



12th RASA-America Conference Program

November 20-21, 2021
St. Petersburg, FL, USA



Working languages Russian (most lectures) and English, Saturday and Sunday Live Streaming (see instructions)

RSVP REQUIRED

- In view of the COVID-19 pandemic, the conference will be held in **a hybrid format**.
- If you plan **to attend in person**, please register at <https://apps2.research.unc.edu/events/index.cfm?event=events.go&key=ADC6> *
- If you plan **to participate remotely**, please register <https://apps2.research.unc.edu/events/index.cfm?event=events.go&key=ADC7> to receive the Zoom information.
- If you have questions about registration, please contact Ms. Jubina Bregu at jbregu@unc.edu
- Information regarding venue and hotels can be found here <http://www.rasa-usa.org/en/news/rasa2021/>

*. **We request that all in-person participants wear masks and keep distance during the sessions.** In person participants who are vaccinated are welcome to designate themselves by wearing special badges.

Saturday, November 20, 2021 – St. Petersburg, FL

10:00 – 19:00 RASA Membership and meeting registration

Eastern Standard Time (New York, USA)

10:00 – 11:00	Opening session: Ilya Mechnikov Session
10:00 – 10:10	Chairs: Vadim Gladyshev , Harvard Medical School; Alexander Kabanov , U North Carolina
10:10 – 10:15	Tatiana Bronich , President of RASA, Northeastern University
10:15 – 10:25	Igor Efimov , George Washington U, Vladimir Shiltsev , Fermi Lab. “What is RASA?”
10:25 – 10:30	Olga Berveno , President Mechnikov Foundation, Ukraine (Remote)
10:30 – 11:00	Luba Vikhanski , Weizmann Institute of Science, Israel (Remote) “Apostle of Optimism: How <i>Elie Metchnikoff</i> Changed the Course of Modern Medicine”
11:00 – 11:40	Guest Speaker (Chair: Elena Atochina-Vasserman , U Penn)
30 min talk + 10 min Q&A	Drew Weissman , U Penn (Remote) “Nucleoside-Modified mRNA-LNP Therapeutics”
11:40 – 12:00	Group Photo and Coffee break
12:00 – 13:00	Gamow Award Session
12:00 – 12:10	Introduction (Chair: Igor Jouline , Ohio State University (Remote))
12:10 – 12:35	Mark Lipovetsky , Columbia University (Remote) “Cultural languages of scientific intelligentsia: The progressor’s transformations” “Культурные языки научной интеллигенции: Трансформации прогрессора”
12:35 – 13:00	Vadim Gladyshev , Harvard Medical School “Quantifying Aging and Rejuvenation”
13:00 – 14:00	Lunch break (on your own)
14:00 – 15:00	Physics 1 (Chair: Vladimir Shiltsev , Fermi Lab)

14:00 – 14:20	Eugene Demler , ETH Zurich, Switzerland (Remote) “Recent progress of quantum simulations: from high temperature superconductivity to quantum assisted NMR inference”
14:20 – 14:40	Mikhail Katsnelson , Radboud University (Remote) “Frustrations, memory and complexity in physics and beyond”
14:40 – 15:00	Alexander Zholents , Argonne Natl Lab “Free-electron lasers for probing matter with high brightness x-rays”
15:00 – 15:40	Humanities (Chair: Askold Ivantchik , CNRS, France (Remote))
15:00 – 15:20	Olga Meerson , Georgetown University (Remote) “The Eucharist” by Osip Mandelstam: Poetic Means’ Econom” “Евхаристия” Мандельштама. Экономия поэтических средств”
15:20 – 15:40	Andrei Zorin , U Oxford, UK (Remote) “Толстой и Достоевский в 21 веке: Россия и мир”.
15:40 – 16:00	Mathematics (Chair: Tatiana Tatarinova , U La Verne)
15:40 – 16:00	Mikhail Chertkov , U Arizona (Remote) “Graphical Models of Pandemic”
16:00 – 17:00	Round Table. Career Development (Chairs: Alex Krasnok , FIU, Igor Efimov , GW)
	Viktoria Korzhova , German Center for Neurodegenerative Diseases (DZNE) (Remote) Mikhail Shalaginov , MIT Maxim Shcherbakov , UC, Irvine (Remote) Sergey Lepeshov , ITMO University, Russia (Remote) Laura Korobkova , U Southern California Polina Pleshak , U Maryland
17:00 – 18:00	Computational Biology (Chair: Tatiana Tatarinova , U La Verne)
17:00 – 17:20	Andrey Grigoriev , Rutgers University “Новые фрагменты старых молекул”
17:20 – 17:40	Maxim Artyomov , Washington University “Immune aging in mice and humans”
17:40 – 18:00	Shamil Sunyaev , Harvard Medical School “Анализ геномных данных: от статистики к биологии”
18:00 – 19:10	Early Career Researchers’ Session (Chairs: Polina Pleshak , Alex Krasnok)
18:00 – 18:10	Konstantin Bukhryakov , Florida International University “Catalysis by Earth-abundant Transition Metals”
18:10 – 18:20	Anna Gams , George Washington U (Remote) “Sex differences in the heart”
18:20 – 18:30	Denis Seletskiy , Polytechnique Montreal, Canada (Remote) “Шум пустоты, или как словить виртуальные процессы ультракороткими импульсами”
18:30 – 18:40	Dmitry Voronin , U Southern Florida “Quantum Biology with 2D Materials”
18:40 – 18:50	Filipp Komissarenko , City College of NY “Topological phonon-polariton funneling in midinfrared metasurfaces”
18:50 – 19:00	Laura Korobkova , U Southern California

