

**APPENDIX D. GLOSSARY**

AFMs	atomic force microscopes
AIST	National Institute of Advanced Industrial Science and Technology
ASIC	application specific integrated circuit
ADXL	Families of precision dual axis accelerometers on a single chip produced by Analog Devices, Inc.
B-MLA	backlight-micro lens arrays
BSAC	Berkeley Sensor & Actuator Center of the University of California at Berkeley
CCD camera	charge coupled device camera
CIRMM	Center for International Research on Micromechatronics at the University of Tokyo
CMOS	complementary metal oxide semiconductor
CNRS in France	Centre National de la Recherche Scientifique
CRDL	Toyota Central R&D Laboratories
DARPA	U.S. Defense Advanced Research Projects Agency
DRIE	Deep-reactive-ion-etching
EMI suppression	electro-magnetic interference
EMR	electro-mechanical relays
ENOSE	electronic nose
FCVA	Filtered Cathodic (i.e., carbon) Vacuum Arc Deposition, a kind of thin-film coating discussed at Sony
FET	field effect transistor
FIB	focused ion beam etching and deposition
GFLOPS	giga floating point operations per second
GMs	genetic modifications
HDI	General Electric's High Density Interconnect process
ICP	inductively coupled plasma
IMT	Institute of Microchemical Technology founded by Prof. Kitamori
ISEMI (a METI lab)	a research group Institute of Mechanical Systems Engineering. The research group is called ISEMI, an acronym that honors the late Dr. Isemi Igarashi, the founder of silicon MEMS in Japan.
KAST	Kanagawa Academy of Science and Technology

LBNL	UC Berkeley/LBNL
LIGA	a German acronym that stands for Lithographic Galvanoformung Abformung, (or lithography, electroplating, molding); see <a href="http://www.memsguide.com/MEMSEquipments-Micromachining_LIGA.htm">http://www.memsguide.com/MEMSEquipments-Micromachining_LIGA.htm</a>
MCNC-Cronos-JDS	created the SMARTMUMPS process; Cronos Integrated Microsystems (formerly MCNC MEMS Technology Center)
MEMS	microelectromechanical systems or microsystems, defined as the use of microfabrication techniques to create mechanical structures in silicon and other materials
MERL	Hitachi's Mechanical Engineering Research Laboratory
METI	Ministry of Economy, Trade and Industry
MicroTAS	micro total analysis systems
MICS	Multi-user Integration Chip Service, a foundry system at Ritsumeikan University
MITI	Ministry of International Trade and Industry
MMC TR	Micromachine Center (MMC) Technical Report (TR)
MOEMS	Micro-Opto-Electro-Mechanical Systems
MOS	Multi Organoleptic Systems
MPT	Micromachine Technology Project
MTO	DARPA Microsystems Technology Office
MUMPS	Multi-User MEMS Processes
NDA	non disclosure agreement
NEDO	New Energy and Technology Development Organization of Japan
NERs	Nanoscale Exploratory Research program of NSF
NEXUS	A non profit association for microsystems professionals, which is headquartered in Grenoble
NICHE	New Industry Creation Hatchery Center at Tohoku University
NIRT	Nanoscale Interdisciplinary Research Teams, teams of 3-5 people from various disciplines to work together for 3-5 years on an interdisciplinary nanotechnology project
NIST	U.S. National Institute of Standards and Technology
NMASP	Nano-Mechanical Array Signal Processors
NNI	National Nanotechnology Initiative
NNUN	National Nanofabrication Users Network operated by the U.S. National Nanofabrication Facility

NNUF	U.S. National Nanofabrication Facility
ONR	U.S. Office of Naval Research
PCR	polymerase chain reaction
PDMS	poly-dimethylsiloxane
P-MLA	projector-micro lens arrays
PMMA	poly-methylmetacrylate
RF MEMS	radio frequency MEMS
RIMST	the Research Institute for Microsystems Technology at Ritsumeikan University
SAW device	surface acoustic wave devices
SPS	a group or division of Motorola
SSR	solid-state relays
SUMMIT	Sandia National Laboratories
TEM	transmission electron microscope
TLM	thermal lens microscope
TLOs	technology licensing offices
UARC	University Affiliated Research Center to support nanofabrication sponsored by the Center of Research for Nanoscience for the Soldier, a subsidiary of the U.S. Army Research Office
VBL	Venture Business Laboratory at Tohoku University
VDEC	VLSI Design and Education Center at the University of Tokyo
WIMS	Wireless Integrated Microsystems Center, an NSF Engineering Research Center at the University of Michigan