Index of Projects by Investigator

A

Abriola, Linda M., 313-763-9406, abriola@engin.umich.edu, 100
Adams, Michael, 115
Agnew, Stephen F., 505-665-1764, sfagnew@lanl.gov, 437
Ainsworth, Calvin C., 509-375-2670, calvin.ainsworth@pnl.gov, 105, 182, 668
Al-Rifaie, Mohammed, 535
Albertini, Richard J., 802-656-8346, ralberti@zoo.uvm.edu, 612
Alexander, Michael L., 533
Allen, P.G., 291
Almeida Valmor F. de, 522
Alumbaugh, David L., 608-262-3835, alumbaug@engr.wisc.edu, 118, 138
Amman, Mark, 510-486-5638, mark_amman@lbl.gov, 677
Amonette, J.E., 201
Amrhein, Christopher, 55
Anderson, Larry, 576
Angel, S. Michael, 803-777-2779, angel@psc.sc.edu, 260
Antonio, Mark R., 630-252-9267, mantonio@anl.gov, 408
Arrington, Charles A., Jr., 864-294-3369, tony.arrington@furman.edu, 343
Arterburn, Jeffrey B., 395
Ashley, Kenneth R., 415
Asher, Sanford A., 412-624-8570, ASHER+@PITT.EDU, 688
Autrey, Tom, 457
Ayyildiz, Onder, 208

B

Balmer, Mari Lou, 509-376-2006, lou.balmer@pnl.gov, 431
Barefield, E. Kent, 404-894-4034, kent.barefield@chemistry.gatech.edu, 463
Barnes, Craig E., 323
Barr, Mary E., 505-667-7991, mbarr@lanl.gov, 310
Barrans, Richard E., Jr., 646
Bartsch, Richard A., 310
Barton, John W., 205
Baskaran, Mahalingam, 189
Bazaant, Zdenek P., 650
Becker, Alex, 145
Bedford, Joel, 595
Benjamin, Mark M., 206-543-7645, markbenj@u.washington.edu, 364
Benner, W. Henry, 510-486-7194, whbenner@lbl.gov, 248
Benson, Janet M., 505-845-1147, jbenson@lrri.org, 625
Berg, John D., 465
Berge, Patricia A., 925-423-4829, berge1@llnl.gov, 147, 149
Berryman, James G., 925-423-2905, berryman@s123.es.llnl.gov, 127, 149
Bertsch, Paul M., 174
Besmann, Theodore M., 865-574-6852, tmb@ornl.gov, 455
Birnbaum, Eva R., 648
Bjornstad, Bruce N., 105
Blake, Daniel M., 303-275-3702, blake@nrel.gov, 318
Blanchard, David L., 297, 415
Blencoe, James G., 345
Boatner, Lynn A., 299
Bond, Andrew H., 560
Bonner, Brian P., 14719
Bonnesen, P.V., 236, 531
Booth, Corwin H., 291
Borkovec, Michal, 253
Bottomley, Peter, 227
Bowman, Michael K., 581
Bowman-James, Kristin, 785-864-4673, kbowman-james@ukans.edu, 371
Bradford, John, 307-766-3386, johnb@uwyo.edu, 130
Brady, Patrick V., 491
Brainard, James R., 505-844-5624, jrbrain@sandia.gov, 153
Brennecke, Joan F., 219-631-5847, jfb@nd.edu, 332, 646
Breshears, David D., 505-665-2803, daveb@lanl.gov, 630
Britt, P.F., 236, 246
Brockman, Fred J., 509-376-1252, fred.brockman@pnl.gov, 38, 227
Broadhead, B.L., 300
Brooks, Scott C., 91, 105, 219
Brown, Gilbert M., 865-576-2756, gbn@ornl.gov, 236, 316, 531
Brown, Gordon E., Jr., 173, 182, 199
Brown, Stephen R., 802-296-2401, sbrown@ner.com, 136
Bruce, David A., 673
Brusseau, Mark L., 520-621-3244, brusseau@ag.Arizona.EDU, 78
Bryan, Samuel A., 232

Buchanan, Michelle V., 865-574-4521, buchananmv@ornl.gov, 234, 246
Bucher, Jerome J., 291, 474
Buckley, Brian, 619
Buelow, Stephen J., 505-667-1178, buelow@lanl.gov, 461
Buesseler, Ken O., 508-289-2309, kbuesseler@whoi.edu, 272, 273
Bull, Richard J., 509-373-6218, dick.bull@pnl.gov, 576, 617
Burns, Carol J., 307, 474
Burns, Peter C., 217-631-7380, Peter.Burns.50@nd.edu, 281
Busch, Daryle H., 785-864-5172, dbusch@eureka.chem.ukans.edu, 313

C

Caccavo, Frank, Jr., 685
Campbell, James H., 562
Camaioni, Donald M., 509-375-2739, donald.camaioni@pnl.gov, 457, 477, 479
Cantrell, K.J., 201
Carrigan, Charles R., 925-422-3941, carrigan1@llnl.gov, 73, 74
Carroll, Susan, 925-423-5694, carroll6@llnl.gov, 171
Caulder, Dana L., 291
Caton, John E., 865-241-5189, jec@ornl.gov, 552
Cavicchi, Richard E., 540
Chamberlin, Rebecca, 505-667-1841, rmchamberlin@lanl.gov, 395
Chambers, Scott A., 509-376-1766, sa.chambers@pnl.gov, 199
Chateauneuf, John E., 332
Chen, C. H. Winston, 865-574-5895, chenc@ornl.gov, 635
Cheng, Yung-Sung, 593
Cherry, John A., 91
Chew, Weng Cho, 143
Chialvo, Ariel A., 345
Choppin, Gregory, 904-644-3875, choppin@chem.fsu.edu, 249, 562
Chorover, Jonathan, 814-863-5394, jdc7@psu.edu, 257
Clark, David E., 429
Clark, David L., 505-665-6690, dlclark@lanl.gov, 558
Clark, Sue B., 509-335-1411, s_clark@mail.wsu.edu, 391, 570
Clearfield, Abraham, 409-845-2936, pjf2434@acxrd.chem.tamu.edu, 419
Cohen, Yoram, 310-825-8766, yoram@ucla.edu, 5
Colburn, Nancy H., 581
Collins, Greg E., 202-404-3337, gcollins@ccf.nrl.navy.mil, 690
Colston, Bill W., Jr., 260
Colwell, Frederick S., 208-526-0097, fxc@inel.gov, 35, 168
Conrad, Stephen H., 505-844-5267, shconra@sandia.gov, 108
Conradson, Steven D., 190
Cooper, Bernard R., 304-293-3423, bcooper@wvu.edu, 663
Counce, Robert M., 644
Cowin, James P., 277
Crepeau, John C., 208-535-7955, crepeau@if.uidaho.edu, 285
Crowley, David E., 24
Cummings, Peter T., 345
Cushman, John H., 27

D

Dabestani, R., 236, 531
Dai, M., 273
Dai, Sheng, 323, 345
Daly, Michael J., 301-295-3750, mdaly@usuhs.mil, 39
Darab, John G., 291, 413
Datskos, P. G., 865-574-6205, datskospg@ornl.gov, 524
Davis, Linda L., 291
Davison, Brian H., 865-576-8552, davisonbh@ornl.gov, 115, 205, 682
Dawson, Darren, 680
Day, Delbert E., 573-341-4354, day@umr.edu, 336
DeHart, M.D., 300
Delmore, James E., 208-526-2820, jed2@inel.gov, 529
Demond, Avery H., 100
Deng, Baolin, 505-835-5505, bdeng@nmt.edu, 201
Denham, Miles E., 253
Denn, M.M., 513
DePaoli, David W., 865-574-6817, depaolidw@ornl.gov, 58, 522, 644
DePaolo, Donald J., 510-643-7686, djdepaolo@lbl.gov, 198
DeVol, Timothy A., 242
Dickinson, J. Thomas, 509-335-4914, jtd@wsu.edu, 533
Dietz, Mark L., 630-252-3647, mdietz@anl.gov, 646
Dixon, David A., 377, 562
Doctor, Richard D., 630-252-5913, rdoctor@anl.gov, 521

Doktycz, Mitchel J., 246
Dong, Junhang, 58
Dorhout, Peter K., 970-491-0624, pkd@lamar.colostate.edu, 327
Dove, Patricia M., 404-894-6043, dove@eas.gatech.edu, 496
Dynan, William S., 206-721-8756, dynan@immagene.mcg.edu, 575

E

Ebbinghaus, Bartley B., 297
Edelstein, Norman M., 510-486-5624, nedel@lbl.gov, 291
Eggleston, Carrick M., 173
Egorov, Oleg B., 242
Eide, David, 22
Elmore, E., 577
Ewing, Rodney C., 313-647-8529, rodewing@umich.edu, 279, 291, 427
Ezekoye, Ofodike A., 522

