



## IV World Congress of Latvian Scientists

18<sup>th</sup>-20<sup>th</sup> June, 2018

*National Library of Latvia, Riga*

Monday, 18 June

Theme of the day: Security and safety of Latvia – the role and contribution of Latvia's science

Time		Venue
9:15 -10:00	Registration	Atrium
10:00-10:20	Opening of the Congress  Prime Minister of the Republic of Latvia H.E. Māris Kučinskis Minister of Education and Science of the Republic of Latvia Kārlis Šadurskis	Ziedonis Hall
10:20-10:40	Key note speech  <i>"The role of science in the modern society and current challenges in science"</i>  Vaira Vīķe-Freiberga	Ziedonis Hall
10:40-11.30	Panel discussion:  <i>"What does society expect from Latvian scientists?"</i>  Moderator: Gatis Krūmiņš Panelists: Vaira Vīķe-Freiberga, Baiba Rubesa, Zbigņevs Stankevičs, Uldis Zariņš, Uldis Pīlēns	Ziedonis Hall
11:30-12:00	Coffee and tea	Conference centre lobby
12:00 -12:20	Report  <i>"Science and security. Challenges of the past, present and the future"</i>  Gatis Krūmiņš	Ziedonis Hall
12:20 -13:30	Panel discussion  <i>"The role of the 21st century science in strengthening public safety "</i>  Moderator: Solvita Denisa-Liepniece Gatis Krūmiņš, Jānis Sārts, Inna Šteinbuka, Agrita Kiopa, Neville Bolt (UK), Victor P. Piotrowski (USA)	Ziedonis Hall
13:30-14:30	Lunch	Restaurant „Kliversala”
14:30 -16:00	Parallel Session A  Conference centre Halls A&B	Parallel Session B  Ziedois hall

	<p>Panel discussion</p> <p><b><i>Security and information space</i></b></p> <p>Moderator: Neville Bolt (UK)  Charlina Vitcheva (European Comission), Jānis Sārts,  Anda Rožukalne, Zigurds Zaķis,  Agnese Dāvidsone</p>	<p>Panel discussion</p> <p><b>Security and economy</b></p> <p>Moderator: Inna Šteinbuka  Valdis Dombrovskis (European Commission), Andris Piebalgs,  Henrik Hololei , Anders Aslund (USA), Mārtiņš Kazāks</p>	
16:00-16:30	<a href="#">Coffee and tea</a>		<a href="#">Conference centre lobby</a>
16:30 -18:00	Parallel Session C  Ziedois hall	Parallel Session D  Conference centre Halls A&B	
	<p>Panel discussion</p> <p><b><i>Security and technologies</i></b></p> <p>“Future Cyberskills ”</p> <p>Moderator: Sintija Deruma  Victor P.Piotrowski (USA),  Jeimy J. Cano M. (Columbia),  Jānis Garisons,  Anna Vladimirova-Krjukova</p>	<p>Panel discussion</p> <p><b>“Security and an individual”</b></p> <p>Moderator: Mārtiņš Zemītis  Kārlis Šadurskis, Jānis Turlajs,  Ilmārs Mežs, Gunta Lazdāne,  Laura A. Dean (USA)</p>	
19:00 -23:00	<a href="#">Social event</a>		<a href="#">Botanical Garden of the University of Latvia</a>

