

7th International Symposium on  
Advanced Plasma Science and its Applications for Nitrides and Nanomaterials/  
8th International Conference on Plasma-Nano Technology & Science

# ISPlasma2015 IC-PLANTS2015

March 26-31, 2015  
Nagoya University, Japan



## Program

### Special Lecture / Plenary Lecture

A-1 Plasma Engineering	Oral Session March 27 (Fri.)	Poster Session March 27 (Fri.)
A-2 Plasma Deposition	Oral Session March 30 (Mon.)	Poster Session March 30 (Mon.)
A-3 Plasma Medicine	Oral Session March 28 (Sat.)	Poster Session March 28 (Sat.)
A-4 Plasma Applications	Oral Session 1 March 27 (Fri.) Oral Session 2 March 28 (Sat.) Oral Session 3 March 29 (Sun.)	Poster Session March 28 (Sat.)
A-5 Atmospheric Pressure plasma	Oral Session March 29 (Sun.)	Poster Session March 30 (Mon.)
A-6 Solution Plasma	Oral Session 1 March 28 (Sat.) Oral Session 2 March 29 (Sun.)	Poster Session March 30 (Mon.)
B-1 Nitride Process	Oral Session March 28 (Sat.)	Poster Session March 28 (Sat.)
B-2 Application of Nitride and Other Semiconductors	Oral Session March 29 (Sun.)	Poster Session March 28 (Sat.)
B-3 SiC Diamond Other Related Materials	Oral Session March 27 (Fri.)	Poster Session March 27 (Fri.)
C-1 Nanostructured and Nanocomposite Materials	Oral Session 1 March 27 (Fri.) Oral Session 2 March 28 (Sat.)	Poster Session 1 March 27 (Fri.) Poster Session 2 March 28 (Sat.)
C-2 Catalyst / Battery	Oral Session March 27 (Fri.)	Poster Session March 27 (Fri.)
C-3 Solar Cell	Oral Session March 29 (Sun.)	Poster Session March 30 (Mon.)
C-4 Environmental and Energy Materials	Oral Session 1 March 28 (Sat.) Oral Session 2 March 29 (Sun.) Oral Session 3 March 30 (Mon.)	Poster Session 1 March 28 (Sat.) Poster Session 2 March 30 (Mon.)
C-5 Microfluidics, Nanofluidics, and MicroTAS	Oral Session March 30 (Mon.)	Poster Session March 30 (Mon.)
D-1 Hardcoating	Oral Session March 28 (Sat.)	Poster Session March 28 (Sat.)
D-2 Wet Coating	Oral Session March 29 (Sun.)	Poster Session March 30 (Mon.)
D-3 Functional Thin Films	Oral Session March 27 (Fri.)	Poster Session March 27 (Fri.)
D-4 Biosurface	Oral Session 1 March 29 (Sun.) Oral Session 2 March 30 (Mon.)	Poster Session March 30 (Mon.)

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## Preface

It is my great pleasure to open 7th International Symposium on Advanced Plasma Science and its Applications for Nitrides and Nanomaterials / 8th International Conference on Plasma-Nano Technology & Science (ISPlasma2015 / IC-PLANTS2015). I am also most pleased to welcome outstanding scientists and engineers as invited speakers from the fields of plasma science, functional semiconductors, nanomaterials and nano/micro fabrication and surface functionalization around the world, together with many participants, to this symposium at Nagoya University, Japan. This symposium was initiated in 2009, and the most recent symposium finished with fruitful discussions on advanced plasma nanotechnology science and its applications, including technology transfer. The symposium has continued to play a role in accelerating global exchanges between scientists and engineers, and will enhance basic research activities and transfer their fruits to advanced applications in the plasma-oriented fields of nanomaterials, semiconductor technologies, and nano-processing, the manufacturing machine industry, and the fields of medicine and agriculture. The number of participants has increased every year owing to your great contributions, and the symposium is now recognized as one of the most important of its kind. The symposium focuses on timely, important topics that can enhance cooperative activities in the fields of advanced technology and establish plasma nanotechnology science in the rapidly-developing plasma industry. For all scientists, engineers and students, the symposium is a profitable and attractive opportunity, both to present the latest results and to participate in valuable discussions. Furthermore, the symposium provides a great chance to resolve many problems regarding science and technology in all fields. I firmly believe that plasma nanotechnology science will contribute greatly to the self-sustaining progress of humankind.

I am delighted that ISPlasma2015 / IC-PLANTS2015 is being held at Nagoya University. I warmly welcome all participants and sincerely thank the sponsoring organizations. Finally, I hope you will enjoy both the symposium itself as well as your time in Nagoya.

