

Author index

April R. Where next, Columbus?	467	Hempself M. British proposal for ISS module	52	Pearlman R. Bizzare test of first Saturn V	67
Ashworth S. A visionary British engineer	420	Hengeveld E. The Apollo emblems of artist Al Stevens	220	Powell J. Monkey's ill-fated voyage	268
Beattie D. New lunar exploration	100	Heyman J. Australia's plan for Sundiver spacecraft	5	New ISS robot offers service with a twist	12
Bennett M. Historian's approach to the Moon landings	442	Australia strives to define meaningful space policy	327	New view of magnetosphere	307
Clark P. Satellite Digest 10, 50, 92, 130, 170, 210, 252, 288, 330, 406, 446, 462		US blast at rogue satellite is chance too good to miss	125	Quine T. "Crazy, sexy and cool"	26
Corneille P. Avoiding catastrophe	395	Holt R. Plan to set up Martian weather station network	367	Hospital stay mars Korean's homecoming	246
COROT sheds new light on exo-planets	94	Irvine M. Desolate vistas - space at Farnborough 2008	326	Korea celebrates first space mission	213
First rock from the Sun	180	Kidger N. Europe's first space tug heads for Station	174	South Korean's roller coaster ride	369
Five decades of radio astronomy	433	Space Station Chronology	15, 57, 97, 136, 176, 216, 257, 296, 338, 393, 425, 464	Yi heads for ISS after Korean crew switch	164
Forerunner to global telecoms revolution	430	Kislyakov A. Lunar ambitions of Far East eclipse West	48	Robertson D. Detecting energy bursts on Venus	90
Four years of MER operations on Mars	22	Kremer K. Dawn sails towards infant worlds	116	Simpson C. Astronauts and inspiration - or lost in space?	132
Glast - gamma-rays	290	Phoenix hits Mars jackpot	376	Columbus ushers in a new space era	140
Coppinger R. Red dragon rising	62	Up close at Launch Complex 17	185	Discovering the universe	260
Criswell D. Mirrors and microwaves	300	Lawrie A. Bizzare test of first Saturn V Rocket fuel	67 108	ESA launches campaign to recruit astronauts	205
Da Costa N. Astronaut dynasty	335	Long K. Faster than light Warp drive	144 146	Griffin urges UK to join human spaceflight	44
Damisch J. Was the X-Prize Cup half empty or half full	36	MacTaggart K. Forgotten flight of Apollo 7	435	Study for European crewed space vehicle	245
Day D.A. Calling all satellites	226	Mileski A. British camera for Brazilian EO satellite	329	UK citizens bid for astronaut job	249
Fire and grace	310	Oberg J. End of ride for Soyuz tourists?	254	Siddiq A. Lifting the veil on a secret life	342
Going waaay off road	386	Obousy R. Creating the 'warp' in warp drives	149	Spall N. Delay to new British space strategy	45
Raketen in Berlin	350	Parkinson D. Robotic exploration - present and future	461	ESA's human spaceflight plans	172
Virus, Volkov and Vandenberg	76	From Imagination to reality	463	Sarkozy looks to Mars rather than Moon	325
Evans R. Launch marks New Zealand's first space step	175	Parry D. Uchinoura - Japan's space science centre	70	Time running out to see a Shuttle launch	356
Eves S. Paradigm shift in large-scale structure of universe!	402	Pearlman R. Bizzare test of first Saturn V	67	Turnill R. Four decades since 1968 'space olympics'	476
Goodwin P. Travellers tales - fact and fiction	274	Powell J. Monkey's ill-fated voyage	268	Van Beest R. Shuttle brings Hope to ISS	292
Hardy D. A. Lucien Rudaux Memorial Award	60	New ISS robot offers service with a twist	12	Van den Abeelen L. Independent European navigation moves a step closer	247
Harris P. Mirrors and microwaves	300	New view of magnetosphere	307	Van de Haar G. Atlas-5 launches NRO 'spy sat'	51

Subject index

A		ALMA	433, 434	Apollo 7	221, 435
Aeres 1	365	Alphasat	7	Apollo 9	222
Aero Sekur	461	Alpha Complex	108	Apollo 10	222
Alcubierre, Bubble	151	Apollo	100, 102	Apollo 11	222, 268
Alcubierre, Miguel	149	Apollo 1	222, 438	Apollo 12	73

