

# Schedule by Category (I)

Category Section	March 9 (Sat.)		March 10 (Sun.)		March 11 (Mon.)		March 12 (Tue.)	
	AM	PM	AM	PM	AM	PM	AM	PM
<b>Special Symposium</b>								
SP1 Roles and Collaboration between National-Public-Private Universities across Nations	W922 09:50 ~ 12:20							
SP2 System and Environment to Make Researchers Happier		W922 13:20 ~ 17:20						
SP3 International Roadmaps on Systems and Devices 2019, Searching xenogeneic technology innovations	W521 09:00 ~ 12:00							
SP4 Accelerating Trend to Electrification of Vehicles - Concerned Development of Battery, Power Semiconductor, Motor and System -		70A 13:00 ~ 17:30						
SP5 Present and future on infomatics technologies				70A 13:00 ~ 17:20				
SP6 How can we improve our research environment?				W242 13:00 ~ 17:45				
SP7 Growing Japanese Electronics Industry - Take A Look at Motivated Engineers to Make A Smart Society !					W241 10:00 ~ 12:00			
<b>Symposium</b>								
S1 Physics education on environment and energy			W935 09:30 ~ 12:15					
S2 Recent topics in measurement standards				S011 13:45 ~ 16:55				
S3 Various Applications of Fiber-optic Sensing Technology				M135 13:30 ~ 17:15				
S4 Progress of characterization and monitoring techniques that reveal fundamental of light process				M114 13:30 ~ 18:15				
S5 Nano-Material optical-manipulations open up novel phenomena, functions and technologies					M135 13:30 ~ 19:00			
S6 Quantum sensing toward ultimate sensitivity		M111 13:30 ~ 18:35						
S7 Surface Science Innovation by Positron Diffraction and High Performance Data Driven Science		W833 13:30 ~ 17:55						
S8 Nanoscale 2D/3D analyses for new device and materials development II				W933 13:30 ~ 17:45				
S9 Frontier in oxide materials with predictive materials design					W241 13:30 ~ 17:15			
S10 Carbon related materials and plasma processing; state of the art and subjects				M103 13:30 ~ 16:25				
S11 Spin Devices for the IoT/IoH Era				M101 13:30 ~ 16:45				
S12 Colloidal Quantum Dots: Fundamentals and Applications				M111 13:30 ~ 17:40				
S13 Science of the Material Intelligence: Bringing out the Intrinsic Learning and Optimization Capabilities of Materials				W810 13:30 ~ 18:00				
S14 Interplay and integration of experiments and calculations in nanobiotechnology: lipid membrane and membrane proteins					M121 13:30 ~ 17:45			
S15 New trend of multinary compound research ~ control of physical properties, new application~		W933 13:15 ~ 17:35						
S16 Integrated Systems for Developing IoT				M121 13:30 ~ 16:45				
S17 Advanced ion microscopy for future nano scale materials and devices					W934 13:30 ~ 17:45			
S18 Science created by singularity in nitride-semiconductors; Development of nano-characterization and control of material properties		W541 13:30 ~ 18:00						
S19 Progress in ion implantation for semiconductor devices -Si, GaAs and WBG materials-				W922 13:30 ~ 17:50				
S20 Symposium on Crystal Science with Synchrotron Radiation					W933 13:30 ~ 18:45			
S21 Recent Progress of Energy Harvesting					W242 09:00 ~ 12:15	W242 13:45 ~ 15:15		
S22 Pioneering of Frontier technology for metal oxide novel device I -from thin film fabrication to device creation -				W241 13:30 ~ 17:15				
<b>31 Focused Session "AI Electronics"</b>								
31.1 Focused Session "AI Electronics"					W810 09:00 ~ 11:45	W810 13:15 ~ 18:00	PA4 09:30 ~ 11:30	W933 13:15 ~ 16:00
<b>Code-sharing session</b>								
CS1 Code-sharing Session of 3.2 & 12.3			M136 09:30 ~ 12:00					
CS2 Code-sharing Session of 3.5 & 3.14				W834 17:15 ~ 18:30				
CS3 Code-sharing Session of 3.11 & 13.6							W631 09:00 ~ 12:30	
CS4 Code-sharing Session of 3.15 & 3.16			W331 09:15 ~ 12:15					
CS5 Code-sharing Session of 6.1 & 13.3 & 13.5				W631 13:45 ~ 17:00				
CS6 Code-sharing Session of 6.5 & 7.6					S224 10:30 ~ 12:00			
CS7 Code-sharing Session of 7.4 & 9.5			S423 09:00 ~ 12:00	S423 13:30 ~ 17:15				
CS8 Code-sharing Session of 9.4 & 12.3 & M				W351 13:45 ~ 18:00				
CS9 Code-sharing Session of 10.1, 10.2, 10.3 & 10.4					M101 09:00 ~ 12:00	M101 13:15 ~ 15:00		

## Schedule by Category (II)

Category Section	March 9 (Sat.)		March 10 (Sun.)		March 11 (Mon.)		March 12 (Tue.)	