F

Fan, Teresa W.-M., 916-752-1450, twfan@ucdavis.edu, 24
Faybishenko, Boris, 510-486-4852, bfayb@lbl.gov, 75
Fayer, Michael J., 111
Feinerman, Alan, 302
Felmy, Andrew R., 509-376-4079, ar.felmy@pnl.gov, 157, 518, 562
Fendorf, Scott E., 105, 219
Fernando, Gayanath W., 663
Ferris, F. Grant, 416-978-0526, ferris@quartz.geology.utoronto.ca, 168, 223
Fickes, Michael, 474
Field, Jennifer A., 83
Finch, Robert J., 281
Fletcher, Madilyn M., 27
Flury, Markus, 509-335-1719, flury@mail.wsu.edu, 61
Flynn, James, 541-485-2400, jflynn@decisionresearch.org, 584
Folkard, Melvyn, 586
Fort, James, 511
Fortner, Jeff, 294
Fourkas, John, 136
Francesconi, Lynn C., 408
Francis, A.J., 631-344-4534, francis1@bnl.gov, 655
Friedman, Gennady, 312-413-0827, gary@eecs.uic.edu, 302
Fredrickson, James K., 39, 685
Fryxell, Glen E., 509-375-3856, glen.fryxell@pnl.gov, 556
Fulton, John L., 393

G

Gallo, Michael, 619
Gauglitz, Phillip A., 509-372-1210, phillip.gauglitz@pnl.gov, 513
Gee, Glendon W., 481
Geesey, Gill G., 685
Geist, Robert M., 680
Georgopoulos, Panos, 619
Gerald, Rex, 294
Ginn, Timothy R., 530-752-1707, trginn@ucdavis.edu, 27
Givens, Richard S., 313
Glass, Robert J., 80, 108
Goode, Scott, 803-777-2601, goode@psc.psc.sc.edu, 238
Goodwin, Edwin H., 505-665-2853, goodwin_edwin_h@lanl.gov, 583
Gorelick, Steven, 208
Gorby, Yuri A., 509-373-6177, yuri.gorby@pnl.gov, 685
Grandinetti, Philip, 182
Grate, Jay W., 509-376-4242, jay.grate@pnl.gov, 242
Gray, William G., 219-631-5942, willliam.g.gray.3@nd.edu, 103
Greenwood, Margaret, 509
Gribb, Molly M., 260
Grimberg, Stefan, 253
Griscom, David L., 202-404-7087, griscom@ccsalpha3.nrl.navy.mil, 434
Grutzeck, Michael W., 814-863-2779, gur@psu.edu, 450
Gschwend, Philip M., 617-253-1638, pmgschwe@mit.edu, 70
Guerinot, Mary Lou, 603-646-2527, guerinot@dartmouth.edu, 22
Gupta, Akhil Datta, 98

H

Haglund, Richard F., Jr., 615-322-7964, richard.haglund@vanderbilt.edu, 527
Haire, Richard G., 251
Hakonson, Thomas E., 630
Hamilton, Edward A., 864-656-0226, hamilte@clemson.edu, 673
Harley, Naomi H., 212-263-5287, harlen01@mcrcr.med.nyu.edu, 615
Harper, Jeffrey F., 858-784-2862, harper@scripps.edu, 7
Haustein, Peter E., 277
Hay, Benjamin P., 509-372-6239, bp_hay@pnl.gov, 377, 668

Heineman, William R., 513-556-9210, William.Heineman@UC.Edu, 232
Held, Kathryn D., 586
Helean, Katheryn B., 297
Hellerich, Lucas A., 70
Henderson, Michael A., 509-376-2192, ma.henderson@pnl.gov, 421
Hendrickx, Jan M.H., 505-835-5892, hendrick@nmt.edu, 211
Herlinger, Albert W., 646
Hess, Nancy J., 509-376-9808, nancy.hess@pnl.gov, 190, 294, 391
Hess, Wayne P., 527
Hicks, Robert F., 310-206-6865, rhicks@ucla.edu, 658
Hier, Catherine A., 518
Higashi, Richard M., 24
Hinton, Thomas G., 803-557-7454, thinton@srel.edu, 595
Ho, C.-H., 316
Hobbs, David, 459
Hoffman, Michael R., 208
Holbrook, W. Stephen, 130
Holcomb, Cynthia, 303-497-3437, holcomb@boulder.nist.gov, 352
Hong, Richard, 612
Hoover, Mark D., 593
Hopper, C.M., 300
Hoversten, G. Michael, 118
Hrma, Pavel, 509-376-5092, pavel.hrma@pnl.gov, 423
Hu, Michael Z.-C., 644
Hua, Inez, 765-494-2409, hua@ce.ecn.purdue.edu, 45
Huang, Chin-Pao, 302-831-8428, huang@ce.udel.edu, 4
Huang, John, 297
Huang, Suilou, 637
Hubler, Timothy L., 232, 383
Hurst, Gregory B., 234, 246

I

Ibaraki, Motomu, 86
Ibrahim, Shawki A., 630
Ingram, Jani C., 168
Istok, Jonathan D., 541-737-6838, Jack.Istok@orst.edu, 66, 83
Iverson, Brent L., 512-471-5053, biverson@utxvms.cc.utexas.edu, 113

J

Jackson, Ken, 925-422-6053, jackson8@llnl.gov, 305
Jackson, Richard E., 98
Jantzen, Carol M., 450
Jardine, Philip M., 865-574-8058, ipj@ornl.gov, 91, 105, 219
Jarvinen, Gordon D., 310
Jensen, Mark P., 560
Jin, Minquan, 98
Johnson, Carol R., 70
Johnson, W. Neil, 202-767-6817, johnson@osse.nrl.navy.mil, 287
Johnston, Clifford T., 437
Johnston, Keith P., 512-471-4617, johnston@che.utexas.edu, 348
Johnston, Peter J., 579
Joiner, Michael, 011-44-1923-8, joiner@graylab.ac.uk, 579

K

Karthikeyan, K.G., 257
Karu, Alexander E., 510-643-7746, hyblab@socrates.berkeley.edu, 622
Kearns, Anne, 211
Kemner, Ken M., 556
Kerstein, Alan R., 354
Kirchner, Thomas B., 630
Klasson, K. Thomas, 205
Kline, Andrew A., 352
Klouzek, Jaroslav, 423
Knight, Rosemary, 604-822-3508, knight@geop.ubc.ca, 139, 141
Kroeger, R.A., 287
Kropf, Jeremy, 294
Krot, Nikolai, 558
Krumhansl, James L., 505-844-9093, jlkrumh@sandia.gov, 491, 493
Kurfess, J. D., 287
Kuritz, Tanya, 682
Kurth, Mark J., 666

L

LaVerne, Jay A., 219-631-5563, laverne.1@nd.edu, 340
Leckie, James O., 650-723-2524, leckie@cive.stanford.edu, 181
Lee, Ki-Ha, 510-486-7468, KHLee@lbl.gov, 145
Lesmes, David, 136
Levander, Alan, 713-527-6064, alan@geophysics.rice.edu, 122
Lewis, Nathan S., 818-395-6335, nslewis@cco.caltech.edu, 473
Li, Hong, 291
Li, Liyu, 291
Li, Qing X., 622
Liang, Liyuan, 86

Lidstrom, Mary E., 206-543-8388, lidstrom@u.washington.edu, 246, 334
Lieberman, Howard B., 212-305-9241, lieberman@cuccfa.ccc.columbia.edu, 588
Lilga, Michael A., 383
Linak, William P., 354
Linehan, John, 457
Liota, Charles L., 463
Lioy, Paul J., 908-445-0155, plioy@eohsi.rutgers.edu, 619
Liu, Chung-Chiun, 239
Liu, Guokui, 630-252-4630, gliu@anlchm.chm.anl.gov, 453
Liu, Jun, 509-375-2616, jun.liu@pnl.gov, 459, 491, 535
Liu, Ping, 291
Liu, Sue, 535
Löffler, Frank E., 36
Long, L. Timothy, 404-894-2860, tim.long@eas.gatech.edu, 120
Louie, Breverly, 352
Lu, Qin, 690
Luke, Paul N., 287
Lukens, Wayne W., Jr., 291, 474
Lunsford, Jack, 409-845-3455, lunsford@chemvx.tamu.edu, 342
Lvov, S.N., 369
Lymar, Sergei V., 631-344-4333, lymar@bnl.gov, 386