- Apollo 14 403
 Apollo 16 311
 Apollo 17 106, 223, 386, 387
 Apophis 398
 Amazonia 329
 ANITA 394
 Ansari, Anousheh 255
 Ares 1 364, 365
 Ariane 5 5, 174, 245, 248, 260, 264, 324, 366
 Arctic sea ice 90
 Asteroid Sample Return 470
 Astrium 84, 127, 173, 211, 245, 285, 287
 Astronauts
 Aldrin, Edwin 475
 Altman, Scott 414
 Anders, Bill 476
 Anderson, Clayton 19
 Armstrong, Neil 438, 476
 Bean, Alan 33, 73
 Behnken, Robert 177, 216
 Borman, Frank 476
 Brand, Vance 366
 Carr, Jimmy 366
 Chamitoff, Gregory 258, 293, 338, 339, 393, 394, 425, 426, 464
 Collins, Mike 475
 Cunningham, Walt 435
 De Winne, Frank 414
 Doi, Takao 177, 216
 Duque, Pedro 131
 Eisele, Donn 436
 Eyhart, Léopold 139, 142, 176, 216, 375
 Evans, Ron 106
 Feustel, Andrew 414
 Foreman, Michael 177, 216
 Fossum, Mike 293
 Frick, Steve 139, 142
 Fuglesang, Christer 331
 Garan, Ron 293, 297
 Garriott, Owen 93, 166, 464
 Garriott, Richard 93, 166, 254, 335, 370, 464
 Good, Michael 414
 Gorie, Dominic 177, 216
 Grunsfeld, John 414
 Haise, Fred 481
 Ham, Ken 293, 298
 Higginbotham, Joan 5
 Hoffman, Jeff 327
 Hoshide, Aihiko 293, 299
 Johnson, Gregory 177, 216, 414
 Kelly, Mark 293
 Kuipers, André 138
 Linnehan, Richard 177, 216
 Lovell, Jim 366, 476
 Love, Stanley 139
 MacLean, Steve 419
 Magnus, Sandy 258
 Massimino, Michael 414
 McArthur, Megan 414
 Melvin, Leland 139
 Mitchell, Edgar 366
 Nespoli, Paolo 205
 Nyberg, Karen 293, 480
 Poindexter, Alan 139
 Reisman, Garrett 177, 179, 214, 257, 293, 296, 394
 Schirra, Wally 436
 Schlegel, Hans 131, 137, 204
 Schmitt, Harrison 303
 Scott, Dave 366, 476
 Sellers, Piers 133, 206, 454
 Walheim, Rex 139
 Wheelock, Douglas 284
 Wilson, Stephanie 19
 Whitson, Peggy 57, 97, 136, 137, 139, 164, 176, 214, 215, 246, 257, 374
 Yang, Liwei 62
 Ashford, Dave 423
 Athlete explorer 387
 Atlas-2 308
 Atlas-5 51, 126, 365
 ATV 49, 93, 173, 245, 257, 428, 464
 Auburn, John 415
 Australia 5, 327
 Awards, Arthur Clarke 236
B
 Baikonur 190, 248
 Beaumont, Max 251
 Bell System 430, 431
 Bepi, Colombo 184
 Bigelow Aerospace 126
 Bion 207
 Biosatellite D 269
 BIS 52, 134, 144, 196, 205, 392, 419
 British astronauts 328
 Bond, Alan 326, 420
 Bonny (space monkey) 268
 Branson, Sir Richard 89, 284, 423, 460
 Brazil 329
 BNSC 126, 132, 166, 455
 Brown, Gordon 454
 Bush, George 285
 Buzz Lightyear 294
C
 C2 248
 Canada 12, 419
 Canadarm2 12, 217
 Canadian Space Agency 419
 Cassini 165, 207, 467
 CEPSAR 287
 Chandrayaan-1 11, 102, 453
 Chandrayaan-2 11
 Cheetah 11
 Chesson, Bob 172
 China 62, 168, 329
 Chang'e-1 102
 CZ launcher 48, 64, 287
 CNSA 103
 human spaceflight 62, 414, 459
 Liwei, Yang 65
 Shenzhen 62
 Clarke, Sir Arthur C 38, 60, 118, 196, 206
 Climate change 90, 168, 285, 415, 460
 Cline, Lynn 247
 Clyde Space 456
 Columbus (laboratory) 4, 58, 137, 139, 140, 143, 172, 176, 205
 Comet Surface Sample Return 470
 COROT 94, 95, 96
 Cosmonauts
 Gagarin, Yuri 93
 Kaleri, Alexander 131
 Kononenko, Oleg 213, 214, 258, 296, 297, 339, 368, 374, 393, 425, 464
 Korolev, Sergei 342, 371
 Kurchatov, Igor 342
 Kutsenko, Igor 284
 Malenchenko, Yuri 17, 20, 57, 97, 139, 164, 176, 216, 246, 257
 Ovchinin 370
 Parazynski, Scott 18
 Ponomaryev 370
 Shatalov, Vladimir 190
 Skripochka, Oleg 257
 Suraev, Maksim 257
 Tereshkova, Valentina 213
 Tyaglov, Sergi 284
 Volkov, Sergi 213, 257, 296, 339, 368, 371, 374, 393, 425, 464
 Cupola 173
 Couper, Heather 206
 Curtis, Jeremy 328
 Czech Republic 329
D
 Dansey, Frank 250
 Dark moon 403
 Darkin, Christian 147
 Dawn 116, 186
 Delta II 47, 182, 185, 247, 285, 290, 419
 Delta IV Heavy 8, 307
 Delta launch complex 185
 Delta launcher 431
 Denver, John 256
 Destiny laboratory 176, 426
 Dextre 12, 176, 217, 297
 Dickens, Tracey 250
 Di Lorenzo, Marco 381
 Dordain, Jean-Jacques 247, 458
 Douglas Aircraft Company 431
 Drayson, Lord 455
E
 EAC 205, 367
 EADS Astrium 206, 245
 EarthCare Satellite 287
 Earthrise 478
 Einstein, Albert 147
 Enceladus 165, 274, 468
 ESA 84, 85, 127, 128, 138, 140, 168, 172, 184, 205, 211, 245, 249, 287, 300, 367, 417
 astronaut recruitment 205, 249
 Aurora 135
 Columbus 4, 140
 EarthCARE 287
 Envisat 168, 453
 ESTEC 172
 Eta Carinae 127
 Herschel 260
 Integral 127
 Node 1 172
 Node 2 172
 Plank 260
 Ulysses 128
 EUMETSAT 91, 171
 Europa 468
 ESOC 91
 ExoMars 47, 461
 Express 4000 platform 48
F
 Falcon 1 49, 227, 365, 457
 Farnborough Airshow 326
 Feuerbacher, Brendt 454
 Foal, Michael 250

