

PROJECTS AT THE EPFL CENTER OF MICRONANOTECHNOLOGY

EPFL-STI-IBI

EPFL - School of Engineering - Interfaculty Institute of Bioengineering

EPFL-STI-IBI-BIOS

EPFL - BIONANOPHOTONIC SYSTEMS LABORATORY

PROF. H. ALTUG

01	MICROFLUIDIC CELL CULTURE CHIP FOR PLASMONIC SENSING	01
02	PLASMONIC NANOHOLE ARRAYS FOR ULTRA-SENSITIVE & ROBUST BIOSENSING	02
03	MID-INFRARED PLASMONIC BIOSENSING WITH GRAPHENE	03
04	OPTIMIZATION OF A PLASMONIC-BASED MICROFLUIDIC BIOSENSOR FOR FUTURE APPLICATION IN HANDHELD DEVICES	04

EPFL-STI-IBI-CLSE

EPFL - LABORATORY OF LIFE SCIENCES ELECTRONICS

PROF. C. GUIDUCCI

05	ARRAYS OF 3D ELECTRODES FOR SINGLE-CELL TRAPPING AND ELECTROROTATION	05
06	3D MICROELECTRODES ON DIELECTRIC SUBSTRATES	06

EPFL-STI-IBI-LBEN

EPFL - LABORATORY OF NANOSCALE BIOLOGY

PROF. A. RADENOVIC

07	COMBINATION OF NANOCAPILLARY WITH OPTICAL TWEEZERS FOR SINGLE-MOLECULE STUDIES	07
08	SINGLE MOLECULE COUNTING USING NANONCAPILLARIES	08
09	NANOPORE SENSING USING GLASS CAPILLARIES	09
10	FEMTOLITER RESERVOIRS ON A MICROSCOPE COVER SLIP	10
11	IDENTIFICATION OF SINGLE NUCLEOTIDES IN MOS ₂ NANOPORES	11
12	DNA SEQUENCING USING A HYBRIDE NANOPORE – FET DEVICE	12
13	NANOPORE CREATION IN MOS ₂ MONOLAYER	13
14	WAFER SCALE SILICON NITRIDE SUPPORTED MOS ₂ MEMBRANES	14

EPFL-STI-IBI-LBNC

EPFL - LABORATORY OF BIOLOGICAL NETWORK CHARACTERIZATION

PROF. S. MAERKL

15	A DIGITAL-ANALOG MICROFLUIDIC PLATFORM FOR BIOMARKER DIAGNOSTICS	15
16	MICROFLUIDIC NANOREACTORS FOR STEADY STATE SYNTHETIC BIOLOGY	16
17	A MICROFLUIDIC PLATFORM FOR HIGH-THROUGHPUT PROTEIN SCREENING	17

