

# Plasma Technology DIRECTORY

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**The *Plasma Technology Directory* has two main goals:**

1. Promote, coordinate, and share plasma technology experience and equipment within the Department of Energy.
2. Facilitate technology transfer to the commercial sector where appropriate.

In addition, we solicit new names and plasma technologies in preparation for a second edition. If you are interested fill out the form provided at the end of this Directory.

The first edition of the *Plasma Technology Directory* has been compiled in cooperation with the Department of Energy's National Laboratories.

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Brookhaven National Laboratory, Upton, NY  
Idaho National Engineering Laboratory, Idaho Falls, ID  
Lawrence Berkeley Laboratory, Berkeley, CA  
Lawrence Livermore Laboratory, Livermore, CA  
Los Alamos National Laboratory, Los Alamos, NM  
National Renewable Energy Laboratory, Golden, CO  
Oak Ridge National Laboratories, Oak Ridge, TN  
Pacific Northwest Laboratory, Richland, WA  
Sandia National Laboratories, Albuquerque, NM, and Livermore, CA

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## General Laboratory Information

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Technology Transfer Office  
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Golden, CO 80401-3393

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Pacific Northwest Laboratory  
P.O. Box 999, K1-17  
Richland, WA 99352

## Directory Abbreviations

### Laboratories

ANL	Argonne National Laboratory
INEL	Idaho National Engineering Laboratory
LANL	Los Alamos National Laboratory
SNL, CA	Sandia National Laboratories, California
SNL, NM	Sandia National Laboratories, New Mexico
Y-12	Oak Ridge National Laboratories

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### Technical Terms

AES	auger electron spectroscopy
ECM	environmentally conscious manufacturing
ECR	electron cyclotron resonance (plasmas)
EUV	extreme ultraviolet
FTIR	fourier transform infrared (spectroscopy)
ICF	inertial confinement fusion
IRIS	imaging of radical interactions with surfaces
ISS	ion scattering spectroscopy
KEV	kilo-electron volts
LTE	local thermodynamic equilibrium
MEV	mega-electron volts
PECVD	plasma enhanced chemical vapor deposition
PIC	particle-in-cell
PR	photoresist
RF	radio frequency
RIE	reactive ion etch
SIMS	secondary ion mass spectrometry
VUV	vacuum ultraviolet

# Plasma Technology Directory

## Personnel

Name	Facility/Dept.	Phone	Mail Stop	E-Mail Address
Apblett, Chris	SNL, NM/1323	(505) 844-4487		apbletca@sandia.gov
Expertise:	Electron cyclotron resonance system capable of depositing thin films on 6-inch silicon substrates			
Bailey, James E.	SNL, NM/1277	(505) 845-7203	1196	jebaile@sandia.gov
Expertise:	Z-pinch, laser-produced, and ion diode plasmas, plasma spectroscopy, time and space resolved spectra			
Barbour, J. Charles	SNL, NM/1111	(505) 844-5517	1056	jcbarbo@sandia.gov
Expertise:	Plasma assisted deposition, ECR accelerations			
Bartel, Tim	SNL, NM/1514	(505) 844-0124	0826	tjbarte@cfcd.sandia.gov
Expertise:	Numerical simulation of plasma etch and deposition reactors and processes by self-consistent particle method			
Bastasz, R.	SNL, CA/8347	(510) 294-2013	9162	bastasz@vaxm.gat.com
Expertise:	Plasma-surface interactions, SIMS, AES, ISS			
Blackwell, Bennie	SNL, NM/1514	(505) 845-8844	0826	blblack@sandia.gov
Expertise:	Modeling of thermal conduction, convection and radiation process to design and improve plasma equipment			
Brainard, John P.	SNL, NM/2564	(505) 844-6462	0516	jpbrain@sandia.gov
Expertise:	Hydrogen ion sources, pulsed current supplies, Langmuir probes, cameras			
Brockmann, John E.	SNL, NM/1512	(505) 844-3201	0834	jebroch@sandia.gov
Expertise:	Particle diagnostics			
Buchenauer, D. A.	SNL, CA/8347	(510) 294-3570	9162	dabuche@ca.sandia.gov
Expertise:	Plasma materials interactions, plasma diagnostics, Langmuir probes			
Buss, Richard	SNL, NM/1812	(505) 844-3504	0367	rjbuss@sandia.gov
Expertise:	Plasma deposition and powder production, optical emission spectroscopy, time-of-flight mass spectroscopy, IRIS, ECM			

## Personnel continued

Name	Facility/Dept.	Phone	Mail Stop	E-Mail Address
Campbell, R. B.	SNL, NM/1512	(505) 844-6205	0834	rbcampb@sandia.gov
Expertise:	Models neutral gas flow, particle transport, fully ionized, magnetized plasma, microwave propagation, plasma modeling, plasma display discharges, fusion plasmas			
Causey, R. A.	SNL, CA/8347	(510) 294-3326	9162	causey@ca.sandia.gov
Expertise:	Plasma-surface interactions, tritium plasma experiment			
Chang, Chong H.	INEL	(208) 526-2886	3808	chc@inel.gov
Expertise:	Modeling, thermal plasmas, multicomponent, multichemistry, plasma spraying, chemical processing			
Choi, Seung J.	SNL, NM/1512	(505) 844-9469	0834	sjchoi@engsci.sandia.gov
Expertise:	Plasma chemistry, modeling, gas phase particulate contamination			
Cobble, James A.	LANL/P-4	(505) 667-8290	E554	cobble@lanl.gov
Expertise:	Spectroscopy, x-ray, VUV, laser scattering, fast transient visible and x-ray measurements via streak camera, x-ray image			
Cook, Renita	LANL/ESA-WMA	(505) 665-0449	C930	renita@lanl.gov
Expertise:	Surface treatment of abrasive powders, plasma cleaning			
Cowgill, D.	SNL, CA/8347	(510) 294-2146	9162	
Expertise:	RF heated plasma			
Dorsey, George F.	Y-12	(615) 574-1721		
Expertise:	Plasma cleaning as a surface treatment for improved adhesion, plasma polymerization for protective coatings			
Doyle, Barney L.	SNL, NM/1111	(505) 844-7568	1056	bldoyle@sandia.gov
Expertise:	Plasma-surface interactions, ion sources accelerators			
Dybwad, Gay	SNL, NM/2411	(505) 844-8236	0957	gldybwa@sandia.gov
Expertise:	Microwave and downstream plasma etchers, optical emission spectroscopy, circuit cleaning, high rate removal of hydrocarbons, etching of tantalum			
Dykhuisen, R. C.	SNL, NM/1513	(505) 844-9105	0835	rcdykhu@sandia.gov
Expertise:	Analytical modeling			

## Personnel continued

Name	Facility/Dept.	Phone	Mail Stop	E-Mail Address
Economou, Demetre	SNL, NM/1514	(505) 844-0124	0826	economou@cfdsandia.gov
	Expertise:	Plasma modeling and diagnostics, multidimensional simulations of plasma reactors, mass spectroscopy, optical emission		
Filuk, Alex B.	SNL, NM/1271	(505) 845-7385	1187	abfiluk@sandia.gov
	Expertise:	Pulsed-power anode/cathode plasmas, applied-B ion diodes, spectroscopic diagnosis, spectral line fitting		
Funsten, Herb	LANL/NIS-1	(505) 665-4314	D466	hfunsten@lanl.gov
	Expertise:	Space plasma instrumentation calibration with ion accelerator and experimental chambers for space flight sensor tests		
Garrett, Stephen E.	SNL, NM/2411	(505) 845-9112	0957	segarre@sandia.gov
	Expertise:	Prebond cleaning in microelectronics packaging operations, i.e., cleaning of hybrid microcircuits		
Gelbard, Fred	SNL, NM/1514	(505) 844-5794	0826	fgelbar@cfdsandia.gov
	Expertise:	Manager, Equipment Design Support Center, providing total design capabilities for integrated circuit		
Haill, Thomas A.	SNL, NM/1271	(505) 845-7242	1187	tahaill@sandia.gov
	Expertise:	Modeling, ion beam transport, ion beam diagnostics		
Hareland, Willard A.	SNL, NM/1824	(505) 844-7758	0342	
	Expertise:	Langmuir probe, monochromatic imaging, laser light scattering vacuum, ultraviolet spectroscopy		
Harkness, John B.L.	ANL/ES	(708) 252-7636	363-C321	john_harkness@qmgate.anl.gov
	Expertise:	Microwave, plasma-chemistry, hydrogen recovery from hydrogen sulfide, waste treatment		
Hassanein, Ahmed	ANL	(708) 252-5889	207-EA133A	hassanein@anlcm.cmt.anl.gov
	Expertise:	Plasma-material interactions, surface modification effects, design/develop computer codes for plasma-material interactions		
Hebner, Greg	SNL, NM/1128	(505) 844-6831	0607	gahebne@sandia.gov
	Expertise:	Gaseous electronics, etching, lighting and rare gas plasmas, laser physics, inductive and capacitive RF plasma		