- Fong, Kevin 251
 French Guiana 174, 261, 285, 366
 FSA 284
 Feustal, Andrew 365
- G**
 Gagarin Cosmonaut Training Centre 190
 Galileo 6, 9, 247, 396, 468
 Ganymede 468, 471
 Garattini, Remo 145
 Gardiner, Jeremy 145
 Garriott, Richard 254
 GeoEYE-1 463
 Gemini 5 221
 Gerstenmaier, William 247
 Gibbings, Alison 247
 GIOVE-B 247
 GLAST 290
 Global warming 90, 285
 Globemaster aircraft 228, 232
 Global Exploration Strategy 305
 Glonass 126
 GMES 211
 GOCE 285
 Gonzalez-diaz, Pedro 145
 Gorbachov, Mikhail 190
 GRAIL 475
 Greenhouse gas 168
 Green Bank Telescope 433, 434
 Griffin, Michael 44, 413, 458
 Grunsfield, John 365
 Guarniero 261
- H**
 Hartley 2 (comet) 46
 Hayabusa spacecraft 397
 Herschel 260
 Harmony node 179
 Heads of agencies 332, 458
 Hs293 glise bomb 350
 Hubble, Edwin 150
 Hubble Space Telescope 145, 167, 171, 263, 332, 365, 414, 452
 Hurricane Ike 429
- I**
 IAA 352
 IAAA 60
 IAC 2008 212, 270, 316, 352, 392, 454, 463, 482
 IAF 247, 454, 482
 IEEE Spectrum 258
 Iles, Gail 250
 India
 ISRO 248, 453
 PSLV 453
 Polar satellite 231
 Interstellar travel 144
 Io Observer 470
 Iranian astronaut 414
 ISAS 71
 ISS 12, 15, 31, 49, 52, 57, 93, 97, 125, 129, 136, 140, 164, 166, 172, 174, 216, 247, 249, 257, 284, 296, 420, 464
 IYA 395
- J**
 Jansky, Karl 433
 Japan
 Furukawa, Soichi 284
 JAXA 103, 142
- Kaguya Selene 101
 Kibo laboratory 5, 292, 297, 338, 393, 426, 429
 Prime minister 217
 Selene 101
 Uchinoura 71
 Jason-2 171, 189, 285
 Johnson space centre 389, 438
 Juno orbiter 468
 Jupiter 468
- K**
 Kaluza, Theodore 150
 Kennedy Space Centre 310, 413
 Kilper 173
 Kitt Peak 396
 Klein, Oskar 150
 Kopernikus 460
 Korea
 Korpus 1 190
 Ko, San 28, 164, 257
 Yi, Soyeon, 26, 164, 213, 246, 257, 369, 392
 Korolev, Sergei 342, 418
 Krasnov, Alexey 247
- L**
 Lapcat 422
 Le Gall, Jean-Yves 391
 Leicester university 327
 Lockheed Martin 126, 329
 Logica 135
 Long, Kelvin 483
 Lunar exploration 300, 467, 476
 Lunar module 436
 Lunar power system 303, 304
 Lunar sample return 469
 Lunar solar power 302, 306
 Lunar truck 386
- M**
 MacCone, Claudio 145
 Magnetosphere 307
 Mars
 Human mission 458
 Mariner 10 182
 MEAP 209
 MER 22, 324
 OBSS 218
 Odyssey 189, 467
 Opportunity 24
 Orbital Sciences 419
 ORS 226
 Pathfinder 189
 Phoenix 248, 376, 381, 467
 Reconnaissance orbiter 86, 467
 Russia 328
 Sample Return 324
 Science Laboratory 467, 472
 Spirit 22
 Weather station 367
 MarsNet 366
 Martin, Stuart 135
 Massimino, Mike 365
 MAVEN 474
 McCulloch, Mike 146
 MacDonald Dettwiler 207, 453
 MECA 384
 Mercury 84, 87, 180
 Messenger 87, 180, 467
 Minotaur 228
- Mitchell, Bob 207
 MoonMars workshop 286
 Moon
 Apollo 8 476
 exploration 101
 Luna Orbiter 105
 landing hoax 402
 LRO/LCROSS 103, 474
 Lunar rovers 386
 MoonLITE 44, 126, 286
 understanding the 100
 Moore, Sir Patrick 366
 MSG 331
- N**
 NASA 103, 105, 125, 126, 128, 129, 131, 148, 165, 187, 207, 268, 338
 Lunar timetable 285, 300, 310
 COTS 171, 457
 Near Earth asteroids 395
 New Zealand 175
 Netlanders 470
 NOAA 460
 Nottingham Trent University 402
 NRO 125
- O**
 Obousy, Richard 145, 148
 Oberg, James 258
 Open University 287, 324
 Orbital Sciences Corp 125
 Orbview 3
 Orion 6, 129, 165, 173, 365
 Ozone hole 453
- P**
 Panoramic Survey Telescope 399
 Pearson, Ian 45, 91, 133, 326, 328, 422, 455
 Perminov, Anatoly 254
 Picard, Jean-Luc 197
 Pillenger, Colin Prof 324
 Planck 261, 263, 264, 266, 267
 Proton 171
 Prowse, Dave 197
- Q**
 QinetiQ 286
- R**
 Radarsat-2 47
 Reaction Engines 420
 Redfern, Martin 206
 Reid, Victoria 251
 Rees, Martin 211
 Rocket (fuel) 108
 Roscosmos 372
 Rosetta 11, 397, 419
 Rover Vehicle 388
 Rudeaux, Lucien (award) 60, 158
 Russia
 debris clearance 333
 Rokot 287
 Defence Ministry 287
- S**
 Saab Space 127
 Sarkozy, Nicholas 325
 Saturn V 67, 310
 SBIRS 307
 Scott-Scott, John 420
 SECC Conference centre 270