EPFL-STI-IBI-LBNI

EPFL - LABORATORY FOR BIO AND NANO INSTRUMENTATION

PROF. G. FANTNER

18	HARD TIP INTEGRATED POLYMER CANTILEVER	18
19	NOVEL FABRICATION METHOD FOR MICROFLUIDIC BACTERIAL CELL TRAPS	19

EPFL-STI-IBI-LHTC

EPFL - LABORATORY OF HEMODYNAMICS AND CARDIOVASCULAR TECHNOLOGY

PROF. N. STERGIOPULOS

20	FLEXIBLE MULTI-ELECTRODE ARRAY	20
----	--------------------------------	----

	Page
EPFL-STI-IBI-LNE	
EPFL - NEURO ENGINEERING LABORATORY	
PROF. D. GHEZZI	
21	INJECTABLE, SELF-OPENING, AND FREESTANDING RETINAL PROSTHESIS 21
22	III-SU8 RIGID STRUCTURES ON PDMS 22
<hr/>	
EPFL-STI-IEL	
EPFL - School of Engineering - Institute of Electrical Engineering	
<hr/>	
EPFL-STI-IEL-LANES	
EPFL - LABORATORY OF NANOSCALE ELECTRONICS AND STRUCTURES	
PROF. A. KIS	
23	SCALED HIGH-FREQUENCY MOS2 TRANSISTORS 23
24	FLEXIBLE TFTS AND CIRCUITS BASED ON TWO-DIMENSIONAL MONO-LAYER MOLYBDENUM DISULFIDE 24
25	INVESTIGATING THE ELECTROMECHANICAL COUPLING IN ATOMICALLY THIN MOS2 AND GRAPHENE 25
26	THERMOELECTRIC PROPERTIES OF SINGLE-LAYER MOS2 26
27	LARGE-AREA MOS2 GROWN USING H2S AS THE SULPHUR SOURCE 27
28	TWO-DIMENSIONAL LIGHT-EMMITING DIODES 28
EPFL-STI-IEL-LEMA	
EPFL - ELECTROMAGNETICS AND ACOUSTICS LABORATORY	
PROF. J. R. MOSIG	
29	MULTI-BAND MULTI-BEAM TERAHERTZ REFLECTARRAY METASURFACES 29
EPFL-STI-IEL-LSI	
EPFL - INTEGRATED SYSTEMS LABORATORY	
PROF. G. DE MICHELI	
30	REPRODUCIBLE NANOSTRUCTURING OF SCREEN PRINTED ELECTRODES WITH BIOSENSING APPLICATIONS 30
31	MEMRISTIVE BIOSENSORS FOR BIOMARKER DETECTION IN TUMOR EXTRACT 31
32	PLATINUM NANOPETAL-BASED POTASSIUM SENSORS FOR ACUTE CELL DEATH MONITORING 32
33	RESISTIVE RANDOM ACCESS MEMORIES 33
34	SILICON NANOWIRE ARRAYS FOR BIOSENSING 34
EPFL-STI-IEL-LSM	
EPFL - LABORATORY OF MICROELECTRONIC SYSTEMS	
PROF. Y. LEBLEBICI	
35	RESISTIVE RANDOM ACCESS MEMORY FOR NEUROMORPHIC APPLICATION 35
36	DEVELOPMENT OF A MECHANICAL FILTER TECHNOLOGY BASED ON COUPLED NANOWIRE ARRAY RESONATORS 36
37	A DIE-LEVEL POST-CMOS PROCESSING PROTOCOL FOR MULTI-LAYER 3D INTEGRATION 37
38	GRAPHENE FIELD EFFECT DEVICES IN DIFFERENTIAL CONFIGURATION 38
39	INTEGRATION OF RERAM CROSSBARS IN 180NM CMOS BEOL PROCESS 39
40	CHIP-LEVEL INTEGRATION OF RERAM-BASED NON-VOLATILE MEMORIES 40

	Page
EPFL-STI-IEL-NANOLAB	
EPFL - LABORATORY OF NANO-ELECTRONIC DEVICES	
PROF. A. M. IONESCU	
41	41
42	42
43	43
44	44
45	45
46	46
47	47
48	48
49	49
EPFL-STI-IEL-PHOSL	
EPFL - LABORATORY OF PHOTONIC SYSTEMS	
PROF. C.-S. BRES	
50	50
EPFL-STI-IEL-POWERLAB	
EPFL - POWER AND WIDE-BAND-GAP ELECTRONICS RESEARCH LABORATORY	
PROF. E. MATIOLI	
51	51
52	52
53	53
EPFL-STI-IGM	
EPFL School of Engineering - Institute of Mechanical Engineering	
EPFL-STI-IGM--LRESE	
EPFL - LABORATORY OF RENEWABLE ENERGY SCIENCE AND ENGINEERING	
PROF. S. HAUSSENER	
54	54
55	55
EPFL-STI-IMT	
EPFL School of Engineering - Institute of Microengineering	
EPFL-STI-IMT-ESPLAB	
EPFL - ELECTRONICS AND SIGNAL PROCESSING LABORATORY	
PROF. P.-A. FARINE	
56	56
EPFL-STI-IMT-GR-LVT	
EPFL - ADVANCED NEMS GROUP	
PROF. G. VILLANUEVA	
57	57
58	58
59	59
60	60
61	61
62	62