## Personnel continued

Name	Facility/Dept.	Phone	Mail Stop	E-Mail Address
Hermina, Wahid	SNL, NM/1514	(505) 844-4759	0826	wlhermi@sandia.gov
	Expertise:	Manager, Equipment Design Support Center, providing total design capabilities for integrated circuit		
Hunter, John A.	SNL, NM/6531	(505) 845-7865	1129	jahunte@sandia.gov
	Expertise:	Plasma discharges		
Johannes, Justine	SNL, NM/1514	(505) 844-1994	0826	jejohan@cfd.sandia.gov
	Expertise:	Numerical simulation of plasma etch and deposition chemistry process using particle simulation code		
Kanouff, Michael P.	SNL, CA/9043	(510) 294-2105	8743	kanouff@california
	Expertise:	Particle impact and surface modeling		
Koby, Martin W.	LANL/CST-9	(505) 667-6011	E518	
	Expertise:	Inductively coupled plasma mass spectrometry for multielemental analysis, environmental restoration and waste management		
Krauss, Alan	ANL	(708) 252-3520	200-D169	alan_krauss@qmgate.anl.gov
	Expertise:	Ion beam and plasma interactions, analytical applications of ion beams, i.e., scattering, direct recoil, mass spectroscopy		
Lemke, Raymond W.	SNL, NM/1241	(505) 845-7423	1186	rwlemke@sandia.gov
	Expertise:	Stability of neutral and nonneutral plasmas, electron beams in gas and vacuum, ion diodes for inertial fusion		
Lopez, Edwin	SNL, NM/1815	(505) 845-9181	0368	
	Expertise:	Branson IPC reactor, surface preparation for enhanced adhesion and final surface cleaning		
Lujan, Richard D.	SNL, NM/1332	(505) 845-8476	1083	lujanrd@smtplink.mdl.sandia.gov
	Expertise:	Chemical vapor deposition of tungsten films, in-situ NF3 plasma cleaning		
Lutz, Thomas J.	SNL, NM/6531	(011) 33-9079-5105	1129	lutz@fedv09.cad.cea.fr
	Expertise:	Plasma materials interactions		

## Personnel continued

Name	Facility/Dept.	Phone	Mail Stop	E-Mail Address
Martinez, Robert	SNL, NM/5932	844-5155	0877	
	Expertise:	Low temperature ashing, compatability, bulk material removal with high selectivity		
McClellan, George B.	SNL, NM/1321	(505) 844-9364	0603	
	Expertise:	Design and modification of plasma equipment, consulting on new designs, modifications, upgrades		
McGrath, R. T.	SNL, NM/6503	(505) 844-1522	0740	rmmcgrath@pmtf.sandia.gov
	Expertise:	Plasma modeling, plasma flat panel display discharges, discharge measurements, spectroscopy, plasma etching, fusion		
Meeks, Ellen	SNL, CA/8745	(510) 294-1459	9042	emeeks@ca.sandia.gov
	Expertise:	Plasma modeling, plasma kinetics, plasma-surface interactions, software development for plasma kinetics		
Mehlhorn, Thomas A.	SNL, NM/1207	(505) 845-7266	1187	temehlh@sandia.gov
	Expertise:	Enhanced ion stopping power, inner-shell x-ray generation, radiation hydrodynamics, intense ion beams		
Mendel, C. W. Jr.	SNL, NM/1273	(505) 845-7492	1194	cwmende@sandia.gov
	Expertise:	Microwave diagnostics, electrical diagnostics, megampere, megavolt measurements, pulsed plasma sources		
Menge, Peter R.	SNL, NM/1231	(505) 845-7418	1193	prmenge@sandia.gov
	Expertise:	Plasma cleaning of ion sources, charged particle beams, charged particle beam ionization of gasses		
Miller, Paul A.	SNL, NM/1128	(505) 844-8879	0601	pamille@sandia.gov
	Expertise:	Gaseous electronics, plasma physics, charged-particle beams, nonlinear dynamics, RF power systems		
Mix, L. Paul	SNL, NM/1271	(505) 845-7493	1187	lpmix@sandia.gov
	Expertise:	Numerical simulation, ICF target diagnostics, Monte Carlo simulation, x-ray diagnostics, holographic interferometry		
Munson, Carter	LANL/P-24	(505) 665-3552	E526	cmunson@lanl.gov
	Expertise:	Optical, magnetic and particle diagnostics, plasma etching, deposition and implantation, PSII users facility		

## Personnel continued

Name	Facility/Dept.	Phone	Mail Stop	E-Mail Address
Nash, Tom	SNL, NM/1273	(505) 845-7814	0367	tjnash@sandia.gov
	Expertise:	Plasma spectroscopy, plasma imaging, space and nsec time-resolved plasma spectroscopy, x-ray, etc.		
Neiser, Richard A.	1841	(505) 845-3016	1129	neiser@pmtf.sandia.gov
	Expertise:	Plasma spray coatings, diagnostics, modeling		
Nelson, Patrick W.	SNL, NM/1084	(505) 845-9777		pwnelson@smtplink.mdl.sandia.gov
	Expertise:	RIE and plasma etching of silicon nitrides, titanium nitrides, aluminum alloys, etc., class-1 cleanrooms		
Nissen, Mark	SNL, NM/2732	(505) 845-8578	0615	
	Expertise:	Ultra-high-speed photography and spectroscopy and other diagnostics of plasma phenomenology		
Ng, Henry	ANL	(708) 252-3992	363-b245	henry_ng@qmgate.anl.gov
	Expertise:	Pulsed spark to generate plasma for engines/vehicles to reduce NOx using monatomic nitrogen		
Nygren, Richard E.	SNL, NM/6531	(505) 845-3135	1129	nygren@sandia.gov
	Expertise:	Plasma materials interactions		
O'Hern, T. J.	SNL, NM/1512	(505) 844-9061	0834	thohern@sandia.gov
	Expertise:	Particle diagnostics		
Oberkampf, W. L.	SNL, NM/1511	(505) 844-3799	0825	wloberk@sandia.gov
	Expertise:	Computational fluid dynamics		
Olson, Joseph C.	LANL/P-24	(505) 665-3193	E526	jolson@lanl.gov
	Expertise:	Production, characterization, manipulation, application of intense ion beams, ion beam materials processing		
Pickrell, Mark M.	LANL/NIS-5	(505) 665-5098	E540	pickrell@safeguard.lanl.gov
	Expertise:	Alcator Tokamak and ZT-40M reversed field pinch, inertial electrostatic confined plasma, nuclear "hot cell"		

## Personnel continued

Name	Facility/Dept.	Phone	Mail Stop	E-Mail Address
Pointon, Timothy D.	SNL, NM/1242	(505) 845-7641	1193	tdpoint@sandia.gov
	Expertise:	Particle-in-cell computer modeling of plasmas, large-scale 2- and 3-D electromagnetic PIC simulations		
Poukey, James W.	SNL, NM/1241	(505) 845-7302		jwpouke@sandia.gov
	Expertise:	Numerical plasma and beam modeling, transmission lines and high-current diodes, particle in-cell codes		
Quintenz, Jeffrey P.	SNL, NM/1202	(505) 845-7245	1195	jpquint@sandia.gov
	Expertise:	Numerical simulation of plasmas, particle beams and electromagnetics, high-powered electron and ion beam		
Ramshaw, John	INEL	(208) 526-9240	3808	jzr@inel.gov
	Expertise:	Multidimensional modeling of multicomponent thermal plasmas in LTE and non-LTE, LAVA computer code		
Rej, Don	LANL/P-DO	(505) 665-1883	D434	drej@lanl.gov
	Expertise:	Plasma processing research facility develops plasma science and base technologies, synthesis of advanced materials, ECM		
Rieger, Dennis J.	SNL, NM/1322	(505) 844-5554	0603	djriege@sandia.gov
	Expertise:	Plasma PR stripping, plasma etch and deposition. Hardware installation and evaluation		
Riley, Merle E.	SNL, NM/1128	(505) 844-3141	0601	meriley@sandia.gov
	Expertise:	Low-temperature plasma simulations and kinetics, atomic physics, molecular dynamics, scattering		
Robinson, David N.	Y-12	(615) 574-2983		
	Expertise:	Plasma cleaning as a surface treatment for improved adhesion, plasma polymerization for protective coatings		
Rockett, Paul D.	SNL, NM/6531	(505) 845-7466	1129	pdrocke@sandia.gov
	Expertise:	High-density plasma, magnetic fusion disruption simulation, x-ray, EUV, UV spectroscopy		
Rosocha, Louis	LANL/CST-18	(505) 667-8493	E525	rosocha@cst4.lanl.gov
	Expertise:	Atmospheric pressure nonthermal plasmas, environmental applications, plasma chemistry modeling, chemical processing		