M

MacDonald, Digby D., 814-863-7772, ddm2@psu.edu, 369, 535
Madey, Theodore E., 277
Majer, Ernest L., 510-486-6709, ELMajer@lbl.gov, 38
Mallouk, Thomas E., 814-863-9637, tom@chem.psu.edu, 413
Mann, Linda, 865-574-4677, lkm@ornl.gov, 600
Mansour, Azzam N., 653
Marchand, Alan P., 389
Marples, Brian, 579
Marschman, Steven C., 509-376-3569, steve.marschman@pnl.gov, 277
Marshall, Garland R., 314-362-2286, garland@wucmd.wustl.edu, 322
Martin, James, 465
Martin, Michael, 518-456-9919, mmartin@fosmiltech.com, 671
Matthews, Michael A., 673
Matula, Thomas J., 206-685-7654, matula@crosby.apl.washington.edu, 350
Mavko, Gary, 650-723-9438, gary@Pangea.stanford.edu, 134
Maya, Leon, 316
McAvoy, Thomas J., 540
McBreen, James, 383
McCarthy, John F., 865-576-6606, jjj@ornl.gov, 86
McCarty, Perry L., 650-723-4131, mccarty@ce.stanford.edu, 32, 229
McClesky, T. Mark, 505-667-5636, tmark@lanl.gov, 648
McKay, Larry D., 865-974-0821, lmckay@utk.edu, 86, 91
McKinley, James P., 174
McLachlan, John A., 504-585-6910, john.mclachlan@tulane.edu, 590
Meagher, Richard B., 706-542-1444, meagher@arches.uga.edu, 19, 21
Meisel, Dan, 219-631-5457, dani@nd.edu, 477, 479
Melendres, Carlos A., 630-252-4346, melendres@cmt.anl.gov, 653
Melgaard, David, 660
Meyer, Philip D., 503-417-7552, Philip.Meyer@pnl.gov, 96
Meyer, Thomas J., 316
Michael, Barry D., +44-19238-286, michael@graylab.ac.uk, 586
Michener, Thomas E., 518
Mika, Martin, 423
Miller, George P., 662-325-7631, miller@dial.msstate.edu, 359
Miller, R. Bryan, 666
Mini, Susan, 653
Molecke, Martin, 660
Montemagno, Carlo D., 607-255-2280, cdm11@cornell.edu, 62
Morgan, F. Dale, 617-253-7857, morgan@erl.mit.edu, 133
Morgan, P. E. D., 805-373-4273, pemorgan@rsc.rockwell.com, 299
Morris, David E., 505-665-6487, demorris@lanl.gov, 307
Morrison, Frank, 134
Moyer, Bruce A., 865-574-6718, moyerba@ornl.gov, 316, 371, 388, 389
Mueller, Karl T., 257
Muller, S.M., 513
Mullins, Michael E., 352
Murphy, Ellyn M., **27**
Murray, Christopher J., 509-376-5848, Chris.Murray@pnl.gov, 96, 111, 227
Murray, George M., 410-953-6000, murragm1@aplcomm.jhuapl.edu, 568

Murrell, Michael T., 505-667-4845, mmurrell@lanl.gov, 192
Myneni, Satish C.B., 668

N

Nagy, Kathryn L., 303-492-6962, kathryn.nagy@colorado.edu, 187, 491
Nash, Kenneth L., 630-252-3581, nash@anlchm.chm.anl.gov, 560
Navrotsky, Alexandra, 297, 431
Nemec, Lubomir, 423
Nenoff, Tina, 431
Neu, Mary P., 505-667-9313, mneu@lanl.gov, 251
Neumann, Henry M., 463
Newman, Gregory A., 505-844-8158, ganewma@sandia.gov, 118
Nimz, Gregory, 925-423-2766, nimz1@llnl.gov, 152
Nikolaidis, Nikolaos P., 70
Nitsche, Heino, 510-486-5615, HNitsche@lbl.gov, 255

O

O'Day, Peggy A., 171
Oji, Lawrence, 673
Olander, Donald R., 305
Olsen, K.B., 201, 239
Onishi, Yasuo, 518
Oostrom, Mart, 78
Opella, Stanley J., 215-898-6459, opella@sas.upenn.edu, 603
Orlando, Thomas M., 509-376-9420, thomas.orlando@pnl.gov, 277, 477, 479
Outcalt, Stephanie L., 352
Ow, David W., 510-559-5909, ow@pgec.ars.usda.gov, 14

P

Paine, Robert T., 505-277-1661, rtpaine@unm.edu, 377, 554
Pal, Uday B., 660
Pallavicini, Maria, 415-476-3440, pallavicini@cc.ucsf.edu, 598
Palmer, Cynthia E., 642
Parker, Beth L., 91
Parks, Cecil V., 865-574-5280, parkscv@ornl.gov, 300
Pearlstein, Arne J., 354
Pellin, Michael J., 630-252-3510, pellin@anl.gov, 640
Peters, Robert W., 630-252-7773, rpeters@anl.gov, 208
Peterson, Per F., 510-643-7749, peterson@nuc.berkeley.edu, 505
Petrie, L.M., 300
Phillips, G.W., 287
Phlips, Bernard F., 287
Pickrell, Mark M., 505-665-2640, pickrell@nis5.lanl.gov, 362
Pinder, George F., 802-656-8697, pinder@uvm-gen.emba.uvm.edu, 63
Pinnaduwage, Lal A. (ORNL), 865-574-6540, LLP@ornl.gov, lpinnadu@utk.edu, 234, 356
Pipino, Andrew C. R., 301-975-2565, andrew.pipino@nist.gov, 366
Ponder, Sherman M. 413
Pope, Gary A., 512-471-3235, gary_pope@pe.utexas.edu, 98
Pope, Michael T., 202-687-6253, pope@guvax.georgetown.edu, 411
Powell, Robert L., 916-752-8779, rlpowell@ucdavis.edu, 511
Powers, Susan E., 315-268-6542, sep@clarkson.edu, 253
Prise, Kevin M., 586
Putnam, Robert L., 297

Q

Qian, Maoxu, 291
Quon, Karina, 7

R

Rai, Dhanpat, 509-373-5988, dhan.rai@pnl.gov, 249, 391
Rao, Linfeng, 391, 560, 570
Raymond, Kenneth N., 510-486-6145, raymond@socrates.berkeley.edu, 377, 379, 439, 556
Rearden, B.T., 300
Rector, Jamie, 134
Redpath, J. Leslie, 949-824-7395, jlredpat@e4e.oac.uci.edu, 577
Reed, Claude, 640
Reed, Don, 630-252-7964, reedd@cmt.anl.gov, 294
Reeder, Richard J., 516-632-8208, rjreeder@sunysb.edu, 194
Repeta, D.J., 273
Reysenbach, Anna-Louise, 168
Ridgway, Thomas H., 232
Roback, Robert, 192
Robb, Frank T., 410-234-8870, robb@umbi.umd.edu, 42
Roberts, Jeffrey J., 147, 149
Roberts, Victoria A., 622
Rockhold, Mark L., 96

Roden, Eric E., 205-348-0556, eroden@biology.as.ua.edu, 215, 223
Rodgers, John, 637
Rodriguez, Nelly M., 617-373-2085, n.rodriguez@nunet.neu.edu, 325
Rogers, Robin, D., 377
Rogers, Tony N., 352
Rose, Kenneth, 600
Rossen, William R., wrossen@pe.utexas.edu, 513, 516
Rossky, Peter, 348
Roundhill, D. Max, 377
Rubin, Yoram, 134
Runde, Wolfgang, 251
Russo, Richard E., 510-486-4258, RERusso@lbl.gov, 545
Rustad, James R., 518