	Page
EPFL-STI-IMT-GR-QUA	
EPFL - QUACK GROUP	
PROF. N. QUACK	
63	63
64	64
MICRO- AND NANOSTRUCTURING OF SINGLE CRYSTALLINE DIAMOND	
DIAMOND-ON-INSULATOR NANO-PHOTONIC PLATFORM DEVELOPMENT	
EPFL-STI-IMT-LAI	
EPFL - INTEGRATED ACTUATORS LABORATORY LAI	
PROF. Y. PERRIARD	
65	65
HIGH DENSITY COPPER LINES NETWORK	
EPFL-STI-IMT-LAPD	
EPFL - LABORATORY OF APPLIED PHOTONICS DEVICES	
PROF. CH. MOSER	
66	66
ACTUATORS FOR SELF-TRACKING SOLAR CONCENTRATOR	
EPFL-STI-IMT-LMIS1	
EPFL - LABORATORY OF MICROSYSTEMS	
PROF. J. BRUGGER	
67	67
68	68
69	69
70	70
71	71
REAL SPACE MAPPING OF PLASMON RESONANCES IN METALLIC NANOSTRUCTURES	
BY ELECTRON ENERGY LOSS SPECTROSCOPY	
INKJET PRINTING OF POLYMERS	
HIGH ASPECT RATIO NANOSCALE-TO-MICROSCALE PATTERNS BY THERMAL	
SCANNING PROBE LITHOGRAPHY	
MICROFLUIDIC STRUCTURES FOR MAGNETIC RESONANCE SPECTROSCOPY OF	
SUBNANOLITER SAMPLES	
THERMAL SCANNING PROBE LITHOGRAPHY ON TRANSPARENT SUBSTRATES	
EPFL-STI-IMT-LMIS2	
EPFL - LABORATORY OF MICROSYSTEMS	
PROF. M. GIJS	
72	72
73	73
74	74
75	75
76	76
A MICROFLUIDIC PLATFORM FOR C. ELEGANS LONG-TERM LIVE IMAGING	
VERSATILE SIZE-DEPENDENT SORTING OF C. ELEGANS NEMATODES	
MICROFLUIDIC REACTOR FOR NANOMATERIALS SYNTHESIS	
TEMPLATE FABRICATION FOR MICROSPHERE LENS ARRAYS	
QUANTIFICATION OF BACTERIA CONCENTRATION ON MICROFLUIDIC CHIP	
EPFL-STI-IMT-LMIS4	
EPFL - LABORATORY OF MICROSYSTEMS	
PROF. PH. RENAUD	
77	77
78	78
79	79
80	80
81	81
82	82
83	83
84	84
85	85
86	86
87	87
88	88
89	89
90	90
FABRICATION OF A 2D ARRAY OF TRANSISTORS TO DETECT DNA MUTATIONS	
POLYMERIC MICROFLUIDIC SCINTILLATION DETECTORS	
MICRO FLUIDIC DEVICE TO IMPLEMENT MICROFILTRATION SYSTEMS	
FRACTURE TOUGHNESS OF SINGLE CRYSTAL SILICON (SCSI)	
MICROFLUIDIC CHIP FOR CREATION OF CELL AGGREGATES BY DIELECTROPHORESIS	
AND CELL COUNTING AND SIZING BY IMPEDANCE SPECTROSCOPY	
NANO-VOLCANOS AS 3D ELECTRODES FOR INTRACELLULAR POTENTIAL	
MEASUREMENT	
FISH-GUT-ON-CHIP: DEVELOPMENT OF A NOVEL IN VITRO SYSTEM OF THE FISH	
INTESTINE	
CHRONOFLOW™ PASSIVE FLOW REGULATORS FOR HYDROCEPHALUS	
MODIFICATION OF PDMS TO FABRICATE PLGA MICROPARTICLES BY A DOUBLE	
EMULSION METHOD IN A SINGLE MICROFLUIDIC DEVICE	
IN-PLANE MICROFLUIDIC INTERCONNECTIONS	
NEURAL PROBE COMBINING MICROELECTRODES AND MICROCHANNELS FOR HIGH	
FREQUENCY DROPLET COLLECTION SAMPLING	
IMPEDANCE SPECTROSCOPY SENSING DEVICE	
MICRO-FABRICATED NOZZLE FOR CRYOGEL 3D PRINTING	
FABRICATION OF MULTILAYERED NANOFLUIDIC MEMBRANES THROUGH SILICON	

EPFL-STI-IMT-LMTS

EPFL - LABORATORY OF MICROSYSTEMS FOR SPACE TECHNOLOGIES

PROF. H. SHEA

91	HIGH TEMPERATURE MICRO-HOTPLATES FOR THERMAL METROLOGY	91
92	1KV TRANSISTORS TO DRIVE DIELECTRIC ELASTOMER ACTUATORS	92

EPFL-STI-IMT-LO

EPFL - LABORATORY OF OPTICS

PROF. D. PSALTIS

93	FABRICATION AND CHARACTERISATION OF MICROCHANNELS: PRE-STUDY FOR A TWO-PHASE LAMINAR FLOW FUEL CELL	93
----	---	----

EPFL-STI-IMT-LPMAT

EPFL - LABORATORY FOR PHOTONIC MATERIALS AND CHARACTERIZATION

PROF. P. HOFFMANN

94	OPTIMIZATION OF BARIUM TITANATE THIN FILMS	94
95	MICRO-STRUCTURING OF CVD DIAMOND BY REACTIVE ION ETCHING	95
96	BARIUM TITANATE THIN FILMS STRUCTURING BY DIFFERENT ETCHING PROCESSES	96