Nagahiro Saito



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## General Information

### Registration Desk

Thursday, March 26, 2015	17:00-19:00
Friday, March 27, 2015	9:30-18:00
Saturday, March 28, 2015	8:30-18:00
Sunday, March 29, 2015	8:30-17:30
Monday, March 30, 2015	8:30-14:45

### Delegate Badge

A name badge will be provided on the registration desk. Please wear your delegate badge at all times. All entrances to the conference, and social events will be manned by ushers. Only ISPlasma2015/IC-PLANTS2015 participants wearing an appropriate official delegate will be allowed to access the conference site and to attend the scientific and social programs.

### Internet Connection

Wireless LAN is available from March 26 to March 30 in Nagoya University.

### No smoking on campus

Smoking is strictly prohibited in public places of Nagoya University, except in the designated smoking area. If you would like to know the information on the designated smoking booth, please drop in the registration desk.

### Pictures Prohibited

Recording and taking places of presentation slides or posters are prohibited at any session in the venue of ISPlasma2015/IC-PLANTS2015.

## Speaker's Notes

### Oral Presenter Guidelines

- Please confirm your presentation schedule (date, time, and room) in the program in advance.
- You are requested to go to the room where you are a speaker at least 10 minutes prior to the start of your session to meet with the Chair who will introduce your talk.
- Please tick off your name on the list at the door of the session room to show your presence.
- Speakers are encouraged to copy their presentation data into the computer provided in the respective session rooms. Please bring your presentation data in a USB flash memory stick at least 10 minutes prior to the commencement of the session, and load your presentation file in to the session computer.
- If you intend to use your own PC for your presentation, please make sure to check the compatibility of your PC with the projector during the coffee break or lunch break prior to your session.  
<Note for speaker using your own PC>
  - Your PC should have a Mini D-sub15 pin external output terminal to be connected to the PC projector.
  - The output resolution of the PC should be XGA or lower.
  - For those who live outside Japan, please remember to bring your own power adapter.
  - Your PC should be equipped with a power code suitable for a 100V, Type A (Japanese 2-pin) plug.
  - For MAC users, please be sure to bring your MiniDisplay Port to VGA Adapter for connecting to a VGA cable for the projector.
- Please make your presentation in English. There will be no interpretations.
- Please adhere to the time limits of your presentation to ensure smooth proceedings.
- Presentation times are as follows:
  - Plenary Lecture : 40 min. (35 min. Presentation / 5 min. Q&A)
  - Invited Lecture : 30 min. (25 min. Presentation / 5 min. Q&A)
  - Oral Lecture : 15 min. (10 min. Presentation / 5 min. Q&A)

\*Please see the program for detailed presentation time

### Poster Presenter Guidelines

- The poster board is installed in the Poster Session Room. The posters will have a maximum height of 130 cm and a maximum width of 90 cm. The secretariat shall provide pushpins to put your poster.
- Printing service is not available in the Venue.

[Set-up and removal of posters]

- The presenters can put up/remove their posters at the following schedule.
- All poster materials will be discarded if not removed from the boards by the given removal time.

	Set-up time	Removal time
March 27 (Fri.)	12:00 – 16:45	18:00 – 19:00
March 28 (Sat.)	12:00 – 16:45	18:00 – 19:00
March 30 (Mon.)	8:30 – 11:15	12:30 – 13:30

[Posters set-up]

Please put up your poster according to the presentation code on the board.

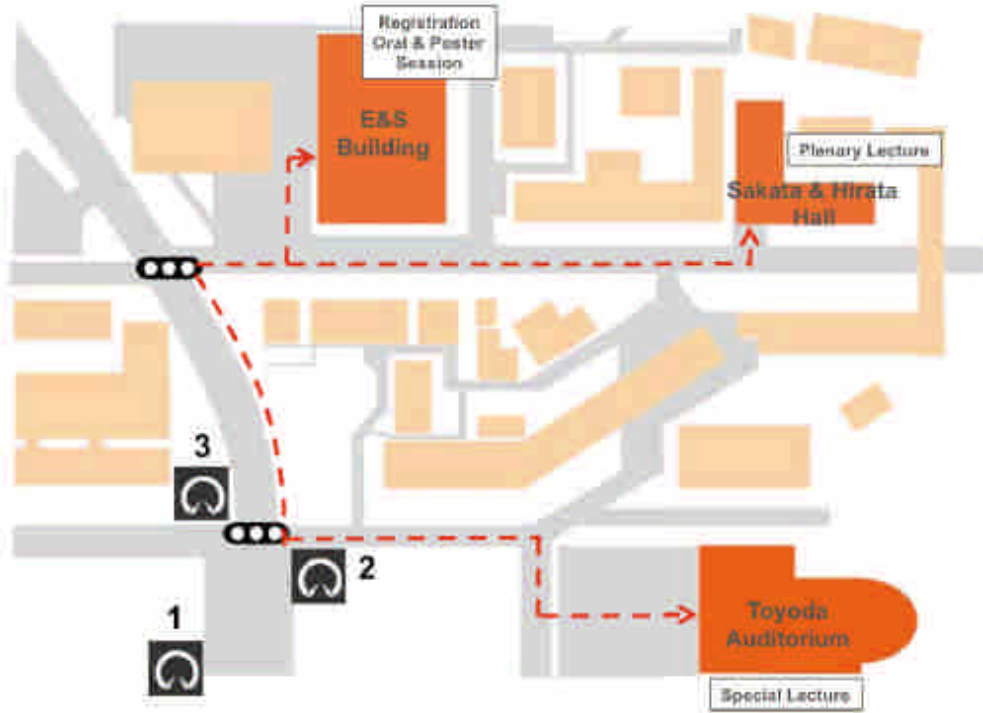
Please confirm your presentation number on the website in advance.