	AM	PM	AM	PM	AM	PM	AM	PM
<b>1 Interdisciplinary Physics and Related Areas of Science and Technology</b>								
1.1 Interdisciplinary and General Physics						PA1 13:30 ~ 15:30	W833 10:00 ~ 12:00	W833 13:15 ~ 15:00
1.2 Education						PA7 16:00 ~ 18:00		
1.3 Novel technologies and interdisciplinary engineering			S321 09:00 ~ 12:30			PA2 13:30 ~ 15:30		
1.4 Energy conversion, storage, resources and environment		S321 13:45 ~ 18:00				PA3 13:30 ~ 15:30		
1.5 Instrumentation, measurement and Metrology						M116 13:15 ~ 17:00	PA1 09:30 ~ 11:30	
1.6 Ultrasonics		W834 13:15 ~ 16:30		PB1 13:30 ~ 15:30				
<b>2 Ionizing Radiation</b>								
2.1 Radiation physics and Detector fundamentals					S622 10:45 ~ 11:45	S622 13:00 ~ 15:30		
2.2 Detection systems					S622 09:45 ~ 10:45	PB4 16:00 ~ 18:00	M103 09:00 ~ 11:45	M103 13:15 ~ 16:15
2.3 Application, radiation generators, new technology	M103 10:00 ~ 11:30	M103 13:15 ~ 17:30	M112 10:00 ~ 11:30					
<b>3 Optics and Photonics</b>								
3.1 Basic optics and frontier of optics	M116 09:00 ~ 11:15	M116 13:15 ~ 17:00	M116 09:00 ~ 11:15		PA1 09:30 ~ 11:30			
3.2 Equipment optics and materials				S321 13:45 ~ 15:45	PA2 09:30 ~ 11:30			
CS1 Code-sharing Session of 3.2 & 12.3			M136 09:30 ~ 12:00					
3.3 Information photonics and image engineering			PA1 09:30 ~ 11:30	W331 13:45 ~ 18:00	M114 10:30 ~ 11:45			
3.4 Biomedical optics	W641 09:00 ~ 12:15	W641 13:45 ~ 16:15			PA3 09:30 ~ 11:30			
3.5 Laser system and materials			W834 09:00 ~ 12:15	W834 13:15 ~ 17:00	PA4 09:30 ~ 11:30			
CS2 Code-sharing Session of 3.5 & 3.14				W834 17:15 ~ 18:30				
3.6 Ultrashort-pulse and high-intensity lasers	M135 09:00 ~ 11:30	M135 13:15 ~ 18:00	M135 09:00 ~ 12:00				PA2 09:30 ~ 11:30	
3.7 Laser processing	W631 09:00 ~ 12:15	W631 13:45 ~ 16:45	W631 09:00 ~ 12:15					
		PB2 16:00 ~ 18:00						
3.8 Optical measurement, instrumentation, and sensor		W935 13:15 ~ 17:15	PA2 09:30 ~ 11:30		W935 09:00 ~ 11:45	W935 13:15 ~ 16:30		