## Personnel continued

Name	Facility/Dept.	Phone	Mail Stop	E-Mail Address
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Expertise:	Ion beam facility, ion accelerators with highly collimated and energy-resolved beams with energies from 20 keV to 150 MeV			
Russo, Anthony J.	SNL, NM/6531	(301) 903-6288	1129	anthony.russo@mailgw.er.doe.gov
Expertise:	Runaway electron generation			
Sandoval, Cindy	LANL/ESA-WMA	(505) 667-8393	C930	cws@lanl.gov
Expertise:	Cleaning, plasma deposition, surface modification			
Sanford, T. W. L.	SNL, NM/1231	(505) 845-7816		
Expertise:	Electron diodes, intense electron beam transport, Hermes III calorimeters, fast framing x-ray camera			
Selwyn, Gary S.	LANL/P-24	(505) 665-7359	E526	gss@fjwsys.lanl.gov
Expertise:	Real-time in-situ detection and control of particulate contamination, design modification for process uniformity			
Shagan, Richard	SNL, NM/2732	(505) 845-9079	0615	
Expertise:	Ultra-high-speed photography and spectroscopy and other diagnostics of plasma phenomenolgy			
Shul, Randy J.	SNL, NM/1322	(505) 844-6126	0603	rishul@somnet.sandia.gov
Expertise:	Barrel asher, RIE, PECVD, ECR, refractory metals, dielectrics, phosphide, arsenic, and nitride-based III-V compound semiconductors			
Smith, David Lewis	SNL, NM/1239	(505) 845-7141	1184	
Expertise:	High-voltage, high-current gas switching, high-current electron beam diode development, laser triggered			
Smith, Mark F.	SNL, NM/1841	(505) 845-3256	1129	mfsmith@pmtf.sandia.gov
Expertise:	Plasma spray coatings, diagnostics, modeling			
Smith, Mike	SNL, NM/1812	(505) 845-7762	0367	
Expertise:	Plasma cleaning, etching, deposition, powder production, lasers, optical emission spectroscopy, FTIR, Dektak, etc.			

## Personnel continued

Name	Facility/Dept.	Phone	Mail Stop	E-Mail Address
Stevens, J. E.	SNL, NM/1326	(505) 844-2802	1077	James_E._Stevens@smtplink.mdl.sandia.gov
	Expertise: Plasma and RF diagnostics, RFI/ICP, ECR, helicon, diode and microwave plasma reactor			
Tsai, C. C. (Jim)	Y-12	(615) 574-1124		
	Expertise: RF, AC- or DC-biased microwave plasma and plasma shaping with magnets			
Tuszewski, Michel	LANL/P24	(505) 667-3566	E526	mgtu@lanl.gov
	Expertise: Plasma experimentalist, plasma diagnostics, plasma source development, and modeling			
Ulrickson, Michael A.	SNL, NM/6531	(505) 845-3020	1129	maulric@sandia.gov
	Expertise: Edge plasma physics, plasma impurity control, plasma materials interactions			
Veerasingam, R.	SNL, NM/6531	(505) 845-3490		ramana@pmtf.sandia.gov
	Expertise: Plasma modeling, plasma display discharges, fusion plasmas			
Walsh, David S.	SNL, NM/1111	(505) 844-9590	1056	dswalsh@sandia.gov
	Expertise: Plasma surface interactions, ion sources accelerators			
Wampler, William R.	SNL, NM/1111	(505) 844-4114	1056	wwwampl@sandia.gov
	Expertise: Plasma surface interactions, ion sources accelerators			
Ward, Pamela P.	SNL, NM/1812	(505) 844-2038	0367	ppward@sandia.gov
	Expertise: Plasma cleaning, etching, RF inductive and capacitive apparatus, optical emission spectroscopy, interferometry, patterning			
Watkins, Jonathan G.	SNL, NM/6531	(619) 455-3670	1129	watkins@gav.gat.com
	Expertise: Langmuir probes, edge plasma physics			
Weatherspoon, Kim A.	Y-12	(615) 576-4228		
	Expertise: Plasma cleaning as a surface treatment for improved adhesion, plasma polymerization for protective coatings			
Wilson, Ken	SNL, CA/8304	(510) 294-2497	9163	klwilso@ca.sandia.gov
	Expertise: Magnetic fusion energy, plasma-surface interactions			

**Personnel** concluded

Name	Facility/Dept.	Phone	Mail Stop	E-Mail Address
Wood, Blake P.	LANL/P-24	(505) 665-6524	E536	bwood@lanl.gov
Expertise:	Low-pressure, low-temperature plasma discharge for etching or deposition, cathode arc technology, particle-in-cell models			
Youchison, Dennis L.	SNL, NM/6531	(505) 845-3138	1129	dlyouch@sandia.gov
Expertise:	ECR chemical vapor deposition, ion implantation			

# Plasma Technology Directory

## Laboratories

### Argonne National Laboratory (ANL)

Name	Dept.	Phone	Mail Stop	E-Mail Address
Harkness, John B.L.	ES	(708) 252-7636	363-C321	john_harkness@gmgate.anl.gov
Expertise: Microwave, plasma-chemistry, hydrogen recovery from hydrogen sulfide, waste treatment				
Hassanein, Ahmed		(708) 252-5889	207-EA133A	hassanein@anlcm.cmt.anl.gov
Expertise: Plasma-material interactions, surface modification effects, design/develop computer codes for plasma-material interactions				
Krauss, Alan		(708) 252-3520	207-EA133A	alan_krauss@qmgate.anl.gov
Expertise: Ion beam and plasma-surface interactions, analytical applications of ion beams, i.e., scattering, direct recoil, mass spectroscopy				
Ng, Henry		(708) 252-3992	363-b245	henry_ng@qmgate.anl.gov
Expertise: Pulsed spark to generate plasma for engines/vehicles to reduce NOx using monatomic nitrogen				

### Idaho National Engineering Laboratory (INEL)

Name	Dept.	Phone	Mail Stop	E-Mail Address
Chang, Chong H.		(208) 526-2886	3808	chc@inel.gov
Expertise: Modeling, thermal plasmas, multicomponent, multichemistry, plasma spraying, chemical processing				
Ramshaw, John		(208) 526-9204	3808	jzr@inel.gov
Expertise: Multidimensional modeling of multicomponent thermal plasmas in LTE and non-LTE, LAVA computer code				



## Los Alamos National Laboratory (LANL)

Name	Dept.	Phone	Mail Stop	E-Mail Address
Cobble, James A.	P-4	(505) 667-8290	E554	cobble@lanl.gov
Expertise:	Spectroscopy, x-ray, VUV, laser scattering, fast transient visible and x-ray measurements via streak camera, x-ray image			
Cook, Renita	ESA-WMA	(505) 665-0449	C930	renita@lanl.gov
Expertise:	Surface treatment of abrasive powders, plasma cleaning			
Funsten, Herb	NIS-1	(505) 665-4314	D466	hfunsten@lanl.gov
Expertise:	Space plasma instrumentation calibration with ion accelerator and experimental chambers for space flight sensor tests			
Koby, Martin W.	CST-9	(505) 667-6011	E518	
Expertise:	Inductively coupled plasma mass spectrometry for multielemental analysis, environmental restoration and waste management			
Munson, Carter	P-24	(505) 665-3552	E526	cmunson@lanl.gov
Expertise:	Optical, magnetic and particle diagnostics, plasma etching, deposition and implantation, PSII users facility			
Olson, Joseph C.	P-24	(505) 665-3193	E526	jolson@lanl.gov
Expertise:	Production, characterization, manipulation, application of intense ion beams, ion beam materials processing			
Pickrell, Mark M.	NIS-5	(505) 665-5098	E540	pickrell@safeguard.lanl.gov
Expertise:	Alcator Tokamak and ZT-40M reversed field pinch, inertial electrostatic confined plasma, nuclear "hot cell"			
Rej, Don	P-DO	(505) 665-1883	D434	drej@lanl.gov
Expertise:	Plasma processing research facility develops plasma science and base technologies, synthesis of advanced materials, ECM			
Rosocha, Louis	CST-18	(505) 667-8493	E525	rosocha@cst4.lanl.gov
Expertise:	Atmospheric pressure nonthermal plasmas, environmental applications, plasma chemistry modeling, chemical processing			

**LANL, continued**

Name	Dept.	Phone	Mail Stop	E-Mail Address
Rowton, Larry J.	P-15	(505) 667-5211	K480	ljrowton@lanl.gov
	Expertise:	Ion beam facility, ion accelerators with highly collimated and energy-resolved beams with energies from 20 keV to 150 MeV		
Sandoval, Cindy	ESA-WMA	(505) 667-8393	C930	cws@lanl.gov
	Expertise:	Cleaning, plasma deposition, surface modification		
Selwyn, Gary S.	P-24	(505) 665-7359	E526	gss@fjwsys.lanl.gov
	Expertise:	Real-time in-situ detection and control of particulate contamination, design modification for process uniformity		
Tuszewski, Michel	P-24	(505) 667-3566	E526	mgtu@lanl.gov
	Expertise:	Plasma experimentalist, plasma diagnostics, plasma source development, and modeling		
Wood, Blake P.	P-24	(505) 665-6524	E536	bwood@lanl.gov
	Expertise:	Low-pressure, low-temperature plasma discharge for etching or deposition, cathode		