ISPlasma2015/IC-PLANTS2015 Program

Time	3/28 (Th)	3/27 (F)	3/28 (Sat)	3/29 (Sun)	3/30 (Mon)	3/31 (Tue)
8:30				(8:30) Registration		
8:55-10:40		(8:30) Registration	Room1 A6 One session	Room2 B1 One session	Room3 A2 One session	Room4 A2, A5, A6, C3, C4, C5, D2, D4 Three Sessions
10:40-12:20		(10:40) Priority Lectures for Session 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000				
12:00-1:20		Lunch	Room1 A1 One session	Room2 B1 One session	Room3 A2 One session	Lunch
13:00-18:45	Factory Tour	Room1 A1 One session	Room2 B1 One session	Room3 A2 One session	Room4 A2 One session	Room5 A2 One session
18:45-18:50	(17:30-18:00) Registration	Room1 A1 One session	Room2 B1 One session	Room3 A2 One session	Room4 A2 One session	Room5 A2 One session
	(18:30) Welcome Party	Room1 A1 One session	Room2 B1 One session	Room3 A2 One session	Room4 A2 One session	Room5 A2 One session

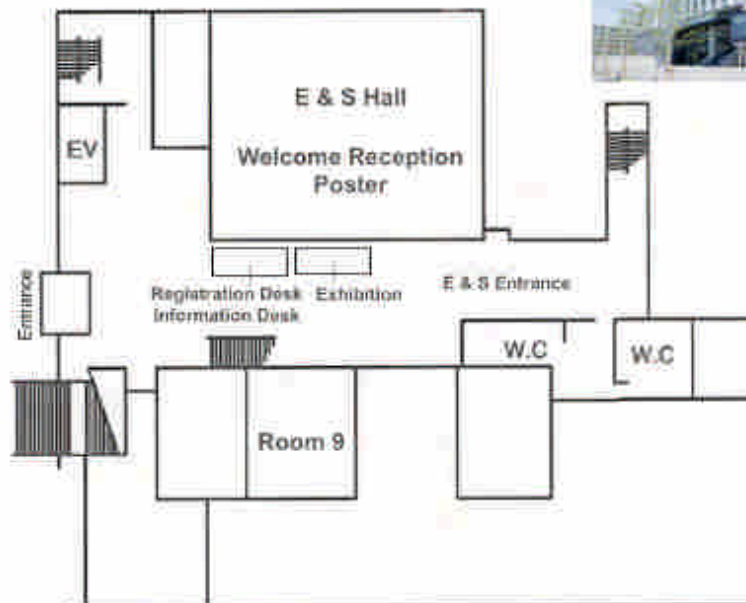
# Campus Map

## Nagoya University



## E & S Building

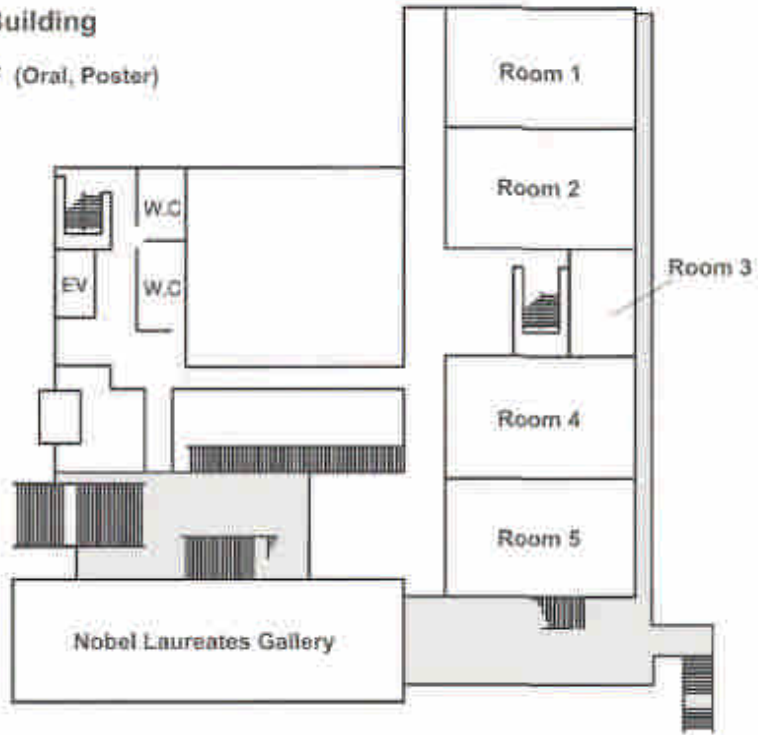
### 1F (Oral & Poster)