3.9 Terahertz technologies				PB2 13:30 ~ 15:30	S421 09:00 ~ 12:15	S421 13:45 ~ 18:45	S421 09:00 ~ 12:00	
3.10 Optical quantum physics and technologies	PB1 09:30 ~ 11:30			S422 13:45 ~ 17:00				
3.11 Photonic structures and phenomena				PB3 13:30 ~ 15:30	W631 09:30 ~ 12:15	W631 13:45 ~ 18:30		W631 13:45 ~ 16:15
CS3 Code-sharing Session of 3.11 & 13.6							W631 09:00 ~ 12:30	
3.12 Nanoscale optical science and near-field optics	W621 09:00 ~ 12:15	W621 13:30 ~ 18:15	W621 09:00 ~ 12:30	W621 13:45 ~ 18:30		PB1 13:30 ~ 15:30		
3.13 Semiconductor optical devices				PB4 16:00 ~ 18:00		W611 13:45 ~ 17:00	W611 09:00 ~ 12:00	W611 13:45 ~ 16:45
3.14 Optical control devices and optical fibers						PB2 13:30 ~ 15:30	M116 09:15 ~ 11:30	M116 13:15 ~ 16:45
CS2 Code-sharing Session of 3.5 & 3.14				W834 17:15 ~ 18:30				
3.15 Silicon photonics	PB2 09:30 ~ 11:30				W331 09:45 ~ 12:15	W331 13:45 ~ 17:30		
CS4 Code-sharing Session of 3.15 & 3.16			W331 09:15 ~ 12:15					
3.16 Optics and Photonics English Session		W331 13:45 ~ 16:45						
CS4 Code-sharing Session of 3.15 & 3.16			W331 09:15 ~ 12:15					
<b>6 Thin Films and Surfaces</b>								
6.1 Ferroelectric thin films			PA3 09:30 ~ 11:30		W351 09:00 ~ 12:00	W351 13:00 ~ 17:00		
CS5 Code-sharing Session of 6.1 & 13.3 & 13.5				W631 13:45 ~ 17:00				
6.2 Carbon-based thin films		M113 13:30 ~ 15:30	M113 10:00 ~ 11:30		M113 09:00 ~ 11:45	M113 13:15 ~ 19:00		
		PA3 16:00 ~ 18:00						
6.3 Oxide electronics	W933 09:00 ~ 11:30	PA4 16:00 ~ 18:00	W641 09:00 ~ 11:45	W641 13:45 ~ 18:15	W641 09:00 ~ 11:45			
6.4 Thin films and New materials	W323 09:00 ~ 12:15	PA1 13:30 ~ 15:30	W323 09:00 ~ 12:15	W323 13:45 ~ 18:15				
6.5 Surface Physics, Vacuum				PA5 16:00 ~ 18:00			W834 09:00 ~ 10:30	
CS6 Code-sharing Session of 6.5 & 7.6					S224 10:30 ~ 12:00			
6.6 Probe Microscopy	M112 09:00 ~ 12:00	PA5 16:00 ~ 18:00	W933 09:00 ~ 11:00		W933 09:00 ~ 11:45		W933 09:00 ~ 12:00	

## Schedule by Category (III)

Category Section	March 9 (Sat.)		March 10 (Sun.)		March 11 (Mon.)		March 12 (Tue.)	
