



**15th International School for Young Scientists
"Systems Biology and Bioinformatics", SBB-2024**



**4th School for Young Scientists "Genetics, Genomics,
Bioinformatics, and Biotechnology of Plants", PlantGen School 2024
November 25-30, 2024, ICG SB RAS, Novosibirsk, Russia**

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	25.11 – Monday	26.11 – Tuesday	27.11 – Wednesday	28.11 – Thursday	29.11 – Friday	30.11 – Saturday
Day's Events	Registration Opening of the School Lectures Welcome Reception	Practice Excursions	Young Scientists Presentations, Poster Session, Lectures Excursions	Morning – Lectures Evening – Practices	Morning – Lectures Evening – Practices Excursions	Morning – Practices Excursions Evening – Lecture Closing of the School
Morning Session	08:00-09:00 – Registration Hall on the 1st floor of the main building of ICG SB RAS, Prospekt Lavrentyeva 10 Conference room, 3 floor 09:00-09:15 OPENING OF THE SCHOOL 09:15–10:45 Ming Chen <i>Genome-wide Multiple-level Integrated Biological Network of Rice</i> 10:45–11:15 ☕ 11:15–12:15 Afonnikov Dmitry <i>Automatic phenotyping of plants</i>	Parallel practice sessions with a coffee break from 10:30 to 11:00 09:00–12:30 Practice № 8 Makarova Aelita <i>Biological databases for reconstruction of gene networks</i> (3 hours) Classroom 9217 09:00–12:30 Practice № 7 Kazantsev Fedor <i>Flux analysis of metabolic systems and processes</i> (1st part – 3 hours) Classroom 9213	Conference room, 3rd floor 09:00–10:30 Young Scientists Presentations 10:30–11:30 Poster session combined with coffee break Hall in front of conference room 11:30–12:50 Young Scientists Presentations	Conference room, 3rd floor 09:00–10:00 Zemlyanskaya Elena <i>Metaanalysis of transcriptomic data</i> 10:00–11:00 – Perik-Zavodsky Roman <i>Integrative analysis of single cell transcriptome and proteome data using Seurat Weighted Nearest Neighbors</i> 11:00–11:30 ☕ 11:30–12:30 Ming Chen <i>Non-coding RNAs and Their Integrated Networks</i>	Conference room, 3rd floor 09:00–10:30 Kiseleva Antonina <i>Methods of genomic editing of plants</i> 10:30–10:50 ☕ 10:50–12:20 Ming Chen <i>Plant Omics Integration and Analysis Platform for Molecular Breeding – A Case Study</i>	SGC + Greenhouses, classrooms 2123, 2125 09:00–13:30 Practice № 1 Sidorchuk Yuri, Marenkova Tatiana <i>Methods of delivery of genetic constructs into cells for plant genome editing</i> (3rd part – 4 hours) 11:00–11:30 ☕
LUNCH	12:15 – 13:30	12:30 – 14:00	12:50 – 14:00	12:30 – 14:00	12:20 – 14:00	13:30 – 14:30
Evening Session	13:30–15:00 Klimenko Alexandra <i>Bioinformatic analysis of metagenomic data obtained by shotgun sequencing of random fragments (shotgun metagenomics)</i> 15:00–15:50 Lomzov Alexander <i>Modelling of Protein Spatial Structure by Molecular Dynamics Method</i> 15:50–16:10 ☕ 16:10–17:40 Badayeva Ekaterina <i>Chromosome analysis in structural and functional studies of plant genome</i> 17:40–18:30 Patrin Maksim <i>Phenomic plant breeding. Overview of technologies and current solutions in Russia</i>	14:00–16:00 Practice № 2 Patrin Maksim <i>Hyperspectral and multispectral plant analysis. MUSES-9HS portable cameras, Phenocheck (Spectricon, Greece) (2 hours)</i> Classroom 9212 16:00–16:30 ☕ 14:00–18:30 Practice № 7 Kazantsev Fedor <i>Flux analysis of metabolic systems and processes</i> (2nd part – 4 hours) Classroom 9213 14:00–18:30 Practice № 5 Klimenko Alexandra <i>a) Workshop 1: Shotgun метагеномика: taxonomic analysis</i> (2 hours) <i>b) Workshop 2: Shotgun метагеномика: functional analysis</i> (2 hours) Classroom 9217	Conference room, 3 floor 14:00–14:50 Samsonova Maria <i>Genomic selection</i> (online lecture) 14:50–15:35 Kazantsev Fedor <i>Flux analysis of metabolic systems and processes</i> 15:35–16:00 ☕ 16:00–17:30 Makarova Aelita <i>Biological databases for reconstruction of gene networks</i>	Parallel practice sessions with a coffee break from 16:00 to 16:30 14:00–16:00 – Practice № 6 Fishman Veniamin <i>Genome annotation with GENA Transformer</i> (2 hours) Classroom 9213 14:00–18:30 – Practice № 4 Dolgikh Vladislav <i>From transcription factor binding motifs to gene expression. What can be learned from ChIP-seq experimental data</i> (1st part – 4 hours) Classroom 9212 14:00–18:30 – Practice № 9 Venzel Artur <i>Computational analysis and design of protein three-dimensional structures</i> (4 hours) Classroom 9217 14:00–18:30 – Practice № 1 Sidorchuk Yuri Marenkova Tatiana <i>Methods of delivery of genetic constructs into cells for plant genome editing</i> (1st part – 4 hours) SGC + Greenhouses, classrooms 2123, 2125	14:00–18:30 Practice № 1 Sidorchuk Yuri Marenkova Tatiana <i>Methods of delivery of genetic constructs into cells for plant genome editing</i> (2nd part – 4 hours) SGC + Greenhouses, classrooms 2123, 2125 14:00–18:30 Practice № 4 Dolgikh Vladislav <i>From transcription factor binding motifs to gene expression. What can be learned from ChIP-seq experimental data</i> (2nd part – 4 hours) Classroom 9212	Conference room, 3 floor 14:30–15:30 Fishman Veniamin <i>Artificial Intelligence Methods in Life Sciences</i> 15:30–16:00 CLOSING OF THE SCHOOL Summary and awarding of winners in the young scientists' presentation contest 16:00–16:20 ☕
AFTERNOON AND EVENING PROGRAMME						
	19:00–21:00 Welcome reception in the lobby of the conference room	14:00–16:00 A tour of the ICG (for participants who have no practices after lunch)	18:00–21:30 Tour of evening Akademgorodok		14:00–16:00 A tour of the ICG (for participants who have no practices after lunch)	10:00–11:30 Excursion to the Botzad greenhouses (for participants, with no practices before lunch)