EPFL-STI-IMT-LSBI

EPFL - LABORATORY FOR SOFT BIOELECTRONIC INTERFACES

PROF. S. LACOUR

97	PDMS REGENERATIVE PERIPHERAL NERVE INTERFACES	97
98	MANUFACTURING OPTIMIZATION OF STRETCH ON FLEX ELECTRICAL INTERFACES	98
99	INTRINSICALLY STRETCHABLE BIPHASIC (SOLID-LIQUID) THIN METAL FILMS	99
100	SEMESTER PROJECT IN NEUROPROSTHETICS: FABRICATION OF MICROTUBES WITH SPIRAL BENDING CONFORMATION FOR PERIPHERAL NEURAL INTERFACES	100
101	OPTOELECTRONIC IMPLANT FOR NEURAL STIMULATION	101

EPFL-STI-IMT-NAM

EPFL - LABORATORY OF NANOPHOTONICS AND METROLOGY

PROF. O. MARTIN

102	PLASMONIC RESONANCE IN COPPER NANOPARTICLE-LOADED STAINED GLASS OF ULM MINSTER	102
103	ELECTROCHEMICAL BIOSENSOR FOR HOMOCYSTEINE	103
104	METALLIC NANOHOLE APPLICATION FLUORESCENCE ENHANCEMENT	104

EPFL-STI-IMT-OPT

EPFL - OPTICS & PHOTONICS TECHNOLOGY LAB

PROF. H. P. HERZIG

105	MICROSTRUCTURED GLASSY CARBON FOR GLASS MOLDING OF DIFFRACTIVE OPTICAL ELEMENTS	105
-----	---	-----

EPFL-STI-IMT-PV-LAB

EPFL - PHOTOVOLTAICS AND THIN FILM ELECTRONICS LABORATORY

PROF. CH. BALLIF

106	COPPER METALLIZATION OF LARGE-AREA HETEROJUNCTION SOLAR CELLS	106
-----	---	-----

EPFL-STI-IMT-SAMLAB

EPFL - LABORATORY OF THE SENSORS, ACTUATORS AND MICROSYSTEMS

PROF. N. DE ROOIJ

107	INTERDIGITATED IRIIDIUM MICRODISC ARRAYS FOR VOLTAMMETRIC TRACE METALS DETECTION	107
-----	--	-----

EPFL-STI-IMX
EPFL - School of Engineering - Institute of Materials

EPFL-STI-IMX-FIMAP
EPFL - LABORATORY OF PHOTONIC MATERIALS AND FIBRE DEVICES
PROF. F. SORIN

108	SURFACE TEXTURING OF POLYMER FIBERS VIA SOFT EMBOSsing AND THERMAL DRAWING	108
109	SELENIUM SINGLE CRYSTAL NANOWIRE DEVICES	109

EPFL-STI-IMX-LC
EPFL - LABORATORY OF CERAMICS
PROF. P. MURALT

110	MECHANICAL STRESS HANDLING IN MICROMACHINED SOLID OXIDE FUEL CELLS	110
111	IDE FABRICATION BY IBE	111
112	OPTIMIZED ENERGY HARVESTERS WITH INTERDIGITATED ELECTRODES ON FERRROELECTRIC THIN FILMS	112

EPFL-STI-IMX-LC
EPFL - LABORATORY OF CERAMICS
PROF. N. SETTER

113	RECONFIGURABLE CONDUCTING CHANNELS IN FERROELECTRICS	113
-----	--	-----

EPFL-STI-IMX-LMGN
EPFL - LABORATORY OF NANOSCALE MAGNETIC MATERIALS AND MAGNONICS
PROF. D. GRUNDLER

114	MAGNETIC STATES AND REVERSAL OF FERROMAGNETIC NANOTUBES	114
115	MAGNETIC CORE SHELL NANOSTRUCTURES FOR MAGNETO TRANSPORT MEASUREMENTS	115

EPFL-STI-IMX-LMM
EPFL - LABORATORY OF MECHANICAL METALLURGY
PROF. A. MORTENSEN

116	HEAT TRANSFER AT THE INTERFACE BETWEEN A METAL AND A NON-METAL	116
117	FABRICATION OF SU8 PREFORMS FOR AL MICROCASTING	117