**Sandia National Laboratories, California (SNL, CA)**

Name	Dept.	Phone	Mail Stop	E-Mail Address
Bastasz, R.	8347	(510) 294-2013	9162	bastasz@vaxm.gat.com
	Expertise:	Plasma-surface interactions, SIMS, AES, ISS		
Buchenauer, D. A.	8347	(510) 294-3570	9162	dabuche@ca.sandia.gov
	Expertise:	Plasma materials interactions, plasma diagnostics, Langmuir probes		
Causey, R. A.	8347	(510) 294-3326	9162	causey@ca.sandia.gov
	Expertise:	Plasma-surface interactions, tritium plasma experiment		
Cowgill, D.	8347	(510) 294-2146	9162	
	Expertise:	RF heated plasma		

**SNL, CA concluded**

Name	Dept.	Phone	Mail Stop	E-Mail Address
Kanouff, Michael P.	9043	(510) 294-2105	8743	kanouff@california
Expertise:	Particle impact and surface modeling			
Meeks, Ellen	8745	(510) 294-1459	9042	emeeks@ca.sandia.gov
Expertise:	Plasma modeling, plasma kinetics, plasma-surface interactions, software development for plasma kinetics			
Wilson, Ken	8304	(510) 294-2497	9163	klwilso@ca.sandia.gov
Expertise:	Magnetic fusion energy, plasma-surface interactions			

**Sandia National Laboratories, New Mexico (SNL, NM)**

Name	Dept.	Phone	Mail Stop	E-Mail Address
Apblett, Chris	1323	(505) 844-4487		apbletca@sandia.gov
Expertise:	Electron cyclotron resonance system capable of depositing thin films on 6-inch silicon substrates			
Bailey, James E.	1277	(505) 845-7203	1196	jebaile@sandia.gov
Expertise:	Z-pinch, laser-produced, and ion diode plasmas, plasma spectroscopy, time and space resolved spectra			
Barbour, J. Charles	1111	(505) 844-5517	1056	jccbarbo@sandia.gov
Expertise:	Plasma assisted deposition, ECR accelerations			
Bartel, Tim	1514	(505) 844-0124	0826	tjbarte@cf.sandia.gov
Expertise:	Numerical simulation of plasma etch and deposition reactors and processes by self-consistent particle method			
Blackwell, Bennie	1514	(505) 845-8844	0826	blblack@sandia.gov
Expertise:	Modeling of thermal conduction, convection and radiation processes to design and improve plasma equipment			
Brainard, John P.	2564	(505) 844-6462	0516	jpbrain@sandia.gov
Expertise:	Hydrogen ion sources, pulsed current supplies, Langmuir probes, cameras			

## SNL, NM continued

Name	Dept.	Phone	Mail Stop	E-Mail Address
Brockmann, John E.	1512	(505) 844-3201	0834	jebroch@sandia.gov
Expertise: Particle diagnostics				
Buss, Richard	1812	(505) 844-3504	0367	rjbuss@sandia.gov
Expertise: Plasma deposition and powder production, optical emission spectroscopy, time-of-flight mass spectroscopy, IRIS, ECM				
Campbell, R. B.	1512	(505) 844-6205	0834	rbcampb@sandia.gov
Expertise: Models neutral gas flow, particle transport, fully ionized magnetized plasma, microwave propagation, plasma modeling, plasma display discharges, fusion plasmas				
Choi, Seung J.	1512	(505) 844-9469	0834	sjchoi@engsci.sandia.gov
Expertise: Plasma chemistry, modeling, gas phase particulate contamination				
Doyle, Barney L.	1111	(505) 844-7568	1056	bldoyle@sandia.gov
Expertise: Plasma surface interactions, ion sources accelerators				
Dybwad, Gay	2411	(505) 844-8236	0957	gldybwa@sandia.gov
Expertise: Microwave and downstream plasma etchers, optical emission spectroscopy, circuit cleaning, high rate removal of hydrocarbons, etching of tantalum				
Dykhuzen, R. C.	1513	(505) 844-9105	0835	rcdykhu@sandia.gov
Expertise: Analytical modeling				
Economou, Demetre	1514	(505) 844-0124	0826	economou@cf.sandia.gov
Expertise: Plasma modeling and diagnostics, multidimensional simulations of plasma reactors, mass spectroscopy, optical emission				
Filuk, Alex B.	1271	(505) 845-7385	1187	abfiluk@sandia.gov
Expertise: Pulsed-power anode/cathode plasmas, applied-B ion diodes, spectroscopic diagnosis, spectral line fitting				
Garrett, Stephen E.	2411	(505) 845-9112	0957	segarre@sandia.gov
Expertise: Prebond cleaning in microelectronics packaging operations, i.e., cleaning of hybrid microcircuits				

**SNL, NM** continued

Name	Dept.	Phone	Mail Stop	E-Mail Address
Gelbard, Fred	1514	(505) 844-5794	0826	fgelbar@cfd.sandia.gov
Expertise:	Manager, Equipment Design Support Center, providing total design capabilities for integrated circuit			
Hail, Thomas A.	1271	(505) 845-7242	1187	tahail@sandia.gov
Expertise:	Modeling, ion beam transport, ion beam diagnostics			
Hareland, Willard A.	1824	(505) 844-7758	0342	
Expertise:	Langmuir probe, monochromatic imaging, laser light scattering vacuum, ultraviolet spectroscopy			
Hebner, Greg	1128	(505) 844-6831	0607	gahebne@sandia.gov
Expertise:	Gaseous electronics, etching, lighting and rare gas plasmas, laser physics, inductive, capacitive RF plasma			
Hermina, Wahid	1514	(505) 844-4759	0826	wlhermi@sandia.gov
Expertise:	Manager, Equipment Design Support Center, providing total design capabilities for integrated circuit			
Hunter, John A.	6531	(505) 845-7865	1129	jahunte@sandia.gov
Expertise:	Plasma discharges			
Johannes, Justine	1514	(505) 844-1994	0826	jejohan@cfd.sandia.gov
Expertise:	Numerical simulation of plasma etch and deposition chemistry processes using particle simulation code			
Lemke, Raymond W.	1241	(505) 845-7423	1186	rwlemke@sandia.gov
Expertise:	Stability of neutral and nonneutral plasmas, electron beams in gas and vacuum, ion diodes for inertial fusion			
Lopez, Edwin	1815	(505) 845-9181	0368	
Expertise:	Branson IPC reactor, surface preparation for enhanced adhesion and final surface cleaning			
Lujan, Richard D.	1332	(505) 845-8476	1083	lujanrd@smtplink.mdl.sandia.gov
Expertise:	Chemical vapor deposition of tungsten films, in-situ NF3 plasma cleaning			

## SNL, NM continued

Name	Dept.	Phone	Mail Stop	E-Mail Address
Lutz, Thomas J.	6531	(011) 33-9079-5105	1129	lutz@fedv09.cad.cea.fr
Expertise: Plasma materials interactions				
Martinez, Robert	5932	844-5155	0877	
Expertise: Low temperature ashing, compatability, bulk material removal with high selectivity				
McClellan, George B.	1321	(505) 844-9364	0603	
Expertise: Design and modification of plasma equipment, consulting on new designs, modifications, upgrades				
McGrath, R. T.	6503	(505) 844-1522	0740	rtmcgrath@pmtf.sandia.gov
Expertise: Plasma modeling, plasma flat panel display discharges, discharge measurements, spectroscopy, plasma etching, fusion				
Mehlhorn, Thomas A.	1207	(505) 845-7266	1187	temehlh@sandia.gov
Expertise: Enhanced ion stopping power, inner-shell x-ray generation, radiation hydrodynamics, intense ion beams				
Mendel, C. W. Jr.	1273	(505) 845-7492	1194	cwmende@sandia.gov
Expertise: Microwave diagnostics, electrical diagnostics, megampere, megavolt measurements, pulsed plasma sources				
Menge, Peter R.	1231	(505) 845-7418	1193	prmenge@sandia.gov
Expertise: Plasma cleaning of ion sources, charged particle beams, charged particle beam ionization of gasses				
Miller, Paul A.	1128	(505) 844-8879	0601	pamille@sandia.gov
Expertise: Gaseous electronics, plasma physics, charged-particle beams, nonlinear dynamics, RF power systems				
Mix, L. Paul	1271	(505) 845-7493	1187	lpmix@sandia.gov
Expertise: Numerical simulation, ICF target diagnostics, Monte Carlo simulation, x-ray diagnostics, holographic interferometry				
Nash, Tom	1273	(505) 845-7814	0367	tjnash@sandia.gov
Expertise: Plasma spectroscopy, plasma imaging, space and nsec time-resolved plasma spectroscopy, x-ray, etc.				