Tuesday, 19 June		
Theme of the day: To mark global science trends and look for Latvia's opportunities		
Time	Humanities Section	Venue
8:30-9:00	Registration	Atrium
9:00-9:15	Section Introduction Moderators: Ina Druviete/ Guntis Smidchens (USA)	Conference centre Hall B
9:15-9:45	Introductory Report <i>"Humanities: from antiquity to present"</i> Ilze Rūmniece	Conference centre Hall B
9:45-10:45	Round Table <i>"Humanities in contemporary world"</i> Moderator – Guntis Smidchens (USA), Dace Balode, Dace Bula, Māra Grudule, Raivis Bičevskis, Dagnija Baltiņa	Conference centre Hall B
10:45 - 11.30	Coffee and tea	Conference centre lobby
11:00-11:30	Poster Session (3e) of Humanities section	Atrium
11.30 -12.15	Discussion <i>"Scholars for education: how we can help to create curriculum?"</i> Moderator: Maija Burima Laima Geikina, Sanita Lazdiņa, Dace Markus, Austra Avotiņa, Normunds Dzintars, Iveta Ķestere, Māris Vinovskis (USA)	Conference centre Hall B
12: 15-13.00	Round Table <i>"Cooperation among academy and policy-makers : language and culture policies"</i> Moderator - Andrejs Veisbergs Māris Baltiņš, Vineta Ernststone, Ilga Jansone, Ina Druviete, Jānis Valdmanis	Conference centre Hall B
13:00-14:30	Lunch	Restaurant „Kliversala”
14:30-15:15	Discussion <i>"Humanities and creativity"</i> Moderator - Rūta Muktupāvela Guntars Prānis, Kristaps Zariņš, Andris Teikmanis, Benedikts Kalnačs, Janīna Kursīte, Pēteris Krilovs	Conference centre Hall B
15:15-16:00	Discussion <i>"Humanities for national security"</i> Moderator - Maija Kūle. Maija Jankovska, Velga Vēvere, Jānis Garisons, Māris Kūlis, Tālavs Jundzis, Igors Šuvajevs	Conference centre Hall B

16:00-16:30	Coffee and tea	Conference centre lobby
16:45-17:30	<p><b>Round Table</b></p> <p><i>"Humanities in Latvia and worldwide: is there any difference?"</i></p> <p>Moderator - Kaspars Kļaviņš</p> <p>Laimute Balode (Finland), Dzintra Bonda (USA), Regīna Kvašīte (Lithuania), Jānis Tālavs Ozoliņš (Australia)</p>	Conference centre Hall B
17:30-18:00	<b>Section Summary</b>	Conference centre Hall B

Tuesday, 19 June		
Theme of the day: To mark global science trends and look for Latvia's opportunities		
Time	Social Sciences Section <i>Theme: "Latvia in global supply and value chains"</i>	Venue
8:30-9:00	<b>Registration</b>	Atrium
9:00-9:15	<b>Opening of the Section</b> Minister for Economics of the Republic of Latvia and the Deputy Prime Minister Arvils Ašeradens Parliamentary Secretary of the Ministry of Foreign Affairs Zanda Kalniņa-Lukaševica Moderators: Gundars Bērziņš/ Julia Melkers (USA)	Conference centre Hall C
9:15-9:45	<b>Section Introduction</b> <i>"Economy and regional economy"</i> <b>Moderator:</b> Arnis Sauka <b>Introductory reports</b> <i>"A New Open Economy Macro Model with Global Value Chains"</i> Rūdolfs Bems (Japan) <i>"Region economic development evaluation using mobile positioning data"</i> Gundars Bērziņš	Conference centre Hall C
9:45-10:45	<b>Panel Discussion</b> Moderator: Arnis Sauka Panelists: Dana Reizniece-Ozola, Rūdolfs Bems (Japan), Gundars Bērziņš Anete Pajuste, Jānis Priede, Jānis Skrastiņš (USA), Aleksandra Kleine (Austria)	
10:45 – 11:30	<b>Coffee and tea</b>	Conference centre lobby
11:30 -12:00	<b><i>"Business, innovation, public sector, education management"</i></b> Moderator: Gundars Bērziņš <b>Reports</b> <i>"Innovation in Higher Education and National Competitiveness"</i> Julia Melkers (USA) <i>"Productive entrepreneurship: case of Latvia"</i> Arnis Sauka	Conference centre Hall C
12:00-13:00	<b>Panel Discussion</b> Moderator : Gundars Bērziņš Panelists: Līga Lejiņa, Julia Melkers (USA), Arnis Sauka, Agnis Stibe (USA), Elīna Gaile-Sarkane, Daniel Bugler (USA), Baiba Rivža, Aigars Rostovskis	Conference centre Hall C