EPFL-STI-IMX-LMOM
EPFL - LABORATORY OF MACROMOLECULAR AND ORGANIC MATERIALS
PROF. H. FRAUENRATH

118	ALIGNMENT OF ORGANIC SEMICONDUCTOR NANOSTRUCTURES ON PRE-PATTERNED SUBSTRATES	118
-----	---	-----

EPFL-STI-IMX-LMSC

**EPFL - LABORATORY OF SEMICONDUCTOR MATERIALS
PROF. A. FONTCUBERTA I MORRAL**

119	NANO – PHOTODETECTORS	119
120	CHARACTERIZATION OF PLANAR AL1-XGAXAS FOR WATER SPLITTING APPLICATION	120
121	ELECTRICAL CHARACTERIZATION OF ZN3AS2 NANOPATELETS	121
122	NANOSCALE MEMBRANES AND RELATED HETEROSTRUCTURES	122
123	FUNCTIONAL C-SI/GAAS NANOWIRE TANDEM SOLAR CELL	123
124	FIELD-EFFECT TRANSISTORS BASED ON III-V NANOWIRES	124
125	ELECTRICAL CHARACTERIZATION OF ZN3P2 NANOWIRES	125
126	FABRICATION OF PROUS SILICON MICROTUBES BY STAIN ETCHING	126
127	GROWTH OF HIGH QUALITY GAAS NANOWIRES ON GAAS SUBSTRATE USING MOLECULAR BEAM EPITAXY	127

EPFL-STI-IMX-LP

**EPFL - POLYMERS LABORATORY
PROF. H.-A. KLOK**

128	ELABORATION OF MODULABLE SHEAR STRESS SENSITIVE POLYMERSOMES USING MICROFLUIDIC	128
-----	---	-----

EPFL-STI-IMX-SMAL

**EPFL - SOFT MATERIALS LABORATORY
PROF. E. AMSTAD**

129	FABRICATION OF DOUBLE EMUSION DEVICE	129
130	ASSEMBLY OF POLYMERSOMES FROM DOUBLE EMULSION TEMPLATES	130
131	PRODUCTION OF AMORPHOUS NANOPARTICLES THROUGH MICROFLUIDIC SPRAY DRYING	131
132	FLUORINATED SURFACTANTS TO STABILIZE EMULSION DOPLETS	132
133	PRODUCTION OF COLLOIDAL CRYSTAL STRUCTURE MADE OF HYDROGEL MICROPARTICLES	133
134	MICROFLUIDIC DEVICES FOR PRODUCTION OF FOOD-GRADE CAPSULES	134
135	MICROFLUIDIC SPRAY DRIER	135
136	POLYMERSOME ASSEMBLY WITH MICROFLUIDICS	136

EPFL-STI-IMX-SUNMIL

**EPFL - LABORATORY OF SUPRAMOLECULAR NANOMATERIALS AND INTERFACES
PROF. F. STELLACCI**

137	TOWARDS ULTRA STRONG LIGHT MATTER COUPLING IN THIN FILM TRANSISTORS	137
-----	---	-----

EPFL-STI-CMI

EPFL - School of Engineering - Center of MicroNanoTechnology

EPFL-STI-CMI

**EPFL - CENTER OF MICRONANOTECHNOLOGY
PROF. PH. RENAUD**

138	POLYIMIDE ETCHING PROCESSES OPTIMIZATION	138
139	PHOTOLITHOGRAPHY PROCESSES OPTIMIZATION FOR ION BEAM ETCHING	139
140	PULSED UV EXCIMER LASER MACHINING	140

EPFL-SB-IPHYS
EPFL - School of Basic Sciences - Institute of Physics

EPFL-SB-IPHYS-LASPE
EPFL - LABORATORY OF ADVANCED SEMICONDUCTORS FOR PHOTONICS AND ELECTRONICS
PROF. N. GRANDJEAN

141	GRATING COUPLER FOR III-NITRIDE WAVEGUIDES	141
142	HYBRID III-NITRIDE DEVICES	142
143	GALLIUM NITRIDE PHOTONIC CRYSTAL CAVITIES ON SILICON	143
144	HIGH-Q (>5500) BLUE III-NITRIDE PHOTONIC CRYSTAL NANOBEAMS ON SILICON	144
145	RESONANT OPTICAL TRAPPING IN HOLLOW PHOTONIC CRYSTAL CAVITIES	145