## SNL, NM continued

Name	Dept.	Phone	Mail Stop	E-Mail Address
Neiser, Richard A.	1841	(505) 845-3016	1129	neiser@pmtf.sandia.gov
	Expertise:	Plasma spray coatings, diagnostics, modeling		
Nelson, Patrick W.	1084	(505) 845-9777		pwnelson@smtplink.mdl.sandia.gov
	Expertise:	RIE and plasma etching of silicon nitrides, titanium nitrides, aluminum alloys, etc., class-1 cleanrooms		
Nissen, Mark	2732	(505) 845-8578	0615	
	Expertise:	Ultra-high-speed photography and spectroscopy and other diagnostics of plasma phenomenology		
Nygren, Richard E.	6531	(505) 845-3135	1129	nygren@sandia.gov
	Expertise:	Plasma materials interactions		
O'Hern, Timothy	1512	(505) 844-9061	0834	thohern@sandia.gov
	Expertise:	Particle diagnostics		
Oberkampf, W. L.	1511	(505) 844-3799	0825	wloberk.sandia.gov
	Expertise:	Computational fluid dynamics		
Pointon, Timothy D.	1242	(505) 845-7641	1193	tdpoint@sandia.gov
	Expertise:	Particle-in-cell computer modeling of plasmas, large-scale 2- and 3-D electromagnetic PIC simulations		
Poukey, James W.	1241	(505) 845-7302		jwpouke@sandia.gov
	Expertise:	Numerical plasma and beam modeling, transmission lines and high-current diodes, particle in-cell codes		
Quintenz, Jeffrey P.	1202	(505) 845-7245	1195	jpquint@sandia.gov
	Expertise:	Numerical simulation of plasmas, particle beams and electromagnetics, high-powered electron and ion beam		
Rieger, Dennis J.	1322	(505) 844-5554	0603	djriege@sandia.gov
	Expertise:	Plasma PR stripping, plasma etch and deposition. Hardware installation and evaluation		
Riley, Merle E.	1128	(505) 844-3141	0601	meriley@somnet.sandia.gov
	Expertise:	Low-temperature plasma simulations and kinetics, atomic physics, molecular dynamics, scattering		

## SNL, NM continued

Name	Dept.	Phone	Mail Stop	E-Mail Address
Rockett, Paul D.	6531	(505) 845-7466	1129	pdrocke@sandia.gov
Expertise: High-density plasma, magnetic fusion disruption simulation, x-ray, EUV, UV spectroscopy				
Russo, Anthony J.	6531	(301) 903-6288	1129	anthony.russo@mailgw.er.doe.gov
Expertise: Runaway electron generation				
Sanford, T. W. L.	1231	(505) 845-7816		
Expertise: Electron diodes, intense electron beam transport, Hermes III, calorimeters, fast framing x-ray camera				
Shagan, Richard	2732	(505) 845-9079	0615	
Expertise: Ultra-high-speed photography and spectroscopy and other diagnostics of plasma phenomenology				
Shul, Randy J.	1322	(505) 844-6126	0603	rjshul@somnet.sandia.gov
Expertise: Barrel asher, RIE, PECVD, ECR, refractory metals, dielectrics, phosphide, arsenic, and nitride-based III-V compound semiconductors				
Smith, David Lewis	1239	(505) 845-7141	1184	
Expertise: High-voltage, high-current gas switching, high-current electron beam diode development, laser triggered				
Smith, Mark F.	1841	(505) 845-3256	1129	mfsmith@pmtf.sandia.gov
Expertise: Plasma spray coatings, diagnostics, modeling				
Smith, Mike	1812	(505) 845-7762	0367	
Expertise: Plasma cleaning, etching, deposition, powder production, lasers, optical emission spectroscopy, FTIR, Dektak, etc.				
Stevens, J. E.	1326	(505) 844-2802	1077	James_E_Stevens@smtplink.mdl.sandia.gov
Expertise: Plasma and RF diagnostics, RF/ICP, ECR, helicon, diode and microwave plasma reactor				
Ulrickson, Michael A.	6531	(505) 845-3020	1129	maulric@sandia.gov
Expertise: Edge plasma physics, plasma impurity control, plasma materials interactions				
Veerasingam, R.	6531	(505) 845-3490		ramana@pmtf.sandia.gov
Expertise: Plasma modeling, plasma display discharges, fusion plasmas				



**SNL, NM concluded**

Name	Dept.	Phone	Mail Stop	E-Mail Address
Walsh, David S.	1111	(505) 844-9590	1056	dswalsh@sandia.gov
Expertise: Plasma surface interactions, ion sources accelerators				
Wampler, William R.	1111	(505) 844-4114	1056	wwampl@sandia.gov
Expertise: Plasma surface interactions, ion sources accelerators				
Ward, Pamela P.	1812	(505) 844-2038	0367	ppward@sandia.gov
Expertise: Plasma cleaning, etching, RF inductive and capacitive apparatus, optical emission spectroscopy, interferometry, patterning				
Watkins, Jonathan G.	6531	(619) 455-3670	1129	watkins@gav.gat.com
Expertise: Langmuir probes, edge plasma physics				
Youchison, Dennis L.	6531	(505) 845-3138	1129	dlyouch@sandia.gov
Expertise: ECR chemical vapor deposition, ion implantation				

**Y-12**

Name	Phone
Dorsey, George F.	(615) 574-1721
Expertise: Plasma cleaning as a surface treatment for improved adhesion, plasma polymerization for protective coatings	
Robinson, David N.	(615) 574-2983
Expertise: Plasma cleaning as a surface treatment for improved adhesion, plasma polymerization for protective coatings	
Tsai, C. C. (Jim)	(615) 574-1124
Expertise: RF, AC- or DC-biased microwave plasma and plasma shaping with magnets	
Weatherspoon, Kim A.	(615) 576-4228
Expertise: Plasma cleaning as a surface treatment for improved adhesion, plasma polymerization for protective coatings	

# Plasma Technology Directory

## Technologies

### Accelerators

Name	Facility/Dept.	Phone	Mail Stop	E-Mail Address
Barbour, J. Charles	SNL, NM/1111	(505) 844-5517	1056	jcbarbo@sandia.gov
Expertise: Plasma assisted deposition, ECR accelerations				
Brainard, John P.	SNL, NM/2564	(505) 844-6462	0516	jpbrain@sandia.gov
Expertise: Hydrogen ion sources, pulsed current supplies, Langmuir probes, cameras				
Doyle, Barney L.	SNL, NM/1111	(505) 844-7568	1056	bldoyle@sandia.gov
Expertise: Plasma surface interactions, ion sources accelerators				
Kanouff, Michael P.	SNL, CA/9043	(510) 294-2105	8743	kanouff@california
Expertise: Particle impact and surface modeling				
Mehlhorn, Thomas A.	SNL, NM/1207	(505) 845-7266	1187	temehlh@sandia.gov
Expertise: Enhanced ion stopping power, inner-shell x-ray generation, radiation hydrodynamics, intense ion beams				
Menge, Peter R.	SNL, NM/1231	(505) 845-7418	1193	prmenge@sandia.gov
Expertise: Plasma cleaning of ion sources, charged particle beams, charged particle beam ionization of gasses				
Miller, Paul A.	SNL, NM/1128	(505) 844-8879	0601	pamille@sandia.gov
Expertise: Gaseous electronics, plasma physics, charged-particle beams, nonlinear dynamics, RF power systems				
Olson, Joseph C.	LANL/P-24	(505) 665-3193	E526	jolson@lanl.gov
Expertise: Production, characterization, manipulation, application of intense ion beams, ion beam materials processing				
Pickrell, Mark M.	LANL/NIS-5	(505) 665-5098	E540	pickrell@safeguard.lanl.gov
Expertise: Alcator Tokamak and ZT-40M reversed field pinch, inertial electrostatic confined plasma, nuclear "hot cell"				

## Accelerators concluded

Name	Facility/Dept.	Phone	Mail Stop	E-Mail Address
Rowton, Larry J.	LANL/P-15	(505) 667-5211	K480	ljrowton@lanl.gov
	Expertise:	Ion beam facility, ion accelerators with highly collimated and energy-resolved beams with energies from 20 keV to 150 MeV		
Walsh, David S.	SNL, NM/1111	(505) 844-9590	1056	dswalsh@sandia.gov
	Expertise:	Plasma surface interactions, ion sources accelerators		
Wampler, William R.	SNL, NM/1111	(505) 844-4114	1056	wrwampl@sandia.gov
	Expertise:	Plasma surface interactions, ion sources accelerators		
Wilson, Ken	SNL, CA/8304	(510) 294-2497	9163	klwilso@ca.sandia.gov
	Expertise:	Magnetic fusion energy, plasma-surface interactions		
Youchison, Dennis L.	SNL, NM/6531	(505) 845-3138	1129	dlyouch@sandia.gov
	Expertise:	ECR chemical vapor deposition, ion implantation		