Sentinel 2	211	STS-125	414	UKspace	415, 455
Shackleton Crater	9	STS-126	294, 452	United Launch Alliance	8, 51
Sharman, Helen	32	launch dates	325, 356, 365	University of Arizona	376, 380, 382
Shenzhen	62, 66, 248	SpaceX	129, 365, 419, 457	University of Leicester	327
Shenzhen-7	90, 169	Spitzer Space Telescope	189	US Air Force	8, 228, 232
Simonyi, Charles	255, 453	SSTL	6, 9	US military	226
Sirius 4	9, 91	Starchaser Industries	36, 329	US Navy	124
Skylon	421	STERN rocket motor	208	US Space & Rocket Center	310
Skynet 5	5, 285	Stevens, Al (artist)	221	USA-193 (rogue satellite)	125
Smith, Peter	248	Stewart, Patrick	197	USOCs	142
Smart -1	169	SSTL	9, 206	V	
Snowden, Christopher	206	Surface Stereo Imager	382	V2 rocket	351
South Pole	169	Swedish astronaut	331	Vandenburg Air Force Base	171, 185
Soyuz	173, 191, 254	Swedish Space Corporation	91, 127, 171, 209	Varvill, Richard	420
Soyuz TMA-1	16, 258, 438	Sweeting, Martin	206, 455	Vostochny	9
Soyuz TMA-9	256	T		Vega (rocket)	45, 415
Soyuz TMA-10	16, 254	Tacsat-1	231	Venus	90, 183, 417
Soyuz TMA-11	164, 246, 258, 259, 374	Tacsat-2	226	Venus In Situ Explorer	470
Soyuz TMA-12	15, 16, 26, 164, 213, 214, 257, 258, 294, 337, 338, 340, 368, 371, 372, 465	Taurus 2	287	Virgin Galactic	48, 88, 89, 129, 284, 416, 423, 460
Soyuz TMA-13	370, 465	Taylor, Neil, Dr	208	Viniset 1	248
Soyuz TMA-14	453	TecSar	46, 91, 231	VIRTIS	417
Souyz (tourist rides)	254	TEGA	381, 382, 383, 384, 385	Von Braun, Wernher	109, 476, 149
Space Academy	171	Telstar 1	430	W	
Space Adventures	284, 335	Texus	127	Wallops Island	287
SGAC	131, 166, 208	Thirkettle, Alan	173, 249	Warp drive	144, 146
Space Shuttle		Tianlian 1	248	Wells, Alan	171
Atlantis	4, 45, 93, 139, 140, 142, 171, 452	Tinetti, Giovanna Dr	167	Whitehorn, Will	48, 460
Columbia	171	Tito, Dennis	256	Williams, David	134
Discovery	207, 292, 295, 413	Trojan Centaur Reconnaissance	470	WhiteKnightTwo	416
Endeavour	17, 171, 177, 216, 365, 412, 453	Tsiolkovsky, Konstantin	418	X	
STS-105	293	Twins	308	X-Prize	36
STS-115	419	U		Y	
STS-118	293	Uchinoura Space Centre	70	Yoshimura, Yoshinori	247
STS-119	295	Ulysses	128	Yi, Soyeon	26, 164, 213, 246, 257, 369, 392
STS-120	292	UNESCO	247	Z	
STS-121	293	United Kingdom		Zarnecki, John	287
STS-122	97, 142, 143	ISS module	52, 113, 153	Zarya module	258, 394, 429
STS-123	177, 294	space competition	352	Zenit 3SL	248
STS-124	207, 293, 413, 480	human spaceflight	44, 132, 211, 249, 328	Zvezda service module	99, 173, 427
		space strategy	132		