EPFL-SB-IPHYS-LPMC
EPFL - LABORATORY OF NANOSTRUCTURES AND NOVEL ELECTRONIC MATERIALS
PROF. L. FORRO

146	MICRO-ENGINEERED CH ₃ NH ₃ PBI ₃ NANOWIRE/GRAPHENE PHOTOTRANSISTOR FOR LOW INTENSITY LIGHT DETECTION AT ROOM TEMPERATURE	146
147	RESISTIVE SWITCHING STUDIES IN DOPED TiO ₂ HETEROEPITAXIAL STRUCTURES MEMRISTOR DEVICES	147
148	LAYERED COMPOUND BASED LIQUID GATED FIELD EFFECT TRANSISTOR	148
149	ION-BEAM MICROFABRICATION FOR ELECTRONIC TRANSPORT MEASUREMENT	149

EPFL-SB-IPHYS-LPN
EPFL - LABORATORY OF THE PHYSICS OF NANOSTRUCTURES
PROF. E. KAPON

150	ADVANCED PHOTONIC NANOSTRUCTURES	150
-----	----------------------------------	-----

EPFL-SB-IPHYS-LPQM1
EPFL - LABORATORY OF PHOTONICS AND QUANTUM MEASUREMENTS
PROF. T. J. KIPPENBERG

151	SILICON NITRIDE MICRORESONATORS FOR FREQUENCY COMB GENERATION	151
152	DISSIPATION ENGINEERING OF HIGH-STRESS SILICON NITRIDE NANOBEAMS	152
153	AMORPHOUS SILICON ETCH PROFILES	153
154	NEAR-FIELD OPTOMECHANICAL DETECTION OF THE MECHANICAL AND LASING PROPERTIES OF SINGLE-LAYER WSe ₂	154
155	ON-CHIP MICROWAVE-TO-OPTICAL QUANTUM COHERENT CONVERTER	155
156	PHOTONIC DAMASCENE PROCESS FOR OPTICAL WAVEGUIDES ON CHIP	156
157	PHONON FOCK STATE GENERATION IN PHOTONIC CRYSTAL CAVITY	157
158	AN ENGINEERED DISSIPATIVE MECHANICAL RESERVOIR FOR MICROWAVE LIGHT	158

EPFL-SB-IPSB
EPFL - School of Basic Sciences - Institute of the Physics of Biological Systems

EPFL-SB-IPSB-LPMV
EPFL - LABORATORY OF THE PHYSICS OF LIVING MATTER
PROF. G. DIETLER

159	NANO-FABRICATION OF STRUCTURES SUPPORTING SURFACE PLASMON RESONANCE/FANO RESONANCE ON THE ETCHED GRATING ON AFM CANTILEVERS INCREASES DETECTION SENSITIVITY	159
-----	---	-----

EPFL-SB-ISIC
EPFL - School of Basic Sciences - Institute of Chemical Sciences and Engineering

EPFL-SB-ISIC-LEPA
EPFL - LABORATORY OF PHYSICAL AND ANALYTICAL ELECTROCHEMISTRY
PROF. H. GIRAULT

160	SOFT PROBES FOR THE MANIPULATION OF ADHERENT CELLS	160
161	INKJET PRINTED CATALYST LAYERS FOR ELECTROCHEMICAL ENERGY CONVERSION DEVICES	161
162	DEVELOPMENT OF A POTENTIOMETRIC PH SENSOR BY INKJET PRINTING OF IRIIDIUM OXIDE NANOPARTICLES	162
163	INKJET PRINTED CARBON MICROELECTRODES FOR SCANNING ELECTROCHEMICAL MICROSCOPY	163
164	SOFT MICRO-FINGER ARRAY	164
165	INKJET PRINTING OF HYROPHOBIC PVC MEMBRANE	165
166	POLYIMIDE MICROCHIPS COUPLED WITH MASS SPECTROMETRY	166

EPFL-SB-ISIC-LIP
EPFL - LABORATORY OF PROTEIN ENGINEERING
PROF. K. JOHNSON

167	PAPER-BASED TEST STRIP FPR BLOOD ANALYSIS	167
-----	---	-----

EPFL-SB-ISIC-LPI
EPFL - LABORATORY OF PHOTONICS AND INTERFACES
PROF. M. GRAETZEL

168	TRANSPARENT GOLD FILMS ENABLING TANDEM SUNLIGHT-DRIVEN WATER SPLITTING CELLS	168
169	ULTRATHIN FILM HEMATITE PHOTOANODES FOR SOLAR WATER SPLITTING	169
170	PEROVSKITE SOLAR CELL MODULES	170