	AM	PM	AM	PM	AM	PM	AM	PM
<b>7 Beam Technology and Nanofabrication</b>								
7.1 X-ray technologies				M112 13:15 ~ 15:00				
7.2 Applications and technologies of electron beams	S223 09:30 ~ 12:00			PA6 16:00 ~ 18:00				
7.3 Micro/Nano patterning and fabrication		S223 13:45 ~ 17:00						
7.4 Buried interface sciences with quantum beam								
CS7 Code-sharing Session of 7.4 & 9.5			S423 09:00 ~ 12:00					
7.5 Ion beams			S224 09:30 ~ 11:30					
7.6 Atomic/molecular beams and beam-related new technologies								
CS6 Code-sharing Session of 6.5 & 7.6					S224 10:30 ~ 12:00			
<b>8 Plasma Electronics</b>								
8.1 Plasma production and diagnostics		W323 13:30 ~ 18:00					PB1 09:30 ~ 11:30	
8.2 Plasma deposition of thin film, plasma etching and surface treatment					PA5 09:30 ~ 11:30	W641 13:45 ~ 17:30	W641 09:00 ~ 12:45	
8.3 Plasma nanotechnology			W241 09:00 ~ 10:45		PA6 09:30 ~ 11:30			
8.4 Plasma life sciences		W241 13:45 ~ 17:00			W611 09:00 ~ 12:00		PB2 09:30 ~ 11:30	
8.5 Plasma phenomena, emerging area of plasmas and their new applications					PA7 09:30 ~ 11:30	W323 13:45 ~ 17:45		
8.6 Plasma Electronics English Session			M103 09:00 ~ 10:45					
8.7 Plasma Electronics Invited Talk			W241 11:00 ~ 11:30					
8.8 Plasma Electronics Award Ceremony			W241 11:30 ~ 11:45					
<b>9 Applied Materials Science</b>								
9.1 Dielectrics, ferroelectrics			PA4 09:30 ~ 11:30	M116 13:00 ~ 19:00				
9.2 Nanoparticles, Nanowires and Nanosheets				PA1 13:30 ~ 15:30	W833 09:00 ~ 11:45	W833 13:15 ~ 16:30		
9.3 Nanoelectronics						PA8 16:00 ~ 18:00	W934 09:15 ~ 11:45	W934 13:15 ~ 16:00
9.4 Thermoelectric conversion	PA1 09:30 ~ 11:30	W351 13:45 ~ 17:00	W351 10:30 ~ 12:00					
CS8 Code-sharing Session of 9.4 & 12.3 & M				W351 13:45 ~ 18:00				
9.5 New functional materials and new phenomena				PA7 16:00 ~ 18:00				
CS7 Code-sharing Session of 7.4 & 9.5			S423 09:00 ~ 12:00					
<b>10 Spintronics and Magnetism</b>								
CS9 Code-sharing Session of 10.1, 10.2, 10.3 & 10.4					M101 09:00 ~ 12:00	M101 13:15 ~ 15:00		
10.1 Emerging materials in spintronics and magnetism (including fabrication and characterization methodologies)		PB1 13:30 ~ 15:30 M101 16:00 ~ 18:00	M101 09:00 ~ 11:15					
10.2 Fundamental and exploratory device technologies for spin		PB1 13:30 ~ 15:30	M101 11:30 ~ 12:30			M101 15:15 ~ 17:00		
10.3 Spin devices, magnetic memories and storages						M101 17:15 ~ 19:00	M101 09:00 ~ 10:30	
10.4 Semiconductor spintronics, superconductor, multiferroics							M101 10:45 ~ 12:00	M101 13:00 ~ 17:00
10.5 Application of magnetic field				M113 13:15 ~ 18:00				
<b>11 Superconductivity</b>								
11.1 Fundamental properties					S423 09:00 ~ 11:45	S423 12:45 ~ 17:45		