13:00-14:30	Lunch	Restaurant „Kliversala”
14:30-15:00	<p><i>“Political science and communication”</i></p> <p>Moderator – Ivars Ijabs</p> <p>Reports</p> <p><i>“Continuity or Change? A quarter century of political science in Latvia”</i></p> <p>Daunis Auers</p> <p>Report (tbc)</p> <p><b>“Communication in Latvia: Liberal paradigms vs. Top-down practices”</b></p> <p>Sergejs Kruks</p>	Conference centre Hall C
15:00-16:00	<p><b>Panel Discussion</b> (tbc)</p> <p>Moderator – Ivars Ijabs</p> <p>Panelists: Daunis Auers, Sergejs Kruks, Andris Sprūds, Mārtiņš Kaprāns, Juris Dreifelds (Canada), Līga Hoy (USA), Dainis Ignatāns (UK)</p>	Conference centre Hall C
16:00-16:45	Coffee and tea	Conference centre lobby
16:15-16:45	Poster Session (3F) of social sciences section	Atrium
16:45-17:15	<p><i>„Psychology, sociology, demography, anthropology and cognitive sciences”</i></p> <p>Moderator: Ivars Austers</p> <p>Reports</p> <p><i>“Demarcation of borders, interdisciplinarity, and sustainability in science”</i></p> <p>Jurģis Šķilters,</p> <p><i>“Social sciences for innovation, change and inclusiveness”</i></p> <p>Tālis Tisenkopfs</p>	Conference centre Hall C
17:15-18:00	<p><b>Panel Discussion</b></p> <p>Moderator: Ivars Austers</p> <p>Panelists: Agrita Kiopa, Jurģis Šķilters, Tālis Tisenkopfs, Juris Krūmiņš, Klāvs Sedlenieks, Baiba Martinsone</p>	Conference centre Hall C
19:00	Social event	Restaurant with a view “Osta”, Matrožu iela 15, Riga

Tuesday, 19 June

Theme of the day: To mark global science trends and look for Latvia's opportunities

Time	Agricultural and Forestry Sciences Section	Venue
8:30-9:00	Registration	Atrium
9:15-9:45	<p><b>Reports</b></p> <p>„<i>Possibilities of Bio-economy's Development in Latvia</i>”</p> <p>Irina Pilvere</p> <p>“<i>Scenarios of Latvia's Countryside Development in the Context of Knowledge Based Economy</i>”</p> <p>Baiba Rivža</p>	Conference centre, Seminar room 078
9:45-10:15	<p><b>Report</b></p> <p>“<i>Agricultural Resources for Sustainable Qualitative and Healthy Food Production: Achieved Results in the State Research Programme AgroBioRes</i>”</p> <p>Ruta Galoburda, Antons Ruža, Inga Moročko-Bičevska, Daina Jonkus, Tatjana Kince, Aivars Bērziņš</p>	Conference centre, Seminar room 078
10:15-10:45	<p><b>Report</b></p> <p>“<i>Science-based Forestry Sector in Latvia</i>”</p> <p>Jurģis Jansons</p>	Conference centre, Seminar room 078
10:45 - 11.30	Coffee and tea	Conference centre lobby
11:30 -12:00	<p><b>Report</b></p> <p>“<i>Importance of Organic Agriculture in Increasing the Competitiveness of Natural Cosmetics in Export Markets</i>”</p> <p>Skaidrīte Dzene, Lāsma Aļeksējeva</p>	Conference centre, Seminar room 078
12:00-13:00	<p><b>Report</b></p> <p>“<i>When the Defect Becomes an Effect: the Point of View from which to Estimate the Outbreak of Disease</i>”</p> <p>Ilze Matīse-VanHoutana</p>	Conference centre, Seminar room 078
13:00-14:30	Lunch	Restaurant „Kliversala”
14:00-14:30	Poster Session (2D) of Agricultural and Forestry Sciences Section	Atrium
14:30-15:00	<p><b>Report</b></p> <p>„<i>Carbon Storage in Grasslands in Norway</i>”</p> <p>Ieviņa Stūrīte</p>	Conference centre, Seminar room 078
15:00-15:30	<p><b>Report</b></p> <p>„<i>Hydrogen in Power Industry and Transport</i>”</p> <p>Aigars Laizāns</p>	Conference centre, Seminar room 078