EPFL-SB-ISIC-LSPM
EPFL - LABORATORY OF PHOTOMOLECULAR SCIENCE
PROF. A. HAGFELDT

171	CUPUROUS OXIDE BASED ELECTROCHEMICAL WATER SPLITTING USING SUNLIGHT	171
-----	---	-----

EPFL-SV-GHI
EPFL - School of Life Sciences - Global Health Institute

EPFL-SV-GHI-UPKIN
EPFL - LABORATORY OF MICROBIOLOGY AND MICROSYSTEMS
PROF. J. D. MCKINNEY

172	SINGLE-CELL DYNAMICS OF HOST-PATHOGEN INTERACTIONS	172
173	SINGLE-CELL RESPONSE TO FLUCTUATING DRUG ENVIRONMENTS	173
174	MICROSCOPY-BASED SINGLE CELL SCREEN TO IDENTIFY GENES INVOLVED IN MYCOBACTERIAL PERSISTANCE	174

EPFL-SV-IBI
EPFL - School of Life Sciences - Interschool Institute of Bioengineering

EPFL-SV-IBI-LDCS
EPFL - STEM CELL DYNAMICS LABORATORY
PROF. Y. BARRANDON

175	AN INSTRUMENTED PIPETTE FOR SINGLE-CELL DISPENSING	175
-----	--	-----

EPFL-SV-IBI-LLCB
EPFL - LABORATORY OF LYMPHATIC AND CANCER BIOENGINEERING
PROF. M. SWARTZ

176 TISSUE ENGINEERED LYMPH NODE MODEL 176

EPFL-SV-IBI-UPDEPLA
EPFL - LABORATORY OF SYSTEMS BIOLOGY AND GENETICS
PROF. B. DEPLANCKE

177 USING HIGH THROUGHPUT DROPLET MICROFLUIDICS FOR SINGLE CELL TRAPPING 177
178 FABRICATION OF THE MITOMI-SEQ MICROFLUIDIC DEVICES 178

EPFL-SV-IBI-UPLUT
EPFL - LABORATORY OF STEM CELL BIOENGINEERING
PROF. M. P. LUTOLF

179 ROUND-BOTTOM MICROWELLS FABRICATION 179
180 BIOENGINEERING A 3D MICROFLUIDIC CULTURE SYSTEM 180
181 MICROSTRUCTURED SILICON MOLDS FOR CELLULAR PEG MICROARRAYS 181
182 HIGH-THROUGHPUT ANALYSIS USING DROPLET-BASED MICROFLUIDICS 182
183 STEM CELL NICHE-ON-A-CHIP 183
184 HYDROGEL MICROWELL ARRAY DEVICE 184

<p>EPFL-SV-ISREC EPFL - School of Life Sciences - Swiss Institute for Experimental Cancer Research</p>
--

EPFL-SV-ISREC-CDTSO
EPFL - CANCER STEM CELLS LABORATORY
PROF. J. HUELSKEN

185 HIGH-THROUGHPUT CHEMOTAXIS DEVICE FOR STEM CELLS 185

<p>EPFL-IC-IINFCOM EPFL - School of Computer and Communication Sciences - Institute of Computer and Communication Sciences</p>
--

EPFL-IC-IINFCOM-LSP
EPFL - LABORATORY OF PERIPHERAL SYSTEMS
PROF. R. HERSCH

186 MOIRÉ-BASED OPTICALLY VARIABLE DEVICES 186

EXTERNAL LABORATORIES

**UNIVERSITY OF BASEL
PD. M. CALAME**

187	SILICON NANOWIRES ISFET FOR BIOSENSING	187
-----	--	-----

**UNIVERSITY OF BERN
PROF. O. GUENAT**

188	IN VITRO MICROVASCULATURE ARRAY	188
-----	---------------------------------	-----

**UNIVERSITY OF BERN
PROF. J.P. KUCERA**

189	STRETCHABLE ELECTRODE ARRAYS FOR CARDIAC ELECTROPHYSIOLOGY	189
-----	--	-----

**UNIVERSITY OF GENEVA
PROF. H. ZBINDEN**

190	SUPERCONDUCTING NANOWIRE SINGLE-PHOTON DETECTORS	190
-----	--	-----

**UNIVERSITY OF GENEVA
PROF. K. SUGIHARA**

191	PREPARATION OF Si ₃ N ₄ MICROPOROUS SUBSTRATES FOR PORE SPANNING LIPID BILAYER FORMATION	191
-----	--	-----

**UNIVERSITY OF LAUSANNE
PROF. J.R. VAN DER MEER**

192	PDMS CHIPS TO STUDY BACTERIAL CHEMOTAXIS	192
193	DEVELOPMENT OF A MICROCHEMOSTAT FOR BIOREPORTER CELLS IN MARINE SYSTEMS	193