S

Saiers, James E., 219
Salt, David E., 520-523-6296, david.salt@nau.edu, 8
Sample, Bradley, 600
Sanseverino, John, 91
Sawan, Samuel, 666
Savina, Michael, 640
Scamehorn, John F., 405-325-5811, scamehor@mailhost.ecn.ou.edu, 642
Schaap, Marcel G., 96
Schalkoff, Robert J., 864-656-5913, rjschal@clemson.edu, 680
Scheeline, Alexander, 354
Schery, Stephen D., 505-835-5341, radon@jupiter.nmt.edu, 637
Schill, Petr, 423
Schöllnberger, Helmut, 593
Schroeder, Julian I., 619-534-7759, julian@biomail.ucsd.edu, 12
Schroeder, Norman C., 505-667-0967, nschroeder@lanl.gov, 415
Schultz, Peter G., 510-642-9277, PGSchultz@lbl.gov, 114
Schwartz, Daniel T., 206-685-4815, schwartz@cheme.washington.edu, 406
Schwartz, Frank W., 614-292-6196, frank@geology.ohio-state.edu, 160
Scott, Bobby R., 505-845-1176, bscott@lrri.org, 593
Scott, Simon D., 579
Seidler, Gerald, 393
Selig, Hildegarde, 162
Seliskar, Carl J., 232
Selker, John, 227, 481
Selwyn, Gary S., 658
Semancik, Stephen, 301-975-2606, steves@nist.gov, 540
Semprini, Lewis, 541-737-6895, semprinl@ccmail.orst.edu, 66
Sen, Ayusman, 814-863-2460, asen@chem.psu.edu, 2
Sepaniak, Michael J., 524
Serne, R. Jeffrey, 174, 187, 255, 257
Shah, Vinod, 58
Sharma, Amit, 457
Shkrob, I.A., 417
Shuh, David K., 255, 291, 474
Sikora, Elzbieta, 535
Simmons, Joseph H., 352-392-6679, simmons@silica.mse.ufl.edu, 429
Simonson, John M., 865-574-4962, simonsonjm@ornl.gov, 345
Sloop, Frederick V., Jr., 316
Slovic, Paul, 584
Smith, Barbara F., 505-667-2391, bfsmith@lanl.gov, 666
Smith, David E., 505-646-5210, davsmith@nmsu.edu, 184
Smith, Robert W., 208-526-9345, rqs@inel.gov, 168
Smith, Wayne H., 307
Smithson, Scott B., 130
Smyrl, William H., 383
Soderholm, L., 408
Soll, Wendy E., 103
Spalding, Brian P., 865-574-7265, spaldingbp@ornl.gov, 650
Spear, Karl E., 455
Spormann, Alfred M., 32
Stadtherr, Mark A., 332
Steeples, Don W., 913-864-2730, steeples@kuhub.cc.ukans.edu, 150
Stern, Edward A., 206-543-2023, stern@phys.washington.edu, 244, 393
Strachan, Denis M., 509-376-0677, denis.strachan@pnl.gov, 291
Strand, Stuart E., 206-543-5350, sstrand@u.washington.edu, 17
Strauss, S.H., 327
Sturchio, Neil C., 630-252-3986, sturchio@anl.gov, 230
Su, Yali, 431
Sukamto, Johanes H., 509-373-1473, johanes.sukamto@pnl.gov, 383
Suslick, Kenneth S., 217-333-2794, ksuslick@uiuc.edu, 203
Sussman, Michael R., 7
Symes, William W., 122
Szecsody, Jim E., 182

T

Tate, Robert, 619
Tavlarides, Lawrence L., 315-443-1883, lltavlar@syr.edu, 509
Taylor, Richard W., 642
Taylor, Robert W., 256-858-4187, rwtaylor@aamu.edu, 166
Taylor, T., 577
Ten, Arkady A., 518
Terrones, G., 513
Thies, Mark C., 673
Thornton, E.C., 201
Thrall, Brian D., 617
Thundat, Thomas G., 865-574-6201, ugt@ornl.gov, 236
Tiedje, James M., 517-353-9021, tiedjej@pilot.msu.edu, 36
Tingey, Joel M., 509-376-2580, joel.tingey@pnl.gov, 465
Toksöz, M. Nafi, 617-253-7852, nafi@erl.mit.edu, 489
Tompson, Andrew F. B., 103
Tokunaga, Tetsu K., 510-486-7176, TKTokunaga@lbl.gov, 94
Traina, Samuel J., 614-292-9037, traina.1@osu.edu, 182, 668
Trifunac, Alexander D., 630-252-3483, trifunac@anl.gov, 417
Trowbridge, Lee D., 455
Tsouris, Costas, 865-241-3246, tq9@ornl.gov, 58, 522
Turpening, Roger M., 489
Tyler, Scott W., 481

U

Ulyanov, S.M., 369
Urrutia, Matilde M., 215
Ushakov, Sergey V., 297
Uy, O. Manuel, 568

V

Vairavamurthy, A., 257
Valentine, John D., 404-894-3718, John.Valentine@me.gatech.edu, 632
Valocchi, Albert, 217-333-3176, valocchi@uiuc.edu, 213
Van Den Avyle, James A., 505-845-3105, javande@sandia.gov, 660
Van Genuchten, Martinus Th., 96
Van Zee, John W., 442
Vance, E.R., 291

W

Wackett, Lawrence P., 39
Wacker, John F., 272
Wai, Chien M., 208-885-6787, cwai@uidaho.edu, 397
Wakoff, Bradely, 491
Walt, David R., 531
Wan, Jiamin, 510-486-6004, JMWan@lbl.gov, 196
Wang, Joseph, 505-646-2140, joewang@nmsu.edu, 239
Wang, Lu-Min, 734-647-8530, lmwang@umich.edu, 427
Wang, Yong, 640
Wang, Yuwen, 7
Ward, Anderson L., 509-372-6096, andy.ward@pnl.gov, 481
Warmack, R.J., 236
Wasan, Darsh T., 312-567-3001, wasan@iit.edu, 507
Wasielewski, Michael R., 630-252-3538, mrw092@nwu.edu, 358
Wasserburg, G. J., 626-395-6139, isotopes@gps.caltech.edu, 189
Watts, Laurel A., 352
Waychunas, Glenn A., 255
Weathers, Lenly, 931-372-6539, lweathers@tntech.edu, 226
Webb, Andrew G., 213
Weber, Thomas, J., 581
Weber, William J., 509-375-2299, Bill.Weber@pnl.gov, 425
Weber, Walter J., Jr., 743-763-2274, wjwjr@engin.umich.edu, 162
Wei, X., 369
Weinberg, Michael C., 520-621-6909, mcw@u.arizona.edu, 448
Wendt, Jost O. L., 520-621-2591, wendt@u.arizona.edu, 354
Werst, D.W., 417
Werth, Charles J., 213
Wester, Ronald C., 415-476-2468, rcwgx@itsa.ucsf.edu, 628
Whicker, F. Ward, 630
Whicker, Jeffrey J., 630
White, Mark, 78
White, Ralph E., 673
Wilcoxon, J. P., 505-844-3939, jpwilco@sandia.gov, 339
Wildenschild, Dorthe, 147
Wilkerson, Charles W., Jr., 505-667-5966, cww@lanl.gov, 374
Williams, Clayton W., 408

Williamson, Mark A., 630-252-9627, williamson@cmt.anl.gov, 297
Williamson, Rodney L., 660
Wilson, George D., 579
Wilson, John L., 505-835-5308, jwilson@nmt.edu, 80, 111
Wilt, M.J., 149
Wishart, James, 386
Wood, Scott, 570
Wong, Kwong-Kwok, 509-376-5097, kk.wong@pnl.gov, 30
Woskov, Paul P., 617-253-8648, ppw@psfc.mit.edu, 543
Wright, David L., 303-236-1381, dwright@usgs.gov, 143
Wronkiewicz, David J., 281

X

Xu, George, 518-276-4014, xug2@rpi.edu, 692
Xu, Jide, 379
Xu, Zhiyue, 640
Xue, Ziling Benjamin, 865-974-3443, xue@novell.chem.utk.edu, 323

Y

Yabusaki, Steven B., 191
Yao, T. (Mike), 211
Yarmoff, Jory A., 909-787-5336, yarmoff@ucr.edu, 55
Yiacoumi, Sotira Z., 58
Young, Jeff, 7
Yuen, David A., 612-624-1868, yuenx001@tc.umn.edu, 518

Z

Zachara, John M., 509-376-3254, john.zachara@pnl.gov, 173, 174
Zapp, Philip E., 803-725-2567, philip.zapp@srs.gov, 442
Zelt, C.A., 122
Zemanian, Tom S., 556
Zhang, Xi-Chang, 692
Zhang, Hubao, 160
Zhao, Donggao, 291
Zhidkov, Vasily V., 660
Zhou, X.Y., 369

Index of Projects by Institution

A

Alabama A&M University, 166
Argonne National Laboratory, 208, 230, 281, 294, 297, 358, 408, 417, 453, 521, 556, 560, 640, 646, 653
Arizona State University, 171
Australian Nuclear Science and Technology Organisation, 291

B

Battelle Pacific Northwest National Laboratory, 511
Boston College, 136
Boston University, 660
Brookhaven National Laboratory, 257, 277, 383, 386, 655

C

California Institute of Technology, 189, 208
Caltech, 473
Case Western Reserve University, 239
CH2M Hill, 600
Clarkson University, 253
Clemson University, 242, 673, 680
Colorado State University, 327, 595, 630
Columbia University, 588
Cornell University, 62

D

Dartmouth College, 22
Decision Research (Decision Sciences Research Institute, 584
Desert Research Institute, 481
Duke Engineering Services, Inc., 98

F

Florida State University, 249, 562
Foster Miller Technologies, Inc, 671
Furman University, 343

G

Geo-Centers, Inc., 690
Georgetown University, 411
Georgia Institute of Technology, 58, 120, 463, 496, 632
Glass Service, Ltd., 423
Gray Laboratory Cancer Research Trust, 579, 586

H

Hunter College of The City University of New York, 408

I

Idaho National Engineering and Environmental Laboratory, 35, 168, 529
Illinois Institute of Technology, 208, 507
Institute of Chemical Technology, 423
Institute of Inorganic Chemistry, 423
Intera, Incorporated, 160