## Cleaning and Etching

Name	Facility/Dept.	Phone	Mail Stop	E-Mail Address
Cook, Renita	LANL/ESA-WMA	(505) 665-0449	C930	renita@lanl.gov
	Expertise:	Surface treatment of abrasive powders, plasma cleaning		
Dorsey, George F.	Y-12	(615) 574-1721		
	Expertise:	Plasma cleaning as a surface treatment for improved adhesion, plasma polymerization for protective coatings		
Dybwad, Gay	SNL, NM/2411	(505) 844-8236	0957	gldybwa@sandia.gov
	Expertise:	Microwave and downstream plasma etchers, optical emission spectroscopy, circuit cleaning, high rate removal of hydrocarbons, etching of tantalum		
Garrett, Stephen E.	SNL, NM/2411	(505) 845-9112	0957	segarre@sandia.gov
	Expertise:	Prebond cleaning in microelectronics packaging operations, i.e., cleaning of hybrid microcircuits		

## Cleaning and Etching continued

Name	Facility/Dept.	Phone	Mail Stop	E-Mail Address
Harkness, John B.L.	ANL/ES	(708) 252-7636	363-C321	john_harkness@gmgate.anl.gov
Expertise: Microwave, plasma-chemistry, hydrogen recovery from hydrogen sulfide, waste treatment				
Hebner, Greg	SNL, NM/1128	(505) 844-6831	0607	gahebne@sandia.gov
Expertise: Gaseous electronics, etching, lighting and rare gas plasmas, laser physics, inductive and capacitive RF plasma				
Hunter, John A.	SNL, NM/6531	(505) 845-7865	1129	jahunte@sandia.gov
Expertise: Plasma discharges				
Koby, Martin W.	LANL/CST-9	(505) 667-6011	E518	
Expertise: Inductively coupled plasma mass spectrometry for multielemental analysis, environmental restoration and waste management				
Lopez, Edwin	SNL, NM/1815	(505) 845-9181	0368	
Expertise: Branson IPC reactor, surface preparation for enhanced adhesion and final surface cleaning				
Lujan, Richard D.	SNL, NM/1332	(505) 845-8476	1083	lujanrd@smtplink.mdl.sandia.gov
Expertise: Chemical vapor deposition of tungsten films, in-situ NF3 plasma cleaning				
Martinez, Robert	SNL, NM/5932	844-5155	0877	
Expertise: Low temperature ashing, compatibility, bulk material removal with high selectivity				
McGrath, R. T.	SNL, NM/6503	(505) 844-1522	0740	rtmcgrath@pmtf.sandia.gov
Expertise: Plasma modeling, plasma flat panel display discharges, discharge measurements, spectroscopy, plasma etching, fusion				
Menge, Peter R.	SNL, NM/1231	(505) 845-7418	1193	prmenge@sandia.gov
Expertise: Plasma cleaning of ion sources, charged particle beams, charged particle beam ionization of gasses				
Munson, Carter	LANL/P-24	(505) 665-3552	E526	cmunson@lanl.gov
Expertise: Optical, magnetic and particle diagnostics, plasma etching, deposition and implantation, PSII users facility				

## Cleaning and Etching continued

Name	Facility/Dept.	Phone	Mail Stop	E-Mail Address
Nelson, Patrick W.	SNL, NM/1084	(505) 845-9777		pwnelson@smtplink.mdl.sandia.gov
	Expertise:	RIE and plasma etching of silicon nitrides, titanium nitrides, aluminum alloys, etc., class-1 cleanrooms		
Ng, Henry	ANL	(708) 252-3992	363-b245	henry_ng@qmgate.anl.gov
	Expertise:	Pulsed spark to generate plasma for engines/vehicles to reduce Nox using monatomic nitrogen		
Rieger, Dennis J.	SNL/NM/1322	(505) 844-5554	0603	djrieger@sandia.gov
	Expertise:	Plasma PR stripping, plasma etch and deposition. Hardware installation and evaluation		
Robinson, David N.	Y-12	(615) 574-2983		
	Expertise:	Plasma cleaning as a surface treatment for improved adhesion, plasma polymerization for protective coatings		
Rosocha, Louis	LANL/CST-18	(505) 667-8493	E525	rosocha@cst4.lanl.gov
	Expertise:	Atmospheric pressure nonthermal plasmas, environmental applications, plasma chemistry modeling, chemical processing		
Sandoval, Cindy	LANL/ESA-WMA	(505) 667-8393	C930	cws@lanl.gov
	Expertise:	Cleaning, plasma deposition, surface modification		
Shul, Randy J.	SNL, NM/1322	(505) 844-6126	0603	rjshul@somnet.sandia.gov
	Expertise:	Barrel asher, RIE, PECVD, ECR, refractory metals, dielectrics, phosphide, arsenic, and nitride-based III-V compound semiconductor		
Smith, Mike	SNL, NM/1812	(505) 845-7762	0367	
	Expertise:	Plasma cleaning, etching, deposition, powder production, lasers, optical emission spectroscopy, FTIR, Dektak, etc.		
Ward, Pamela P.	SNL, NM/1812	(505) 844-2038	0367	ppward@sandia.gov
	Expertise:	Plasma cleaning, etching, RF inductive and capacitive apparatus, optical emission spectroscopy, interferometry, patterning		
Weatherspoon, Kim	Y-12	(615) 576-4228		
	Expertise:	Plasma cleaning as a surface treatment for improved adhesion, plasma polymerization for protective coatings		

## Cleaning and Etching concluded

Name	Facility/Dept.	Phone	Mail Stop	E-Mail Address
Wood, Blake P.	LANL/P-24	(505) 665-6524	E536	bwood@lanl.gov
Expertise: Low-pressure, low-temperature plasma discharge for etching or deposition, cathode arc technology, particle-in-cell models				

## Deposition

Name	Facility/Dept.	Phone	Mail Stop	E-Mail Address
Apblett, Chris	SNL, NM/1323	(505) 844-4487		apbletca@sandia.gov
Expertise: Electron cyclotron resonance system capable of depositing thin films on 6-inch silicon substrates				
Barbour, J. Charles	SNL, NM/1111	(505) 844-5517	1056	jcbarbo@sandia.gov
Expertise: Plasma assisted deposition, ECR accelerations				
Buss, Richard	SNL, NM/1812	(505) 844-3504	0367	
Expertise: Plasma deposition and powder production, optical emission spectroscopy, time-of-flight mass spectroscopy, IRIS, ECM				
Chang, Chong H.	INEL	(208) 526-2886	3808	chc@inel.gov
Expertise: Modeling, thermal plasmas, multicomponent, multichemistry, plasma spraying, chemical processing				
Harkness, John B.L.	ANL/ES	(708) 252-7636	363-C321	john_harkness@gmgate.anl.gov
Expertise: Microwave, plasma-chemistry, hydrogen recovery from hydrogen sulfide, waste treatment				
Hunter, John A.	SNL, NM/6531	(505) 845-7865	1129	jahunte@sandia.gov
Expertise: Plasma discharges				
Krauss, Alan	ANL	(708) 252-3520	200-D169	alan_krauss@qmgate.anl.gov
Expertise: Ion beam and plasma-surface interactions, analytical applications of ion beams, i.e., scattering, direct recoil, mass spectroscopy				
Lujan, Richard D.	SNL, NM/1332	(505) 845-8476	1083	lujanrd@smtplink.mdl.sandia.gov
Expertise: Chemical vapor deposition of tungsten films, in-situ NF <sub>3</sub> plasma cleaning				

## Deposition concluded

Name	Facility/Dept.	Phone	Mail Stop	E-Mail Address
Munson, Carter	LANL/P-24	(505) 665-3552	E526	cmunson@lanl.gov
	Expertise: Optical, magnetic and particle diagnostics, plasma etching, deposition and implantation, PSII users facility			
Neiser, Richard A.	SNL, NM/1841	(505) 845-3016	1129	neiser@pmtf.sandia.gov
	Expertise: Plasma spray coatings, diagnostics, modeling			
Rej, Don	LANL/P-DO	(505) 665-1883	D434	drej@lanl.gov
	Expertise: Plasma processing research facility develops plasma science and base technologies, synthesis of advanced materials, ECM			
Rieger, Dennis J.	SNL, NM/1322	(505) 844-5554	0603	djriege@sandia.gov
	Expertise: Plasma PR stripping, plasma etch and deposition. Hardware installation and evaluation			
Sandoval, Cindy	LANL/ESA-WMA	(505) 667-8393	C930	cws@lanl.gov
	Expertise: Cleaning, plasma deposition, surface modification			
Smith, Mark F.	SNL, NM/1841	(505) 845-3256	1129	mfsmith@pmtf.sandia.gov
	Expertise: Plasma spray coatings, diagnostics, modeling			
Smith, Mike	SNL, NM/1812	(505) 845-7762	0367	
	Expertise: Plasma cleaning, etching, deposition, powder production, lasers, optical emission spectroscopy, FTIR, Dektak, etc.			
Ward, Pamela P.	SNL, NM/1812	(505) 844-2038	0367	ppward@sandia.gov
	Expertise: Plasma cleaning, RF inductive and capacitive apparatus, optical emission spectroscopy, interferometry, patterning			
Wood, Blake P.	LANL/P-24	(505) 665-6524	E536	bwood@lanl.gov
	Expertise: Low-pressure, low-temperature plasma discharge for etching or deposition, cathode arc technology, particle-in-cell models			
Youchison, Dennis L.	SNL, NM/6531	(505) 845-3138	1129	dlyouch@sandia.gov
	Expertise: ECR chemical vapor deposition, ion implantation			

