



## List of topics

Upon submission, indicate on the form one of the following topics that best describes the abstract

### Applied Surface Science (ASS)

- 001 Adhesion
- 002 Biomaterials
- 003 Catalytic materials and catalysis
- 004 Characterization of nanomaterials
- 005 Complex Surfaces using Synchrotron Radiation
- 006 Environmental analysis
- 007 High pressure surface studies
- 008 Heritage and conservation
- 009 Imaging
- 010 Oxidation and corrosion
- 011 Polymeric materials
- 012 Quantification and data interpretation
- 013 Reference Materials and standardization
- 014 Surface modification and functionalization
- 015 Thin films and depth profiling
- 016 Tribology

### Electronic Materials and Processing (EMP)

- 017 Fundamental mechanisms in dry etching
- 018 New developments in lithography
- 019 Fundamental properties of superlattices
- 020 Applications of high speed semiconductors
- 021 Metal/semiconductor interfaces
- 022 Ferroelectric materials
- 023 Applications of opto-electronics
- 024 Silicides and interconnects in VLSI
- 025 Films: Epitaxial growth
- 026 Thin insulators for photovoltaic and thin film display applications
- 027 Semiconductor surfaces quantum well structures
- 028 Heteroepitaxy
- 029 Chemical vapor deposition
- 030 Wide band gap semiconductors
- 031 Narrow band gap semiconductors
- 032 High k dielectrics

### Nano Science (NS)

- 033 Spin-sensitive SPM probing
- 034 Tunneling spectroscopy
- 035 SPM and electrical probes
- 036 STM induced light emission
- 037 Noncontact force microscopy
- 038 Low temperature SPM
- 039 High frequency SPM
- 040 Novel SPM techniques
- 041 Multiprobe SPM
- 042 Ultrasonics and AFM
- 043 Single atom and single molecule manipulation
- 044 Nanostructuring
- 045 NEMS
- 046 Nanotribology
- 047 Nearfield optical spectroscopy
- 048 Optical tweezers
- 049 Bio-molecular interactions
- 050 Imaging of biomolecules, membranes and cells
- 051 Biological motors
- 052 Nano-implants and prostheses

053	Bio-nano-sensors
054	Microfluidics and lab on a chip
055	Nanowires
056	Electrical transport through molecules
057	Molecules on surfaces
058	Novel circuit architecture
059	Spins and spin-qubits in quantum dots, decoherence of qubits
060	Spin detection, spin injection and spin transport
061	Control of nuclear spins
062	Superconducting qubits
063	Spin-optoelectronics
064	Spin hall effect and magnetic semiconductors
065	Self-assembly and self-organization
066	Clusters, nanoparticles and nanotubes
067	Metals, semiconductors and insulators
068	Magnetic structures and superconductors

### Plasma Science and Technology (PST) (see also Fusion)

069	Plasma deposition
070	Plasma-surface interactions
071	Atmospheric type discharges
072	Micro discharges and related industrial applications
073	Plasma processes for sterilization/cleaning especially in biological applications
074	Plasma monitoring and simulation
075	Plasma treatments of resists/organic films and Line Edge Roughness
076	EUV and X-ray plasma technology
077	Plasma etching
078	Technological plasmas

### Surface Science (SS)

079	Adsorbate dynamics and scattering
080	Atomic manipulation
081	Chemical reactions
082	Diffusion and growth
083	Electronic structure
084	Electronic structure, semiconductors
085	Surface electronic structure and strongly correlated systems
086	Environmental and biological surface science
087	Geometric structure
088	Liquid-solid and liquid-liquid interfaces
089	Magnetic properties of surfaces
090	New method and techniques in surface science
091	Oxide surfaces
092	Photon or electron induced and ultrafast processes
093	Phase transitions, statistical mechanics and thermodynamics
094	Sliding friction, tribology, fracture
095	Small particles, clusters and novel structures

### Thin Film and Surface Engineering (TF & SE)

096	Fundamentals in thin film growth (nucleation and growth, experimental and modelling)
097	Fundamentals in thin film processing: CVD coatings and technologies
098	Fundamentals in thin film processing: Ionized-PVD techniques for thin film deposition
099	Fundamentals in thin film processing: Atomic layer deposition and applications
100	Fundamentals in thin film processing: Reactive sputtering
101	Thin films for energy applications (solar cells, fuel cells, hydrogen storage, batteries, electrochromic devices)
102	Magnetic thin films and applications
103	Physics and chemistry of protective films (wear, barrier, health...)
104	Micromechanical properties and adhesion of thin films
105	Optical coatings
106	Advances in situ and ex situ thin film characterization
107	Dielectric and multi-functional compound growth and processing (oxides, nitrides...)
108	Compositionally-modulated and nanostructured thin films
109	Polymeric, organic and bio-related thin films
110	Vacuum melting, refining and allied techniques
111	Metals recovery, powder processing and product characterization
112	Other coatings for science and technology
113	Tribology, corrosion, high temperature oxidation
114	Design of large scale vacuum processing equipment
115	High rate thin film deposition

## Vacuum Science and Technology (VST)

- 116 Vacuum measurement and calibration (total pressure, partial pressure, residual gas analysis)
- 117 Vacuum pumps and hardware, vacuum in industry (Semiconductor & functional coating systems and processes, handling of toxic and corrosive gases, safety and quality control)
- 118 Vacuum systems (design, modeling, simulation, accelerators, large systems)
- 119 Outgassing and adsorption/desorption phenomena, water in vacuum systems
- 120 Gettering related phenomena and applications (NEG coatings and applications)
- 121 Sealed and insulation vacuum systems and leak detection (Vacuum packaging and MEMS/NEMS)
- 122 Vacuum gas dynamics and gas flow (Molecular flow and plasma flow simulation and its application)
- 123 Vacuum in space research. Special vacuum issues in high energy physics research (new accelerators, particle-induced outgassing...)

## Other Special Sessions (OSS)

- 124 Education in nano and vacuum based science
- 125 Outreach and industrial

## Fusion (F)

- 126 Large fusion devices
- 127 Plasma-wall interactions related to fusion
- 128 Plasma operation with High-Z and Low-Z materials environment
- 129 Plasma diagnostics for fusion applications
- 130 Laboratory-scale experiments relating to fusion

## Free Electron Laser Session (FEL)

- 131 Science at free electron lasers (FEL)
- 132 FEL technology
- 133 X-ray optics and detectors for FEL
- 134 FEL theory

## Advanced Synchrotron Radiation Session (ASR)

- 135 Micro- and nanofocussing
- 136 Coherent radiation and new synchrotron radiation sources
- 137 Studies of dynamic processes with synchrotron radiation
- 138 New possibilities for studies of magnetism
- 139 Developments in X-ray scattering techniques
- 140 Technical improvements of synchrotron radiation sources
- 141 Low temperature scanning PROBE microscopy