166, 177, 196

Suzuki, A., 135

Wimmer, Markus A., 239

T

Tsakiris, V., 52

Y

U

Yamokoski, E. A., 225

Urban, Robert M., 215

Z

V

Zardiackas, Lyle D., 166, 177, 196

Villinger, Nadine, 239

Zito, N., 225

Subject Index

A

- Acetabular cup, 30
Aging treatments, 52
Alternative bearing materials, zirconium, 16
Aluminum, 248
Anodization, 196
ANOVA, 225
Arthroplasty, 16
ASTM F 67, 166, 177, 196
ASTM F 75, 248
ASTM F 136, 3, 166, 177
ASTM F 138, 248
ASTM F 748, 83
ASTM F 1295, 166, 177
ASTM F 1801, 177
ASTM F 1813, 3
ASTM F 2066, 71, 166, 177
ASTM G 129, 166

B

- Bacterial adhesion, zirconium alloy, 225
Beta titanium, 71, 83, 135, 151
Biocompatibility, titanium alloy, 103, 120, 135
Biomaterials, titanium alloy, 52
Biomedical application, titanium alloy, 135
Bone tissue response, 120

C

- Cast titanium, 113
Chromium, 248
Cobalt, 248
Cold reduction, 83
Cold work, 83
Corrosion, titanium alloy, 30, 215
Corrosion fatigue
 commercially pure titanium, 196
 titanium alloy, 177
Corrosion resistance, titanium alloy, 120, 151

D

- Diffusion bonding, titanium alloy, 30

E

- Elastic behavior, titanium alloy, 135
Elastic modulus, titanium alloys, 3

F

- Fatigue properties, titanium alloy, 120
Fatigue strength, titanium alloy, 71
Femoral stems, titanium alloy, 215
Fibroblasts, effect of zirconium and niobium, 248
Fourier transform infrared spectroscopy, 225
Fractography, 52, 177
Fracture force, 113
Fretting, titanium alloy, 215

H

- Heat treatment, titanium alloy, 83
High strength, 83
Hip prostheses, 239
Hip replacement, cementless, 215

I

- Iron, 248

J

- Joint replacement, zirconium, 16

L

- Low modulus, 135
Lymphocytes, effect of zirconium and niobium, 248

M

- Manufacturing processes, zirconium, 16
Mechanical properties
 Ti-Fe-O-N alloys, 103
 titanium alloy, 30, 52, 120
Mechanical strength, titanium alloys, 3

Metal ions, 248

 titanium alloy, 215

Metal release, 120

Metastable beta titanium, 83

Microstructure, titanium alloy, 30, 71

Modularity, 215

Molybdenum, 248

N

Nickel, 248

Niobium, 248

Notched specimens, 166

Notch sensitivity, 71, 177, 196

O

Optical microscopy, 225

Orthopedic implants, titanium alloy, 71

Orthopedic medical devices, titanium alloy, 3, 30

Osseointegration, 3

Osteoblasts, effect of zirconium and niobium, 248

Orthopedic implants

 titanium alloy, 30

 zirconium, 16

Oxidation

 thermal, zirconium alloy, 225

 titanium alloy, 151

 zirconium, 16

Oxygen content, titanium alloy, 30

P

Particle characterization, 239

Particulate debris, 215

Phase precipitation, 52

Physical properties, titanium alloys, 3

R

Rat tibia implantation, 120

Resin composite, 113

S

Scanning electron microscopy, 225

Sintering, 30

Spinal devices, titanium alloy, 83

Stainless steel, wear debris, 239

Stress corrosion cracking

 commercially pure titanium, 196

 titanium alloy, 166

Super elastic behavior, titanium alloy, 135

Super-TIX™, 103

Surface characteristics, titanium, 151

Surface treatments, titanium alloy, 151

T

Tantalum foam, 30

Tensile properties, titanium alloy, 71

Three-point bending test, 113

Ti-15Mo-2.8Nb-0.2Si, 151

Ti-29Nb-13Ta-4.6Zr, 135

Ti-6Al-4V, 151

Ti-6Al-4V ELI, 177

Ti-6Al-7Nb, 113, 177

Ti-Fe-O-N alloys, 103

Timetal® 21SRx, 151

TiOsteum®, 3, 30

Tissue response, titanium alloy, 120

Titanium, commercially pure, 151, 177, 196

Titanium-12molybdenum-

6zirconium-2iron beta

 titanium alloy, mechanical

 and physical properties, 3

Titanium-15molybdenum, 71, 83, 177

Titanium-35niobium-7zirconium-

5stantalum beta titanium alloy, 30, 52

Titanium alloy, 83, 103, 120

 aging treatments, 52

 cast, 113

 corrosion fatigue, 177

 modular stems, 215

 orthopedic implants, 30

 stress corrosion cracking, 166

 surface characteristics, 151

Titanium alloys, 3

Titanium powder, 30

Titanium/titanium alloys, 3

TMZF® beta titanium alloy, 3

Toxicity, 248

Trabecular Metal™, 30

V

Vanadium, 248

W

Wear debris, 239, 248

X

X-ray photoelectron spectroscopy, 225

Y

Young's modulus, titanium alloy, 135

Z

Zirconium alloy, 248

bacterial adhesion, 225

Zirconium orthopedic implants, 16