## Diagnostics

Name	Facility/Dept.	Phone	Mail Stop	E-Mail Address
Bailey, James E.	SNL, NM/1277	(505) 845-7203	1196	jebaile@sandia.gov
Expertise:	Z-pinch, laser-produced, and ion diode plasmas, plasma spectroscopy, time and space resolved spectra			
Bastasz, R.	SNL, CA/8347	(510) 294-2013	9162	bastasz@vaxm.gat.com
Expertise:	Plasma-surface interactions, SIMS, AES, ISS			
Blackwell, Bennie	SNL, NM/1514	(505) 845-8844	0826	blblack@sandia.gov
Expertise:	Modeling of thermal conduction, convection and radiation processes to design and improve plasma equipment			
Brockmann, John E.	SNL, NM/1512	(505) 844-3201	0834	jebroch@sandia.gov
Expertise:	Particle diagnostics			
Buchenauer, D. A.	SNL, NM/8347	(510) 294-3570	9162	dabuche@ca.sandia.gov
Expertise:	Plasma materials interactions, plasma diagnostics, Langmuir probes			
Buss, Richard	SNL, NM/1812	(505) 844-3504	0367	rjbuss@sandia.gov
Expertise:	Plasma deposition and powder production, optical emission spectroscopy, time-of-flight mass spectroscopy, IRIS, ECM			
Causey, R. A.	SNL, CA/8347	(510) 294-3326	9162	causey@ca.sandia.gov
Expertise:	Plasma-surface interactions, tritium plasma experiment			
Cobble, James A.	LANL/P-4	(505) 667-8290	E554	cobble@lanl.gov
Expertise:	Spectroscopy, x-ray, VUV, laser scattering, fast transient visible and x-ray measurements via streak camera, x-ray image			
Cowgill, D.	SNL, CA/8347	(510) 294-2146	9162	
Expertise:	RF heated plasmas			
Dybwad, Gay	SNL, NM/2411	(505) 844-8236	0957	gldybwa@sandia.gov
Expertise:	Microwave and downstream plasma etchers, optical emission spectroscopy, circuit cleaning, high rate removal of hydrocarbons, etching of tantalum			
Economou, Demetre	SNL, NM/1514	(505) 844-0124	0826	economou@cf.sandia.gov
Expertise:	Plasma modeling and diagnostics, multidimensional simulations of plasma reactors, mass spectroscopy, optical emission			



## Diagnostics continued

Name	Facility/Dept.	Phone	Mail Stop	E-Mail Address
Filuk, Alex B.	SNL, NM/1271	(505) 845-7385	1187	abfiluk@sandia.gov
	Expertise: Pulsed-power anode/cathode plasmas, applied-B ion diodes, spectroscopic diagnosis, spectral line fitting			
Funsten, Herb	LANL/NIS-1	(505) 665-4314	D466	hfunsten@lanl.gov
	Expertise: Space plasma instrumentation calibration with ion accelerator and experimental chambers for space flight sensor tests			
Gelbard, Fred	SNL, NM/1514	(505) 844-5794	0826	fgelbar@cfd.sandia.gov
	Expertise: Manager, Equipment Design Support Center, providing total design capabilities for integrated circuit			
Hail, Thomas A.	SNL, NM/1271	(505) 845-7242	1187	tahail@sandia.gov
	Expertise: Modeling, ion beam transport, ion beam diagnostics			
Hareland, Willard A.	SNL, NM/1824	(505) 844-7758	0342	
	Expertise: Langmuir probe, monochromatic imaging, laser light scattering vacuum, ultraviolet spectroscopy			
Hassanein, Ahmed	ANL	(708) 252-5889	207- EA133A	hassanein@anlcm.cmt.anl.gov
	Expertise: Plasma-material interactions, surface modification effects, design/develop computer codes for plasma-material interactions			
Hermina, Wahid	SNL, NM/1514	(505) 844-4759	0826	wlhem@sandia.gov
	Expertise: Manager, Equipment Design Support Center, providing total design capabilities for integrated circuit			
Koby, Martin W.	LANL/CST-9	(505) 667-6011	E518	
	Expertise: Inductively coupled plasma mass spectrometry for multielemental analysis, environmental restoration and waste management			
Krauss, Alan	ANL	(708) 252-3520	200-D169	alan_krauss@qmgate.anl.gov
	Expertise: Ion beams and plasma-surface interactions, analytical application of ion beams, i.e., scattering, direct recoil, mass spectroscopy			
Lemke, Raymond W.	SNL, NM/1241	(505) 845-7423	1186	rwlemke@sandia.gov
	Expertise: Stability of neutral and nonneutral plasmas, electron beams in gas and vacuum, ion diodes for inertial fusion			

**Diagnostics** continued

Name	Facility/Dept.	Phone	Mail Stop	E-Mail Address
Lutz, Thomas J.	SNL, NM/6531	(011) 33-9079-5105	1129	lutz@fedv09.cad.cea.fr
	Expertise: Plasma materials interactions			
McClellan, George B.	SNL, NM/1321	(505) 844-9364	0603	
	Expertise: Design and modification of plasma equipment, consulting on new designs, modifications, upgrades			
Mendel, C. W. Jr.	SNL, NM/1273	(505) 845-7492	1194	cwmende@sandia.gov
	Expertise: Microwave diagnostics, electrical diagnostics, megampere, megavolt measurements, pulsed plasma sources			
Munson, Carter	LANL/P-24	(505) 665-3552	E526	cmunson@lanl.gov
	Expertise: Optical, magnetic and particle diagnostics, plasma etching, deposition and implantation, PSII users facility			
Nash, Tom	SNL, NM/1273	(505) 845-7814	0367	tjnash@sandia.gov
	Expertise: Plasma spectroscopy, plasma imaging, space and nsec time-resolved plasma spectroscopy, x-ray, etc.			
Neiser, Richard A.	SNL, NM/1841	(505) 845-3016	1129	neiser@pmtf.sandia.gov
	Expertise: Plasma spray coatings, diagnostics, modeling			
Nissen, Mark	SNL, NM/2732	(505) 845-8578	0615	
	Expertise: Ultra-high-speed photography and spectroscopy and other diagnostics of plasma phenomenology			
Nygren, Richard E.	SNL, NM/6531	(505) 845-3135	1129	nygren@sandia.gov
	Expertise: Plasma materials interactions			
O'Hern, Timothy	SNL, NM/1512	(505) 844-9061	0834	thohern@sandia.gov
	Expertise: Particle diagnostics			
Pointon, Timothy D.	SNL, NM/1242	(505) 845-7641	1193	tdpoint@sandia.gov
	Expertise: Particle-in-cell computer modeling of plasmas, large-scale 2- and 3-D electromagnetic PIC simulations			

## Diagnostics continued

Name	Facility/Dept.	Phone	Mail Stop	E-Mail Address
Rej, Don	LANL/P-DO	(505) 665-1883	D434	drej@lanl.gov
	Expertise:	Plasma processing research facility develops plasma science and base technologies, synthesis of advanced materials, ECM		
Rockett, Paul D.	SNL, NM/6531	(505) 845-7466	1129	pdrocke@sandia.gov
	Expertise:	High-density plasma, magnetic fusion disruption simulation, x-ray, EUV, UV spectroscopy		
Russo, Anthony J.	SNL, NM/6531	(301) 903-6288	1129	anthony.russo@mailgw.er.doe.gov
	Expertise:	Runaway electron generation		
Sanford, T. W. L.	SNL, NM/1231	(505) 845-7816		
	Expertise:	Electron diodes, intense electron beam transport, Hermes III, calorimeters, fast framing x-ray camera		
Selwyn, Gary S.	LANL/P-24	(505) 665-7359	E526	gas@fjwsys.lanl.gov
	Expertise:	Real-time, in-situ detection and control of particulate contamination, design modification for process uniformity		
Shagan, Richard	SNL, NM/2732	(505) 845-9079	0615	
	Expertise:	Ultra-high-speed photography and spectroscopy and other diagnostics of plasma phenomenology		
Smith, David Lewis	SNL, NM/1239	(505) 845-7141	1184	
	Expertise:	High-voltage, high-current gas switching, high-current electron beam diode development, laser triggered		
Smith, Mark F.	SNL, NM/1841	(505) 845-3256	1129	mfsmith@pmtf.sandia.gov
	Expertise:	Plasma spray coatings, diagnostics, modeling		
Smith, Mike	SNL, NM/1812	(505) 845-7762	0367	
	Expertise:	Plasma cleaning, etching, deposition, powder production, lasers, optical emission spectroscopy, FTIR, Dektak, etc.		
Stevens, J. E.	SNL, NM/1326	(505) 844-2802	1077	James_E._Stevens@smtplink.mdl.sandia.gov
	Expertise:	Plasma and RF diagnostics, RFI/ICP, ECR, helicon, diode and microwave plasma reactor		