11.2 Thin and thick superconducting films, coated conductors and film crystal growth					S321 09:00 ~ 10:15			
11.3 Critical Current, Superconducting Power Applications			PA5 09:30 ~ 11:30	S224 13:45 ~ 18:15				
11.4 Analog applications and their related technologies						S321 13:45 ~ 18:30		
11.5 Junction and circuit fabrication process, digital applications				S223 13:45 ~ 16:45				
<b>12 Organic Molecules and Bioelectronics</b>								
12.1 Fabrications and Structure Controls		PB3 16:00 ~ 18:00	M111 09:00 ~ 11:45		M111 09:00 ~ 11:45	M111 13:15 ~ 18:30		
12.2 Characterization and Materials Physics		PA6 16:00 ~ 18:00	W810 09:15 ~ 12:00		M112 09:00 ~ 12:00	M112 13:15 ~ 17:45		
12.3 Functional Materials and Novel Devices	PA2 09:30 ~ 11:30	M136 13:30 ~ 15:30			M136 09:00 ~ 11:45	S224 13:45 ~ 15:15		
CS1 Code-sharing Session of 3.2 & 12.3			M136 09:30 ~ 12:00					
CS8 Code-sharing Session of 9.4 & 12.3 & M				W351 13:45 ~ 18:00				
12.4 Organic light-emitting devices and organic transistors		PA2 13:30 ~ 15:30	S222 09:00 ~ 12:15	S222 13:45 ~ 18:00	S222 09:00 ~ 12:15	S222 13:45 ~ 17:15		
12.5 Organic solar cells	S222 09:00 ~ 12:15	S222 13:45 ~ 17:00	PB1 09:30 ~ 11:30		S221 09:00 ~ 12:15	S221 13:45 ~ 17:15	S221 09:00 ~ 12:15	
12.6 Nanobiotechnology	W242 09:00 ~ 12:15	W242 13:45 ~ 17:45	W242 09:00 ~ 10:30	PA2 13:30 ~ 15:30				
12.7 Biomedical Engineering and Biochips	S421 09:00 ~ 12:15	S421 13:45 ~ 18:00	S421 09:00 ~ 12:15	PA3 13:30 ~ 15:30				
				S421 15:45 ~ 18:15				

## Schedule by Category (IV)

Category Section	March 9 (Sat.)		March 10 (Sun.)		March 11 (Mon.)		March 12 (Tue.)	
	AM	PM	AM	PM	AM	PM	AM	PM
<b>13 Semiconductors</b>								
13.1 Fundamental properties, surface and interface, and simulations of Si related materials			W934 09:00 ~ 12:00	W934 13:30 ~ 16:45	PB1 09:30 ~ 11:30			
13.2 Exploratory Materials, Physical Properties, Devices			PB2 09:30 ~ 11:30			W834 13:15 ~ 18:30		
13.3 Insulator technology					PB2 09:30 ~ 11:30	M136 13:15 ~ 17:15		
CS5 Code-sharing Session of 6.1 & 13.3 & 13.5				W631 13:45 ~ 17:00				
13.4 Si processing /Si based thin film / MEMS / Equipment technology	M114 09:00 ~ 12:00	M114 13:15 ~ 15:45	M114 09:00 ~ 12:00		W934 09:00 ~ 11:45		PB3 09:30 ~ 11:30	
13.5 Semiconductor devices/ Interconnect/ Integration technologies		S221 13:45 ~ 17:45	S221 09:00 ~ 12:00	S221 13:45 ~ 17:00	PB3 09:30 ~ 11:30			
CS5 Code-sharing Session of 6.1 & 13.3 & 13.5				W631 13:45 ~ 17:00				
13.6 Nanostructures, quantum phenomena, and nano quantum devices				PA4 13:30 ~ 15:30		M103 13:15 ~ 16:00		
CS3 Code-sharing Session of 3.11 & 13.6							W631 09:00 ~ 12:30	