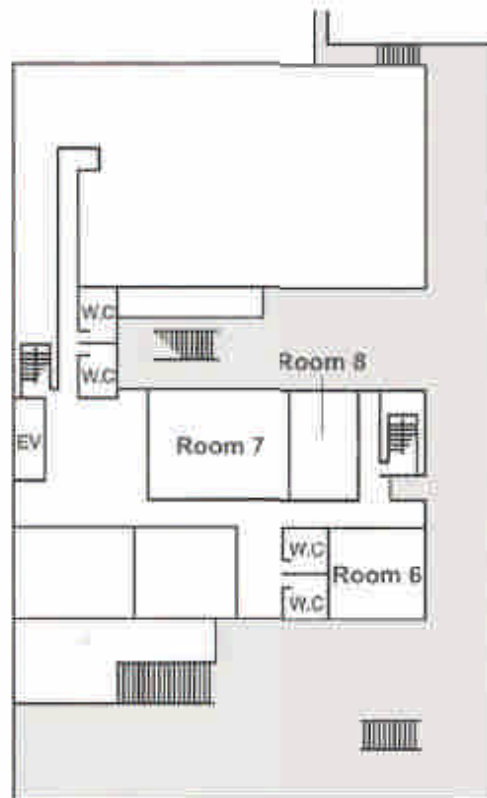
**E & S Building**

2F (Oral, Poster)



**E & S Building**

3F (Oral)



## Special Lecture Toyoda Auditorium

March 29 (Sun.)

14:00 – 15:20 **Beyond Blue LED**  
Hiroshi Amano  
NAGOYA UNIVERSITY

## Plenary Lecture Sakata & Hirata Hall

March 27 (Fri.)

10:40 – 11:20 **Plasma Etching: Current Trends and Future Prospects**  
Vincent M. Donnelly  
DEPARTMENT OF CHEMICAL AND BIOMOLECULAR ENGINEERING, UNIVERSITY OF HOUSTON

11:20 – 12:00 **State-of-the-Art Power Semiconductor SiC**  
Hiroyuki Matsunami  
KYOTO UNIVERSITY

March 28 (Sat.)

10:40 – 11:20 **Some (oxy)nitride Photocatalysts for Water Splitting**  
Kazunari Domen  
DEPARTMENT OF CHEMICAL SYSTEMS ENGINEERING, SCHOOL OF ENGINEERING, THE UNIVERSITY OF TOKYO

11:20 – 12:00 **High Power Impulse Magnetron Sputtering - Physics and Applications**  
Ulf Helmersson  
DEPARTMENT OF PHYSICS, LINKÖPING UNIVERSITY

March 29 (Sun.)

10:40 – 11:20 **Progress in III-Nitride Quantum Dots**  
<sup>1,2</sup>Yasuhiko Arakawa, <sup>1</sup>Mark Holmes, <sup>1</sup>Kyhiyu Choi, <sup>1</sup>Munetaka Arita  
<sup>1</sup>INSTITUTE FOR NANO QUANTUM INFORMATION ELECTRONICS, THE UNIVERSITY OF TOKYO  
<sup>2</sup>INSTITUTE OF INDUSTRIAL SCIENCE, THE UNIVERSITY OF TOKYO

11:20 – 12:00 **Nanobiodevice for Mimicking Synaptic Connections**  
Koji Sumitomo  
NTT BASIC RESEARCH LABORATORIES, NTT CORPORATION

13:00 – 13:40 **Developing Nano-Carbon Platform Technologies**  
S.R.P. SILVA  
ADVANCED TECHNOLOGY INSTITUTE (ATI), UNIVERSITY OF SURREY

March 30 (Mon.)

13:30 – 14:10 **Plasma Processes in 21<sup>st</sup> Century**  
Masaharu Shiratani, Kazunori Koga  
DEPARTMENT OF ELECTRONICS, KYUSHU UNIVERSITY

## **Exhibitors**

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