J

Johns Hopkins University Applied Physics Lab, 568

L

Lawrence Berkeley National Laboratory, 38, 75, 94, 114, 118, 145, 196, 198, 248, 255, 287, 291, 379, 391, 439, 474, 515, 545, 560, 570, 598, 668, 677
Lawrence Livermore National Laboratory, 73, 74, 103, 127, 147, 149, 156, 171, 260, 297, 305, 642
Los Alamos National Laboratory, 103, 190, 192, 251, 297, 307, 310, 362, 374, 395, 415, 437, 461, 474, 558, 583, 630, 637, 648, 658, 666
Louisiana State University and A&M College, 600
Lovelace Biomedical and Environmental Research Institute, 625
Lovelace Respiratory Research Institute, 593
Loyola University Chicago, 646

M

Massachusetts General Hospital, 586
Massachusetts Institute of Technology, 70, 133, 489, 543
Medical College of Georgia, 575
Michigan State University, 36
Michigan Technological University, 352
Mining and Chemical Combine, 660
Mississippi State University, 359
Montana State University, 685

N

National Cancer Institute, 581
National Institute of Standards and Technology, 352, 366, 540
National Renewable Energy Laboratory, 318

National Risk Management Research Laboratory, 354
Naval Research Laboratory, 287, 690
Naval Surface Warfare Center, 653
New England Research, 136
New Mexico Institute of Mining and Technology, 80, 111, 201, 211, 637
New Mexico State University, 184, 239, 395, 630
New York University School of Medicine, 615
Northeastern University, 325
Northern Arizona University, 8
Northern Illinois University, 653
Northwestern University, 650

O

Oak Ridge National Laboratory, 58, 86, 91, 105, 115, 205, 219, 234, 236, 246, 251, 299, 300, 316, 323, 345, 356, 371, 388, 389, 455, 522, 524, 531, 552, 600, 635, 644, 650, 682
Ohio State University, 86, 160, 182, 668
Oregon State University, 66, 83, 227, 481

P

Pacific Northwest National Laboratory, 27, 30, 38, 39, 78, 96, 105, 111, 157, 173, 174, 182, 187, 190, 199, 201, 227, 232, 239, 242, 249, 255, 257, 272, 277, 291, 294, 307, 377, 383, 391, 393, 413, 415, 421, 423, 425, 431, 457, 459, 465, 477, 479, 481, 491, 509, 515, 518, 527, 533, 556, 562, 576, 581, 617, 668, 685
Pennsylvania State University, 2, 257, 369, 413, 450, 455, 535
Portland State University, 168
Purdue University, 27, 45, 437

R

Rensselaer Polytechnic Institute, 692
Rice University, 122
Rockwell International Corporation, 299
Rutgers University, 277

S

Sandia National Laboratories, 108, 118, 153, 431, 491, 493, 660
Sandia National Laboratories - Albuquerque, 80, 339, 465, 660
Sandia National Laboratories - California, 354
Savannah River Ecology Laboratory, 174
Savannah River Technology Center, 459, 673
Scripps Research Institute, 7, 622
Stanford University, 32, 105, 134, 173, 181, 182, 208, 219, 229
Stanford University of Geological and Environmental, 199
Strom Thurmond Institute, 673
SUNY at Stony Brook, 194
Syracuse University, 509

T

Tennessee Technological University, 226
Texas A&M University, 98, 189, 342, 419
Texas A&M University-Commerce, 415
Texas Tech University, 310, 377
The State University of New Jersey and Environment, 619
Transuranium Element Laboratory, 558
Tufts University, 531
Tulane University, 590

U

U.S. Department of the Navy, 434
U.S. Geological Survey, 143
U.S. Salinity Laboratory, 96
Uniformed Services University of the Health Sciences, 39
United States Department of Agriculture, 14
University of Alabama, 215, 223, 377
University of Arizona, 78, 354, 448
University of British Columbia, 139, 141
University of California, 5, 24, 27, 55, 134, 145, 379, 511, 577, 622, 628, 658
University of California at Berkeley, 305, 377, 505, 556
University of California at Davis, 297, 431, 666
University of California at San Diego, 12
University of Cardiff, 86
University of Cincinnati, 232
University of Colorado, 187, 491
University of Connecticut, 70, 663
University of Delaware, 4
University of Florida, 429
University of Georgia, 19, 21, 115, 595
University of Hawaii, 622
University of Idaho, 285, 397, 570
University of Illinois at Chicago, 302
University of Illinois at Urbana-Champaign, 143, 203, 213, 354
University of Kansas, 150, 313, 371
University of Maryland, 540

University of Maryland at Baltimore, 42
University of Massachusetts at Lowell, 666
University of Medicine and Dentistry of New Jersey, 619
University of Michigan, 100, 162, 279, 291, 427
University of Minnesota, 39, 383, 518
University of Missouri at Columbia, 22
University of Missouri-Rolla, 281, 336
University of New Hampshire, 685
University of New Mexico, 377, 554
University of North Carolina at Chapel Hill, 316
University of North Texas, 389
University of Notre Dame, 103, 281, 332, 340, 477, 479, 646
University of Oklahoma, 642
University of Pennsylvania, 603
University of Pittsburgh, 688
University of South Carolina, 27, 238, 260, 442, 673
University of Tennessee, 58, 86, 91, 234, 345, 524, 644
University of Tennessee Knoxville, 323
University of Texas at Austin, 98, 113, 348, 515, 516, 522
University of Toronto, 168, 223
University of Vermont, 63, 612
University of Washington, 17, 244, 246, 334, 350, 364, 393, 406, 465
University of Waterloo, 91
University of Wisconsin, 7, 138
University of Wisconsin-Madison, 118
University of Wyoming, 130, 173

V

Vanderbilt University, 527

W

Washington State University, 61, 391, 533, 570
Washington University, 322
West Virginia University, 663
Western Michigan University, 332
Westinghouse Savannah River Company, 253, 442, 450
Woods Hole Oceanographic Institute, 272, 273

Y

Yale University, 219

Index of Projects by Science Area

Actinide (Heavy Element) Chemistry

Actinide-Aluminate Speciation in Alkaline Radioactive Waste, 558
Actinide-Specific Interfacial Chemistry of Monolayer Coated Mesoporous Ceramics, 556
Actinides Species in Alkaline Media, 560
Aqueous Electrochemical Mechanisms in Actinide Residue Processing, 307
Architectural Design Criteria for F-Block Metal Ion Sequestering Agents, 377
Chemical Speciation and Solubility for Strontium and Americium in High Level Waste: Predictive Modeling of Phase Partitioning During Tank Processing, 562
Developing a Fundamental Basis for the Characterization, Separation, and Disposal of Plutonium and Other Actinides in High Level Radioactive Waste: The Effect of Temperature and Electrolyte Concentrations on Actinide Speciation, 570
DNAPL Surface Chemistry: Its Impact on DNAPL Distribution in the Vadose Zone and its Manipulation to Enhance Remediation, 253
f-Element Ion Chelation in Highly Basic Media, 554
Interfacial Soil Chemistry of Radionuclides in the Unsaturated Zone, 257
Novel Optical Detection Schemes for In-Situ Mapping of Volatile Organochlorides in the Vadose Zone, 260
Plutonium Speciation, Solubilization, and Migration in Soils, 251
Rational Design of Metal Ion Sequestering Agents, 379
Research Program to Determine Redox Properties and Their Effects on Speciation and Mobility of Pu in DOE Wastes, 249
Speciation and Structural Characterization of Plutonium and Actinide-Organic Complexes in Surface and Groundwaters, 273
Speciation, Mobility and Fate of Actinides in the Groundwater at the Hanford Site, 272
Synthesis and Characterization of Templated Ion Exchange Resins for the Selective Complexation of Actinide Ions, 568
Thermodynamics of the Volatilization of Actinide Metals in the High-Temperature Treatment of Radioactive Wastes, 305
Transuranic Interfacial Reaction Studies on Manganese Oxide Hydroxide Mineral Surfaces, 255

Analytical Chemistry and Instrumentation

A Fundamental Study of Laser-Induced Breakdown Spectroscopy Using Fiber Optics for Remote Measurements of Trace Metals, 238
Adsorption/Membrane Filtration as a Contaminant Concentration and Separation Process for Mixed Wastes and Tank Wastes, 364
Construction of Bending Magnet Beamline at the APS for Environmental Studies, 244
Correlation of Chemisorption and Electronic Effects for Metal/Oxide Interfaces: Transducing Principles for Temperature-Programmed Gas Microsensors, 540
Design and Development of a New Hybrid Spectroelectrochemical Sensor; Spectroelectrochemical Sensor for Technetium Applicable to the Vadose Zone, 232
Detection and Characterization of Chemicals Present in Tank Waste, 524
Development of Advanced Electrochemical Emission Spectroscopy for Monitoring Corrosion in Simulated DOE Liquid Waste, 535
Development of Advanced In Situ Techniques for Chemistry Monitoring and Corrosion Mitigation in SCWO Environments, 369
Development of an In-Situ Microsensor for the Measurements of Chromium and Uranium in Groundwater at DOE Sites, 239
Development of Novel, Simple Multianalyte Sensors for Remote Environmental Analysis, 688
Gamma Ray Imaging for Environmental Remediation, 287
High Fluence Neutron Source for Nondestructive Characterization of Nuclear Waste, 362
High Temperature Condensed Phase Mass Spectrometric Analysis, 529
Improved Analytical Characterization of Solid Waste-Forms by Fundamental Development of Laser Ablation Technology, 545
Investigation of Techniques to Improve Continuous Air Monitors Under Conditions of High Dust Loading in Environmental Settings, 637
Ion and Molecule Sensors Using Molecular Recognition in Luminescent, Conductive Polymers, 358
Mass Spectrometric Fingerprinting of Tank Waste Using Tunable, Ultrafast Infrared Lasers, 527
Metal Ion Analysis Using Near-Infrared Dyes and the “Laboratory-on-a-Chip”, 690