13.7 Compound and power electron devices and process technology	M121 09:30 ~ 12:30	M121 14:00 ~ 17:45	M121 09:00 ~ 11:45		M121 09:00 ~ 12:15	PB3 13:30 ~ 15:30	M121 09:00 ~ 11:30	
13.8 Optical properties and light-emitting devices			S223 09:30 ~ 12:15		S223 09:30 ~ 12:15	S223 13:45 ~ 18:00	PB4 09:30 ~ 11:30	
13.9 Compound solar cells			PB3 09:30 ~ 11:30	W321 13:15 ~ 17:30	W321 09:30 ~ 12:00	W321 13:45 ~ 17:30		
<b>15 Crystal Engineering</b>								
15.1 Bulk crystal growth	S422 09:00 ~ 12:15	S422 13:30 ~ 18:00						
15.2 II-VI and related compounds			W922 09:00 ~ 11:15					
15.3 III-V-group epitaxial crystals, Fundamentals of epitaxy					S422 09:30 ~ 12:15	PA4 13:30 ~ 15:30		
						S422 13:45 ~ 17:00		
15.4 III-V-group nitride crystals	W541 09:00 ~ 12:15		W541 09:00 ~ 12:15	W541 13:30 ~ 19:00	W541 09:00 ~ 12:15	W541 13:30 ~ 19:00	W541 09:00 ~ 12:15	W541 13:30 ~ 17:00
					PB4 09:30 ~ 11:30			
15.5 Group IV crystals and alloys						PA5 13:30 ~ 15:30	M113 09:30 ~ 11:30	M113 13:15 ~ 15:30
15.6 Group IV Compound Semiconductors (SiC)	PB3 09:30 ~ 11:30		70A 09:00 ~ 12:00		70A 09:00 ~ 11:45	70A 13:00 ~ 17:30		
15.7 Crystal characterization, impurities and crystal defects						PA6 13:30 ~ 15:30	M111 09:30 ~ 12:00	M111 13:30 ~ 17:00
<b>16 Amorphous and Microcrystalline Materials</b>								
16.1 Fundamental properties, evaluation, process and devices in disordered materials		PB4 16:00 ~ 18:00	W833 09:00 ~ 11:30	W833 13:15 ~ 17:45				
16.2 Energy Harvesting	W371 09:00 ~ 10:00	PB5 16:00 ~ 18:00						
16.3 Bulk, thin-film and other silicon-based solar cells	W611 09:30 ~ 11:45	W611 13:30 ~ 15:45	W611 09:30 ~ 12:00	W611 13:30 ~ 17:30				
		PB6 16:00 ~ 18:00						
<b>17 Nanocarbon Technology</b>								
17.1 Carbon nanotubes & other nanocarbon materials				PA8 16:00 ~ 18:00	W621 09:30 ~ 11:45	W621 13:45 ~ 18:30		
				PB5 16:00 ~ 18:00				
17.2 Graphene		W521 13:45 ~ 18:00	W521 09:00 ~ 12:15	W521 13:45 ~ 15:45	W521 09:00 ~ 10:00			
				PA8 16:00 ~ 18:00				
				PB5 16:00 ~ 18:00				
17.3 Layered materials				PA8 16:00 ~ 18:00	W521 10:00 ~ 11:30	W521 13:45 ~ 18:30	W521 09:00 ~ 11:30	
				PB5 16:00 ~ 18:00				
<b>21 Joint Session K "Wide bandgap oxide semiconductor materials and devices"</b>								
21.1 Joint Session K "Wide bandgap oxide semiconductor materials and devices"		S011 13:45 ~ 17:15	S011 09:00 ~ 11:15		S011 09:00 ~ 11:30	S011 13:45 ~ 18:45	PA3 09:30 ~ 11:30	
<b>22 Joint Session M "Phonon Engineering"</b>								
22.1 Joint Session M "Phonon Engineering"	PA3 09:30 ~ 11:30	W371 13:45 ~ 18:15	W371 09:00 ~ 12:15					
CS8 Code-sharing Session of 9.4 & 12.3 & M				W351 13:45 ~ 18:00				
<b>23 Joint Session N "Informatics"</b>								
23.1 Joint Session N "Informatics"	W321 09:00 ~ 12:00	W321 13:45 ~ 17:45	W321 09:00 ~ 11:45		PA8 09:30 ~ 11:30			