Book index

Chapman M	The Geology of Mars	35
Covington M.A	Digital SLR Astrophotography	156
Cranford B	Spaceflight and Satellites Dictionary Unabridged	156
Davies A.G	Volcansim on Io	34
Degg H.J et al	Extrasolar Planets	156
Dougherty K et al	AAS History Series: History of Rocketry and Astronautics	156
Duggins P	Final Countdown	35
Goodwin R	The Lunar Exploration Scrapbook	34
Gorn M.H	NASA: The Complete Illustrated History	157
Hallowell H.E et al	Advances in the Astronautical Sciences: Guidance and Control 2007	157
Harland D.M et al	Space Exploration 2008	34
Heifetz M.D et al	A Walk through the Southern Sky	34
Kanas N	Star Maps	157
Kronk G.W	Cometography	157
Levy D	David Levy's Guide to Observing Meteor Showers	156
Mitton J	Cambridge Illustrated Dictionary of Astronomy	157
Norris P	Spies in the Sky	156
O'Meera S.J	Deep-Sky Companions: Hidden Treasures	157
Reipurth B et al	Prostars and Planets V	157
Rosswog S et al	Introduction to High-Energy Astrophysics	157
Spitzmiller T	Astronautics	35
Stooke P.J	The International Atlas of Lunar Exploration	156
Winter F.H	AAS History Series: History of Rocketry and Astronautics	157
Woodruff T et al	Planets and Life	34