**KOC UNIVERSITY, ISTANBUL
PROF. B.E. ALACA**

194	FABRICATION OF SUSPENDED SiO ₂ NANOWIRES FROM E-BEAM RESISTS (HSQ 6% AND FOX 16)	194
195	SOI BASED INTEGRATION AND RELEASE OF SINGLE SUSPENDED SILICON NANOWIRE WITH MEMS COMB-DRIVE ACTUATOR	195

CERN, GENEVA

196	PALPIDE-3 TEST CHIPS FOR THE ALICE EXPERIMENT AT CERN	196
197	ULTRA-LIGHT MICROFABRICATED SILICON MICROCHANNEL DEVICES FOR THE THERMAL MANAGEMENT OF FUTURE PARTICLE DETECTORS	197
198	OPTICAL DIFFRACTION RADIATION TARGET FOR ATF2 JAPAN	198
199	TOWARDS A FULLY-INTEGRATED MICROFLUIDIC SCINTILLATION DETECTOR	199
200	ELECTROPLATED MOLDS FOR THE FABRICATION OF POLYMERIC MICROFLUIDIC SCINTILLATION DETECTORS	200

CSEM SA, NEUCHATEL

201	MEMS RELIABILITY FOR HARSH ENVIRONMENT & FAILURE ANALYSIS	201
202	CELL PATTERNING THROUGH STENCILS	202

EMPA, DUBENDORF

203	SU8 UV-LIGA MOLDS FOR MICROMECHANICAL TEST SPECIMENS	203
-----	--	-----

COMPANIES

ALEVA NEUROTHERAPEUTICS SA, LAUSANNE

204 MICROELECTRODES FOR PARKINSONS DISEASE 204

BRUKER BIOSPIN GROUP, FALLANDEN

205 MICROMACHINING TECHNOLOGIES FOR NUCLEAR MAGNETIC RESONANCE BASED
TECHNIQUES AND DEVICES 205

DEBIOTECH SA, LAUSANNE

206 CHRONOFLOW™ : FABRICATION OF PASSIVE FLOW REGULATORS FOR HIGH
PRESSURE MEDICAL APPLICATIONS 206

LEMAN MICRO DEVICES SA LEMAN, LAUSANNE

207 COMPACT BLOOD PRESSURE MODULE 207

LSPR AG, ZURICH

208 FABRICATION OF SUB-10 NM GAP IN PLASMONIC NANOSTRUCTURES 208

MACKINAC MICROOPTICS SA, NEUCHATEL

209 MICRO-OPTICAL ELEMENTS 209

MEISTER ABRASIVES, ANDELFINGEN

210 GRINDING DEVELOPMENTS ON SEMICONDUCTOR APPLICATIONS 210

MORPHOTONIX SARL, LAUSANNE

211 COST-EFFECTIVE MICRO-STRUCTURING OF 3D FREE-FORM TOOLS FOR POLYMER
PROCESSING 211

NANOWORLD AG, NEUCHATEL

212 VERY SOFT AND DRIFT FREE CANTILEVERS FOR APPLICATIONS IN BIOLOGY 212

QWANE BIOSCIENCES SA, LAUSANNE

213 MICRO-ELECTRODE ARRAY BIOCHIPS 213

SIGATEC SA, SION

214 SILICON MICROPARTS: ADVANCED PROCESSES 214

SILMACH SA, FRANCE

215 MEMS-BASED PASSIVE TIMER USING HYBRIDIZATION OF SILICON & NICKEL PARTS 215

MANUFACTURE HORLOGÈRE VALFLEURIER, BUTTES

216 STUDY OF SU8 FOR INDUSTRIAL APPLICATIONS 216

TEACHING

TRAINING FOR UNDERGRADUATE STUDENTS

217 THERMAL MICROACTUATORS MICRO-433-434 (MASTER IN MICROTECHNOLOGY) 217