**Diagnostics** concluded

Name	Facility/Dept.	Phone	Mail Stop	E-Mail Address
Tsai, C. C. (Jim)	Y-12	(615) 574-1124		
Expertise:	RF, AC- or DC-biased microwave plasma and plasma shaping with magnets			
Tuszewski, Michel	LANL/P24	(505) 667-3566	E526	mgtu@lanl.gov
Expertise:	Plasma experimentalist, plasma diagnostics, plasma source development and modeling			
Ulrickson, Michael A.	SNL, NM/6531	(505) 845-3020	1129	maulric@sandia.gov
Expertise:	Edge plasma physics, plasma impurity control, plasma materials interactions			
Ward, Pamela P.	SNL, NM/1812	(505) 844-2038	0367	ppward@sandia.gov
Expertise:	Plasma cleaning, RF inductive and capacitive apparatus, optical emission spectroscopy, interferometry, patterning			
Watkins, Jonathan G.	SNL, NM/6531	(619) 455-3670	1129	watkins@gav.gat.com
Expertise:	Langmuir probes, edge plasma physics			

**Modeling**

Name	Facility/Dept.	Phone	Mail Stop	E-Mail Address
Bartel, Tim	SNL, NM/1514	(505) 844-0124	0826	tjbarte@cfdsandia.gov
Expertise:	Numerical simulation of plasma etch and deposition reactors and processes by self-consistent particle method			
Blackwell, Bennie	SNL, NM/1514	(505) 845-8844	0826	blblack@sandia.gov
Expertise:	Modeling of thermal conduction, convection and radiation processes to design and improve plasma equipment			
Campbell, R. B.	SNL, NM/1512	(505) 844-6205	0834	rbcampb@sandia.gov
Expertise:	Models neutral gas flow, particle transport, fully ionized magnetized plasma, microwave propagation, plasma modeling, plasma display discharges, fusion plasmas			

## Modeling (continued)

Name	Facility/Dept.	Phone	Mail Stop	E-Mail Address
Chang, Chong H.	INEL	(208) 526-2886	3808	chc@inel.gov
	Expertise:	Modeling, thermal plasmas, multicomponent, multichemistry, plasma spraying, chemical processing		
Choi, Seung J.	SNL, NM/1512	(505) 844-9469	0834	sjchoi@engsci.sandia.gov
	Expertise:	Plasma chemistry, modeling, gas phase particulate contamination		
Doyle, Barney L.	SNL, NM/1111	(505) 844-7568	1056	bldoyle@sandia.gov
	Expertise:	Plasma surface interactions, ion sources accelerators		
Dykhuizen, R.C.	SNL, NM/1513	(505) 844-9105	0835	rcdykhu@sandia.gov
	Expertise:	Analytical modeling		
Economou, Demetre	SNL, NM/1514	(505) 844-0124	0826	economou@cfdsandia.gov
	Expertise:	Plasma modeling and diagnostics, multidimensional simulations of plasma reactors, mass spectroscopy, optical emission		
Hall, Thomas A.	SNL, NM/1271	(505) 845-7242	1187	tahall@sandia.gov
	Expertise:	Modeling, ion beam transport, ion beam diagnostics		
Hassanein, Ahmed	ANL	(708) 252-5889	207- EA133A	hassanein@anl.cmt.anl.gov
	Expertise:	Plasma-material interaction, surface modification effects, design/develop computer codes for plasma-material interactions		
Johannes, Justine	SNL, NM/1514	(505) 844-1994	0826	jejohan@cfdsandia.gov
	Expertise:	Numerical simulation of plasma etch and deposition chemistry processes using particle simulation code		
Kanouff, Michael P.	SNL, CA/9043	(510) 294-2105	8743	kanouff@california
	Expertise:	Particle impact and surface modeling		
McClellan, George B.	SNL, NM/1321	(505) 844-9364	0603	
	Expertise:	Design and modification of plasma equipment, consulting on new designs, modifications, upgrades		
McGrath, R. T.	SNL, NM/6503	(505) 844-1522	0740	rtmcgrath@pmtf.sandia.gov
	Expertise:	Plasma modeling, plasma flat panel display discharges, discharge measurements, spectroscopy, plasma etching, fusion		

## Modeling (continued)

Name	Facility/Dept.	Phone	Mail Stop	E-Mail Address
Meeks, Ellen	SNL, CA/8745	(510) 294-1459	9042	emeeks@ca.sandia.gov
	Expertise:	Plasma modeling, plasma kinetics, plasma-surface interactions, software development for plasma kinetics		
Mix, L. Paul	SNL, NM/1271	(505) 845-7493	1187	lpmix@sandia.gov
	Expertise:	Numerical simulation, ICF target diagnostics, Monte Carlo simulation, x-ray diagnostics, holographic interferometry		
Neiser, Richard A.	SNL, NM/1841	(505) 845-3016	1129	neiser@pmtf.sandia.gov
	Expertise:	Plasma spray coatings, diagnostics, modeling		
Oberkamp, W. L.	SNL, NM/1511	(505) 844-3799	0825	wloberk@sandia.gov
	Expertise:	Computational fluid dynamics		
Pointon, Timothy D.	SNL, NM/1242	(505) 845-7641	1193	tdpoint@sandia.gov
	Expertise:	Particle-in-cell computer modeling of plasmas, large-scale 2- and 3-D electromagnetic PIC simulations		
Poukey, James W.	SNL, NM/1241	(505) 845-7302	1195	jwpouke@sandia.gov
	Expertise:	Numerical plasma and beam modeling, transmission lines and high-current diodes, particle in-cell codes		
Quintenz, Jeffrey P.	SNL, NM/1202	(505) 845-7245	1195	jpquint@sandia.gov
	Expertise:	Numerical simulation of plasmas, particle beams and electromagnetics, high-powered electron and ion beam		
Ramshaw, John D.	INEL	(208) 526-9240	3808	jzr@inel.gov
	Expertise:	Multidimensional modeling of multicomponent thermal plasmas in LTE and non-LTE, LAVA computer code		
Riley, Merle E.	SNL, NM/1128	(505) 844-3141	0601	meriley@somnet.sandia.gov
	Expertise:	Low-temperature plasma simulations and kinetics, atomic physics, molecular dynamics, scattering		
Rockett, Paul D.	SNL, NM/6531	(505) 845-7466	1129	pdrocke@sandia.gov
	Expertise:	High-density plasma, magnetic fusion disruption simulation, x-ray, EUV, UV spectroscopy		

**Modeling** (concluded)

<b>Name</b>	<b>Facility/Dept.</b>	<b>Phone</b>	<b>Mail Stop</b>	<b>E-Mail Address</b>
Rosocha, Louis	LANL/CST-18	(505) 667-8493	E525	rosocha@cst4.lanl.gov
	Expertise:	Atmospheric pressure nonthermal plasmas, environmental applications, plasma chemistry modeling, chemical processing		
Russo, Anthony J.	SNL, NM/6531	(301) 903-6288	1129	anthony.russo@mailgw.er.doe.gov
	Expertise:	Runaway electron generation		
Smith, Mark F.	SNL, NM/1841	(505) 845-3130	1129	mfsmith@pmtf.sandia.gov
	Expertise:	Plasma spray coatings, diagnostics, modeling		
Tuszewski, Michel	LANL/P24	(505) 667-3566	E526	mgtu@lanl.gov
	Expertise:	Plasma experimentalist, plasma diagnostics, plasma source development and modeling		
Veerasingam, R.	SNL, NM/6531	(505) 845-3490		ramana@pmtf.sandia.gov
	Expertise:	Plasma modeling, plasma display discharges, fusion plasmas		
Walsh, David S.	SNL, NM/1111	(505) 844-9590	1056	dswalsh@sandia.gov
	Expertise:	Plasma surface interactions, ion sources accelerators		
Wampler, William R.	SNL, NM/1111	(505) 844-4114	1056	wrwampl@sandia.gov
	Expertise:	Plasma surface interactions, ion sources accelerators		
Wood, Blake P.	LANL/P-24	(505) 665-6524	E536	bwood@lanl.gov
	Expertise:	Low-pressure, low-temperature plasma discharge for etching or deposition, cathode arc technology, particle-in-cell models		

## Address/Change Form

If you would like to be included in the the next edition of the *Plasma Technology Directory*, or if you would like to change or correct your current listings, please complete this form and return it to:

P. Ward, SNL, NM, MS 0367  
ppward@sandia.gov  
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(505) 844-9624 fax

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Facility \_\_\_\_\_

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