19:00 – 19:10	“Machine learning classification and quantification of Alzheimer’s disease pathology within human hippocampal subregions” Sergey Pustilnikov, GreenLight Biosciences “mRNA vaccines technologies of today and the future”
19:10 – 22:00	Dinner (on your own)

Sunday, Nov. 21, 2021 – St. Petersburg, FL	
8:00 – 9:00	Round Table “Preprints and informal groups of scientists at the frontline: how media gets scientific information in times of pandemic” “Препринты и неформальные группы ученых на передовой: как журналисты получают научную информацию во время пандемии” Chair: Alexandra Borissova-Saleh, ITMO University, Russia (Remote) Alexander Ershov, Meduza (Remote) Polina Loseva, N+1 (Remote) Sergey Netesov, Novosibirsk State University (Remote) Alexander Kabanov, U North Carolina Tatiana Tatarinova, U La Verne
9:00 - 10:00	Biomedicine (Chair: Tatiana Bronich , Northeastern University)
9:00 – 9:20	Anastasia Khvorova, U Mass “Oligonucleotide therapeutics for neurodegenerative disorders”
9:20 – 9:40	Vladimir Muzykantov, U Penn “Targeting drugs in the vascular system”
9:40 – 10:00	Alexandra Voloshina, UC Irvine (Remote) “Wearable assistive technology: current and future approaches for restoring mobility”
10:00 – 10:40	Vaccines (Chair: Alexander Kabanov , U North Carolina)
10:00 – 10:20	Alexander Bukreyev, U Texas Medical Branch “Immune correlates of vaccine-mediated protection and activation of immune cells after infection of vaccinated animals: From Ebola to COVID-19”
10:20 – 10:40	Elena Atochina-Vasserman, U Penn “Nucleoside-modified mRNA vaccine for norovirus”
10:40– 11:00	Coffee break
11:00 – 12:00	Round Table: Reproducibility and Reliability in Research (Chairs: Alexander Kabanov, Vladimir Shiltsev) Askold Ivantchik, CNRS, France (Remote) Dmitry Denisov, Brookhaven Natl Lab (Remote) Alexander Tropsha, U North Carolina (Remote) Sergey Lyulin, RAS, St. Petersburg (Remote) Gleb Sukhorukov, Queen Mary U London, UK (Remove) Tatiana Tatarinova, U La Verne
12:00 – 12:50	Physics 2 (Chair: Alex Krasnok , Florida International University)
12:00 – 12:20	Alexander Khanikaev, City College of NY “Topological photonics”
12:20 – 12:40	Timur Shegai , Chalmers University, Sweden (Remote)

12:40 – 12:50	“Polaritonic and Casimir effects in optical nanostructures” Mikhail Shalaginov, MIT “Metasurfaces embracing a phase change”
12:50 - 14:00	<i>Lunch break (on your own)</i>
14:00 – 15:00	Physics 3 (Chair: Alexander Zholents , Argonne Natl Lab)
14:00 – 14:20	Dmitry Denisov, Brookhaven Natl Lab (Remote) “Electron Ion Collider”
14:20 – 14:40	Ariel Zhitnitsky, U British Columbia (Remote) “Axion Quark Nuggets and Matter-Antimatter asymmetry in the Universe as two sides of the same coin: theory, observations and future searches”
14:40 – 15:00	Alex Krasnok, Florida International University “Аномалии в рассеянии света для современных фотонных устройств”
15:00 – 15:40	Economics (Chair: Konstantin Sonin , University of Chicago (Remote))
15:00 – 15:20	Sergey Guriev, Sciences Po (Remote) “Как устроены современные автократии”
15:20 – 15:40	Konstantin Sonin, U Chicago (Remote) “The Second Russian Revolution Thirty Years After”
15:40 – 16:00	<i>Coffee break</i>
16:00 – 17:00	Chemistry/Material Science (Chair: Valery Fokin , U Southern California (Remote))
16:00 – 16:20	Gleb Sukhorukov, Queen Mary U London, UK (Remote) “Taking ideas from Russian cuisine to material science challenges”
16:20 – 16:40	Vladimir Shalaev, Purdue U (Remote) “Empowering quantum photonics with plasmonic metamaterials”
16:40 – 17:00	Igor Alabugin, FSU “Alkyne Origami”
17:00 – 17:30	Closing/Adjourn