Microsensors for In-Situ Chemical, Physical, and Radiological Characterization of Mixed Waste, 236
Millimeter-Wave Measurements of High Level and Low Activity Glass Melts, 543
Miniature Nuclear Magnetic Resonance Spectrometer for In-Situ and In-Process Analysis and Monitoring, 302
Monitoring Genetic and Metabolic Potential for In-Situ Bioremediation: Mass Spectrometry, 246
Novel Analytical Techniques Based On an Enhanced Electron Attachment Process, 234
Novel Mass Spectrometry Mutation Screening for Contaminant Impact Analysis, 635
Novel Miniature Spectrometer for Remote Chemical Detection, 366
Optically-Based Array Sensors for Selective In Situ Analysis of Tank Waste, 531
Particle Generation by Laser Ablation in Support of Chemical Analysis of High Level Mixed Waste from Plutonium Production Operations, 533
Radionuclide Sensors for Water Monitoring, 242
Rapid Mass Spectrometric DNA Diagnostics for Assessing Microbial Community Activity During Bioremediation, 248
Real-Time Broad Spectrum Characterization of Hazardous Mixed Waste by Membrane Introduction Mass Spectrometry, 374
Real-Time Identification and Characterization of Asbestos and Concrete Materials with Radioactive Contamination, 692
Spectroelectrochemical Sensor for Technetium Applicable to the Vadose Zone, 232
Supramolecular Chemistry of Selective Anion Recognition for Anions of Environmental Relevance, 371
The Development of Cavity Ringdown Spectroscopy as a Sensitive Continuous Emission Monitor for Metals, 359
Thermospray Mass Spectrometry Ionization Processes Fundamental Mechanisms for Speciation, Separation and Characterization of Organic Complexants in DOE Wastes, 552
Ultrahigh Sensitivity Heavy Noble Gas Detectors for Long-Term Monitoring and Monitoring Air, 632

Biogeochemistry

Advanced Experimental Analysis of Controls on Microbial Fe(III) Oxide Reduction, 215
Biodegradation of Chlorinated Solvents: Reactions Near DNAPL and Enzyme Function, 229
Containment of Toxic Metals and Radionuclides in Porous and Fractured Media: Optimizing Biogeochemical Reduction Versus Geochemical Oxidation, 219
"Green" Biopolymers for Improved Decontamination of Metals from Surfaces: Sorptive Characterization and Coating Properties, 682
Integrated Field, Laboratory, and Modeling Studies to Determine the Effects of Linked Microbial and Physical Spatial Heterogeneity on Engineered Vadose Zone Bioremediation, 227
Long-Term Risk from Actinides in the Environment: Modes of Mobility, 630
Microbial Mineral Transformations at the Fe(II)/Fe(III) Redox Boundary for Solid Phase Capture of Strontium and Other Metal/Radionuclide Contaminants, 223
Microbially Promoted Solubilization of Steel Corrosion Products and Fate of Associated Actinides, 685
Reduction and Immobilization of Radionuclides and Toxic Metal Ions Using Combined Zero Valent Iron and Anaerobic Bacteria, 226
Stable Isotopic Investigations of In-Situ Bioremediation of Chlorinated Organic Solvents, 230

Engineering Science

A Novel Energy-Efficient Plasma Chemical Process for the Destruction of Volatile Toxic Compounds, 356
Acoustic Probe for Solid-Gas-Liquid Suspensions, 509
Advanced Sensing and Control Techniques to Facilitate Semi-Autonomous Decommissioning of Hazardous Sites, 680
Biofiltration of Volatile Pollutants: Fundamental Mechanisms for Improved Design, Long-term Operation, Prediction, Implementation, 205
Cavitational Hydrothermal Oxidation: A New Remediation Process, 203
Contaminant-Organic Complexes, Their Structure and Energetics in Surface Decontamination Processes, 668
Basic Engineering Research for D&D of R Reactor Storage Pond Sludge: Electrokinetics, Carbon Dioxide Extraction, and Supercritical Water Oxidation, 673
Development of Monitoring and Diagnostic Methods for Robots Used in Remediation of Waste Sites, 671
Development of Nuclear Analysis Capabilities for DOE Waste Management Activities, 300
Electrically Driven Technologies for Radioactive Aerosol Abatement, 522
Flow Visualization of Forced and Natural Convection in Internal Cavities, 285
Foaming in Radioactive Waste Treatment and Immobilization Processes, 507

Interfacial Reduction-Oxidation Mechanisms Governing Fate and Transport of Contaminants in the Vadose Zone, 201
Investigation of Pore-Scale Processes That Affect Soil Vapor Extraction, 213
Isolation of Metals from Liquid Wastes: Reactive Scavenging in Turbulent Thermal Reactors, 354
Measurements and Models for Hazardous Chemical and Mixed Wastes, 352
Mechanics of Bubbles in Sludges and Slurries, 515
Mechanics of Bubbles in Sludges and Slurries: Modeling Studies of Particulate Materials, 516
Mixing Processes in High-Level Waste Tanks, 505
Nuclear Magnetic Resonance Imaging of Water Content in the Subsurface, 211
Numerical Modeling of Mixing of Chemically Reacting, Non-Newtonian Slurry for Tank Waste Retrieval, 518
On-Line Slurry Viscosity and Concentration Measurement as a Real-Time Waste Stream Characterization Tool, 511
Superconducting Open-Gradient Magnetic Separation for the Pretreatment of Radioactive or Mixed Waste Vitrification Feeds, 521
Three-Dimensional Positron-Sensitive Germanium Detectors, 677
Use of Sonication for In-Well Softening of Semivolatile Organic Compounds, 208

Geochemistry

Aquifer Transport of Th, U, Ra, and Rn in Solution and on Colloids, 189
Calcite Precipitation and Trace Metal Partitioning in Groundwater and the Vadose Zone: Remediation of Strontium-90 and Other Divalent Metals and Radionuclides in Arid Western Environments, 168
Characterization of Contaminant Transport Using Naturally-Occurring U-Series Disequilibria, 192
Direct Investigations of the Immobilization of Radionuclides in the Alteration Phases of Spent Nuclear Fuel, 281
Evaluation of Isotopic Diagnostics for Subsurface Characterization and Monitoring: Field Experiments at the TAN and RWMC (SDA) Sites, INEEL, 198
Experimental Determination of Contaminant Metal Mobility as a Function of Temperature, Time, and Solution Chemistry, 171
Hydrologic and Geochemical Controls on the Transport of Radionuclides in Natural Undisturbed Arid Environments as Determined by Accelerator Mass Spectrometry, 156
Immobilization of Radionuclides in the Hanford Vadose Zone by Incorporation in Solid Phases, 182
Kinetics and Mechanisms of Metal Retention/ Release in Geochemical Processes in Soil, 166
Mineral Surface Processes Responsible for the Decreased Retardation (or Enhanced Mobilization) of ^{137}Cs from HLW Tank Discharges, 174
Modeling of Cation Binding in Hydrated 2:1 Clay Minerals, 184
Molecular-Level Processes Governing the Interaction of Contaminants with Iron and Manganese Oxides Project, 199
Permanganate Treatment of DNAPLs in Reactive Barriers and Source Zone Flooding Schemes, 160
Phase Chemistry of Tank Sludge Residual Components, 491
Phase Chemistry of Tank Sludge Residual Components, 493
Quantifying Silica Reactivity in Subsurface Environments: Reaction Affinity and Solute Matrix Controls on Quartz and SiO_2 Glass Dissolution Kinetics, 496
Radionuclide Immobilization in the Phases Formed by Corrosion of Spent Nuclear Fuel: The Long-Term Assessment, 279
Reactivity of Primary Soil Minerals and Secondary Precipitates beneath Leaking Hanford Waste Tanks, 187
Sorption of Colloids, Organics, and Metals onto Gas-Water Interfaces: Transport Mechanisms and Potential Remediation Technology, 196
Sorption of Heavy Metals and Radionuclides on Mineral Surfaces in the Presence of Organic Co-Contaminants, 181
Spectroscopic and Microscopic Characterization of Contaminant Uptake and Retention by Carbonates in Soils and Vadose Zone Sediments, 194
Technetium Attenuation in the Vadose Zone: Role of Mineral Interactions, 190
The Development of Aqueous Thermodynamic Models: Application to Waste Tank Processing and Vadose Zone Issues, 153
The Efficacy of Oxidative Coupling for Promoting In-Situ Immobilization of Hydroxylated Aromatics in Contaminated Soil and Sediment Systems, 162
The Influence of Calcium Carbonate Grain Coatings on Contaminant Reactivity in Vadose Zone Sediments, 173

Geophysics

3-D Spectral IP Imaging: Non-Invasive Characterization of Contaminant Plumes, 133
A Hybrid Hydrologic-Geophysical Inverse Technique for the Assessment and Monitoring of Leachates in the Vadose Zone, 153
A Hydrologic-Geophysical Method for Characterizing Flow and Transport Processes Within the Vadose Zone, 138
Advanced High Resolution Seismic Imaging, Material Properties Estimation and Full Wavefield Inversion for the Shallow Subsurface, 122
Collaborative Research: Hydrogeological-Geophysical Methods for Subsurface Site Characterization, 134
Complex Electrical Resistivity for Monitoring DNAPL Contamination, 136
Effects of Fluid Distribution on Measured Geophysical Properties for Partially Saturated, Shallow Subsurface Conditions, 147
Enhancements to and Characterization of the Very Early Time Electromagnetic (VETEM) Prototype Instrument and Applications to Shallow Subsurface Imaging at Sites in the DOE Complex, 143
High Frequency Electromagnetic Impedance Imaging for Vadose Zone and Groundwater Characterization, 118
High-Frequency Electromagnetic Impedance Measurements for Characterization, Monitoring, and Verification Efforts, 145
Imaging and Characterizing the Waste Materials Inside an Underground Storage Tank Using Seismic Normal Modes, 489
Joint Inversion of Geophysical Data for Site Characterization and Restoration Monitoring, 149
Material Property Estimation for Direct Detection of DNAPL Using Integrated Ground-Penetrating Radar Velocity, Imaging and Attribute Analysis, 130
Seismic Surface-Wave Tomography of Waste Sites, 120
Seismic-Reflection and Ground Penetrating Radar for Environmental Site Characterization, 150
Surface and Borehole Electromagnetic Imaging of Conducting Contaminant Plumes, 127
The Use of Dielectric and NMR Measurements To Determine the Pore-Scale Location of Organic Contaminants, 139
The Use of Radar Methods to Determine Moisture Content in the Vadose Zone, 141

Health Science

A Novel Biomarker for Beryllium Sensitization in Humans, 612
Bioavailability of Organic Solvents in Soils: Input into Biologically-Based Dose-Response Models for Human Risk Assessments, 628
Characterization of Chemically Modified Hyperthermophilic Enzymes for Chemical Syntheses and Bioremediation Reactions, 115
Comparison of the Bioavailability of Elemental Waste Laden Soils Using “In Vivo” and “In Vitro” Analytical Methodology, and Bioaccessibility of Radionuclides for Refinement of Exposure/Dose Models, 619
Determining Significant Endpoints for Ecological Risk Analyses, 595
Engineered Antibodies for Monitoring of Polynuclear Aromatic Hydrocarbons, 622
Environmental Analysis of Endocrine Disrupting Effects from Hydrocarbon Contaminants in the Ecosystem, 590
Environmentally-Induced Malignancies: An In Vivo Model to Evaluate the Health Impact of Chemicals in Mixed Waste, 598
Enzyme Engineering for Biodegradation of Chlorinated Organic Pollutants, 114
Estimation of Potential Population Level Effects of Contaminants on Wildlife, 600
Human Genetic Marker for Resistance to Radiations and Chemicals, 588
Improved Radiation Dosimetry/Risk Estimates to Facilitate Environmental Management of Plutonium Contaminated Sites, 593
Improved Risk Estimates for Carbon Tetrachloride, 625
Mechanisms Involved in Trichloroethylene-Induced Liver Cancer: Importance to Environmental Cleanup, 617
New Strategies for Designing Inexpensive but Selective Bioadsorbants for Environmental Pollutants: Selection of Specific Ligands & Their Cell Surface Expression, 113
Personal and Environmental Exposure Assessment Measurements at Fernald, 615
Structural Biology of the Sequestration and Transport of Heavy Metal Toxins: NMR Structure Determination of Proteins Containing the –Cys-X-Y-Cys-Metal Binding Motifs, 603

Hydrogeology

In Situ, Field Scale Evaluation of Surfactant Enhanced DNAPL Recovery Using a Single-Well, Push-Pull Test, 83
Influence of Clastic Dikes on Vertical Migration of Contaminants in the Vadose Zone at Hanford, 111
In-Situ Characterization of Dense Non-Aqueous Phase Liquids Using Partitioning Tracers, 98
Least-Cost Groundwater Remediation Design using Uncertain Hydrogeological Information, 63

Manipulating Subsurface Colloids to Enhance Cleanup of DOE Waste Sites, 70
New Permeameters for In Situ Characterization of Unsaturated Heterogeneous Permeability: Development, Design, Testing, and Application, 80
On the Inclusion of the Interfacial Area Between Phases in the Physical and Mathematical Description of Subsurface Multiphase Flow, 103
Partitioning Tracers for In-Situ Detection and Quantification of Dense Nonaqueous Phase Liquids in Groundwater Systems, 78
Physics of DNAPL Migration and Remediation in the Presence of Heterogeneities, 108
Quantifying Vadose Zone Flow and Transport Uncertainties Using a Unified, Hierarchical Approach, 96
Rapid Migration of Radionuclides Leaked from High-Level Waste Tanks: A Study of Salinity Gradients, Wetted Path Geometry and Water Vapor Transport, 481
The Dynamics of Vadose Zone Transport: A Field and Modeling Study Using the Vadose Zone Observatory, 73
The Migration and Entrapment of DNAPLs in Physically and Chemically Heterogeneous Porous Media, 100

Inorganic Chemistry

A Chaotic-Dynamical Conceptual Model to Describe Fluid Flow and Contaminant Transport in a Fractured Vadose Zone, 75
Acid-Base Behavior in Hydrothermal Processing of Wastes, 348
An Investigation of Homogeneous and Heterogeneous Sonochemistry for Destruction of Hazardous Waste, 45
Behavior of Dense, Immiscible Solvents in Fractured Clay-Rich Soils, 91
Characterization of Contaminant Transport by Gravity, Capillarity and Barometric Pumping in Heterogeneous Vadose Regimes, 74
Colloid Transport and Retention in Fractured Media, 86
Colloidal Agglomerates in Tank Sludge: Impact on Waste Processing, 465
Colloid-Facilitated Transport of Radionuclides Through the Vadose Zone, 61
Development of Radon-222 as a Natural Tracer for Monitoring the Remediation of NAPL Contamination in the Subsurface, 66
Dissolution, Precipitation, and Deposition of Aluminum-Containing Phases in Tank Wastes, 459
Enhanced Sludge Processing of HLW: Hydrothermal Oxidation of Chromium, Technetium, and Complexants by Nitrate, 461
Establishing a Quantitative Functional Relationship Between Capillary Pressure, Saturation and Interfacial Area, 62
Fast Flow in Unsaturated Coarse Sediments, 94
Fate and Transport of Radionuclides Beneath the Hanford Tank Farms: Unraveling Coupled Geochemical and Hydrological Processes in the Vadose Zone, 105
Fundamental Chemistry and Thermodynamics of Hydrothermal Oxidation Processes, 345
Fundamental Studies of the Removal of Contaminants from Ground and Waste Waters via Reduction by Zero-Valent Metals, 55
Hazardous Gas Production by Alpha Particles in Solid Organic Transuranic Waste Matrices, 340
Interfacial Radiolysis Effects in Tank Waste Speciation, 477
Investigation of Novel Electrode Materials for Electrochemically-Based Remediation of High- and Low-Level Mixed Wastes in the DOE Complex, 473
NO_x and Heterogeneity Effects in High Level Waste (HLW), 479
Phase Equilibria Modification by Electric Fields, 58
Processing of High Level Waste: Spectroscopic Characterization of Redox Reactions in Supercritical Water, 343
Research Program to Investigate the Fundamental Chemistry of Technetium, 474
Studies Related to Chemical Mechanisms of Gas Formation in Hanford High-Level Nuclear Wastes, 463
Synthesis of New Water-Soluble Metal-Binding Polymers: Combinatorial Chemistry Approach, 666
The Adsorption and Reaction of Halogenated Volatile Organic Compounds (VOCs) on Metal Oxides, 342
The Sonophysics and Sonochemistry of Liquid Waste Quantification and Remediation, 350

Low Dose Radiation

Adaptive Response Against Spontaneous Neoplastic Transformation In Vitro Induced by Ionizing Radiation, 577
Biological Effects of LLIR and Normal Oxidative Damage: The Same or Different?, 583
Linking Molecular Events to Cellular Responses at Low Dose Exposures, 581
Low-Dose Risk, Decisions, and Risk Communication, 584
Low-Dose Studies with Focused X-rays in Cell and Tissue Models: Mechanisms of Bystander and Genomic Instability Responses, 586
Markers of the Low-Dose Radiation Response, 575

Mechanisms of Enhanced Cell Killing at Low Doses: Implications for Radiation Risk, 579
Sensitivity to Radiation-Induced Cancer in Hemochromatosis, 576

Materials Science

An Alternative Host Matrix Based on Iron Phosphate Glasses for the Vitrification of Specialized Nuclear Waste Forms, 336
Analysis of Surface Leaching Processes in Vitrified High-Level Nuclear Wastes Using In-Situ Raman Imaging and Atomistic Modeling, 429
Atmospheric-Pressure Plasma Cleaning of Contaminated Surfaces, 658
Chemical and Ceramic Methods Toward Safe Storage of Actinides Using Monazite, 299
Chemical Decomposition of High-Level Nuclear Waste Storage/Disposal Glasses Under Irradiation, 434
Decontamination of Radionuclides from Concrete During and After Thermal Treatment, 650
Determination of Transmutation Effects in Crystalline Waste Forms, 294
Distribution and Solubility of Radionuclides and Neutron Absorbers in Waste Forms for Disposition of Plutonium Ash and Scraps, Excess Plutonium, and Miscellaneous Spent Nuclear Fuels, 291
Fundamental Thermodynamics of Actinide-Bearing Mineral Waste Forms, 297
"In-Situ" Spectro-Electrochemical Studies of Radionuclide-Contaminated Surface Films on Metals, 653
Investigation of Microscopic Radiation Damage in Waste Forms Using ODNMR and AEM Techniques, 453
Mechanism of Pitting Corrosion Prevention By Nitrite in Carbon Steel Exposed to Dilute Salt Solutions, 442
Mechanisms and Kinetics of Organic Aging in High-Level Nuclear Wastes, 457
Mechanisms of Radionuclide-Hydroxycarboxylic Acid Interactions for Decontamination of Metallic Surfaces, 655
Microstructural Properties of High-Level Waste Concentrates and Gels with Raman and Infrared Spectroscopies, 437
Modeling of Diffusion of Plutonium in Other Metals and of Gaseous Species in Plutonium-Based Systems, 663
Modeling of Spinel Settling in Waste Glass Melter, 423
New Silicotitanate Waste Forms: Development and Characterization, 431
Optimization of Thermochemical, Kinetic, and Electrochemical Factors Governing Partitioning of Radionuclides during Melt Decontamination of Radioactively Contaminated Stainless Steel, 660
Photooxidation of Organic Waste Using Semiconductor Nanoclusters, 339
Physical, Chemical and Structural Evolution of Zeolite-Containing Waste Forms Produced from Metakaolinite and Calcined HLW, 450
Radiation Effects in Nuclear Waste Materials, 425
Radiation Effects on Materials in the Near-Field of Nuclear Waste Repository, 427
Rational Design of Metal Ion Sequestering Agents, 439
Stability of High-Level Radioactive Waste Forms, 455
The Influence of Radiation and Multivalent Cation Additions on Phase Separation and Crystallization of Glass, 448

Microbial Science

Complete Detoxification of Short Chain Chlorinated Aliphatic Compounds: Isolation of Halorespiring Organisms and Biochemical Studies of the Dehalogenating Enzyme Systems, 36
Control of Biologically Active Degradation Zones by Vertical Heterogeneity: Applications in Fractured Media, 35
Design and Construction of *Deinococcus Radiodurans* for Biodegradation of Organic Toxins at Radioactive DOE Waste Sites, 39
Dynamics of Coupled Microbial and Contaminant Transport, 27
Genetic Analysis of Stress Responses in Soil Bacteria for Enhanced Bioremediation of Mixed Contaminants, 30
Genetic Engineering of a Radiation-Resistant Bacterium for Biodegradation of Mixed Wastes, 334
High Resolution Definition of Subsurface Heterogeneity for Understanding the Biodynamics of Natural Field Systems: Advancing the Ability for Scaling to Field Conditions, 38
Mechanisms, Chemistry, and Kinetics of Anaerobic Biodegradation of Cis-Dichloroethene and Vinyl Chloride, 32
Molecular Profiling of Microbial Communities from Contaminated Sources: Use of Subtractive Cloning Methods and rDNA Spacer Sequences, 42

Plant Science

Characterization of a New Family of Metal Transport Proteins, 22
Ion Transporting Pumps in Plant Cells, 7
Molecular Characterization of a Novel Heavy Metal Uptake Transporter from Higher Plants & its Potential for use in Phytoremediation, 12
Molecular Dissection of the Cellular Mechanisms Involved in Nickel Hyperaccumulation in Plants, 8
Molecular Genetics of Metal Detoxification: Prospects for Phytoremediation, 14
Phytoremediation of Ionic and Methyl Mercury Pollution, 21
The Engineered Phytoremediation of Ionic and Methyl Mercury Pollution, 19
Plant Rhizosphere Effects on Metal Mobilization and Transport, 24
Using Trees to Remediate Groundwaters Contaminated with Chlorinated Hydrocarbons, 17

Separations Chemistry

A Broad Spectrum Catalytic System for Removal of Toxic Organics from Water by Deep Oxidation, 2
Chemical Speciation of Inorganic Compounds Under Hydrothermal Conditions, 393
Complexants for Actinide Element Coordination and Immobilization, 408
De Novo Design of Ligands for Metal Separation, 322
Design and Synthesis of the Next Generation of Crown Ethers for Waste Separations: An Inter-Laboratory Comprehensive Proposal, 388
Development of Inorganic Ion Exchangers for Nuclear Waste Remediation, 419
Dynamic Effects of Tank Waste Aging on Radionuclide-Complexant Interactions, 395
Electroactive Materials for Anion Separation—Technetium from Nitrate, 383
Electrochemical Processes for In-Situ Treatment of Contaminated Soils, 4
Extraction and Recovery of Mercury and Lead from Aqueous Waste Streams Using Redox-Active Layered Metal Chalcogenides, 327
Fundamental Chemistry, Characterization, and Separation of Technetium Complexes in Hanford Waste, 415
Improved Decontamination: Interfacial, Transport, and Chemical Properties of Aqueous Surfactant Cleaners, 644
Ion Recognition Approach to Volume Reduction of Alkaline Tank Waste by Separation and Recycle of Sodium Hydroxide and Sodium Nitrate, 389
Ionizing Radiation Induced Catalysis on Metal Oxide Particles, 421
Managing Tight-Binding Receptors for New Separations Technologies, 313
Micelle Formation and Surface Interactions in Supercritical CO_2 Fundamental Studies for the Extraction of Actinides from Contaminated Surfaces, 648
New Anion-Exchange Resins for Improved Separations of Nuclear Materials, 310
Novel Ceramic-Polymer Composite Membranes for the Separation of Hazardous Liquid Waste, 5
Photocatalytic and Chemical Oxidation of Organic Compounds in Supercritical Carbon Dioxide, 318
Polyoxometalates for Radioactive Waste Treatment, 411
Potential Modulated Intercalation of Alkali Cations into Metal Hexacyanoferrate Coated Electrodes, 406
Radiation Effects on Transport and Bubble Formation in Silicate Glasses, 417
Radiolytic and Thermal Processes Relevant to Dry Storage of Spent Nuclear Fuels, 277
Rational Synthesis of Imprinted Organofunctional Sol-Gel Materials for Toxic Metal Separation, 323
Reactivity of Peroxynitrite: Implications for Hanford Waste Management and Remediation, 386
Removal of Heavy Metals and Organic Contaminants from Aqueous Streams by Novel Filtration Methods, 325
Removal of Radioactive Cations and Anions from Polluted Water Using Ligand-Modified Colloid-Enhanced Ultrafiltration, 642
Removal of Technetium, Carbon Tetrachloride, and Metals from DOE Properties, 413
Solution Effects on Cesium Complexation with Calixarene-Crown Ethers from Liquid to Supercritical Fluids, 397
Speciation, Dissolution, and Redox Reactions of Chromium Relevant to Pretreatment and Separation of High-Level Tank Wastes, 391
Spectroscopy, Modeling and Computation of Metal Chelate Solubility in Supercritical CO_2, 332
Supercritical Carbon Dioxide-Soluble Ligands for Extracting Actinide Metal Ions from Porous Solids, 646
Utilization of Kinetic Isotope Effects for the Concentration of Tritium, 316
Waste Volume Reduction Using Surface Characterization and Decontamination by Laser Ablation, 640