15:30-16:00	<b>Report</b> “How to Provide Latvia with Local Fruit” Edīte Kaufmane, Māra Skrīvele	Conference centre, Seminar room 078
16:00-16:45	Coffee and tea	Conference centre lobby
16:45-17:15	<b>Report</b> „Protein-rich Innovative Food products” Asnate Ķirse, Sandra Muižniece-Brasava, Liene Strauta, Ruta Galoburda, Daina Kārkliņa, Evija Puiškina	Conference centre, Seminar room 078
17:15-18:00	<b>Report</b> „The Importance of Border Demarcation in Ensuring the Security and Stability of the Republic of Latvia” Aivars Ratkevičs, Vivita Puķīte, Armands Celms	Conference centre, Seminar room 078
19:00	Social event	Tbc

Tuesday, 19 June

Theme of the day: To mark global science trends and look for Latvia's opportunities

Time	Engineering and Technology Section	Venue
8:30-9:00	Registration	Atrium
9:00-9:15	Section Introduction Tālis Juhna/Mārcis Jansons (USA) Moderator: Oskars Priede	Conference centre Hall D
9:15-9:45	Report <i>"Transforming Sociotech Design: Helping People to Succeed with Changes"</i> Agnis Stibe (USA)	Conference centre Hall D
9:45-10:15	Report <i>"Digital Factory Twins and Methods for large-scale Production Planning"</i> Dāvis Meike (Germany)	Conference centre Hall D
10:15-10:45	Report <i>"Development and Applications of Smart Embedded Cooperative Systems"</i> Modris Greitāns	Conference centre Hall D
10:45 - 11:30	Coffee and tea	Conference centre lobby
11:00 – 11:30	Report <i>"Global Trends and Research Challenges in Silicon Photovoltaics"</i> Pauls Stradiņš (USA)	Conference centre Hall D
11:30 -12.00	Report <i>"From Idea to Product in Latvia"</i> Kristaps Rikāns	Conference centre Hall D
12: 00-12.30	Report <i>"Photonics Technology in Today's World"</i> Jānis Atis Valdmanis (USA)	Conference centre Hall D
12: 30 -13.00	Report <i>"Biorefining Concept for Latvia"</i> Aivars Žuriņš	Conference centre Hall D
13:00-14:30	Lunch	Restaurant „Kliversala”
14:30-15:00	Report <i>"Tissue Regeneration and Reconstruction with Rapid Prototyping and Biogenic Materials"</i> Andres Ozols (Argentina)	Conference centre Hall D

15:00-15:30	<b>Report</b> <i>“Research of bone tissue substitute materials in Latvia”</i> Jānis Ločs	Conference centre Hall D
15:30-16:00	<b>Report</b> <i>“Material Science in Latvia and International Cooperation”</i> Andris Šternbergs	Conference centre Hall D
16:00-16:45	Coffee and tea	Restaurant „Klīversala”
16:45-17:15	<b>Report</b> <i>“Confidently Enter Next Generation Science: the Environmental Engineering and Bioeconomics Nexus”</i> Dagnija Blumberga	Conference centre Hall D
17:15-18:00	<b>Panel discussion</b> <i>„How to achieve introduction of science-intensive technologies and production in Latvia”</i> Panellists: Oskars Priede, Tālis Juhna, Normunds Bergs, Kristaps Rikāns	Conference centre Hall D
19:00	Social event	tbc

Tuesday, 19 June

Theme of the day: To mark global science trends and look for Latvia's opportunities

Time	Medical and Health Sciences Section	Venue
8:30-9:00	Registration	Atrium
9:00-9:15	Section Introduction Moderators: Aivars Lejnieks/ Uģis Gruntmanis (USA)	Ziedonis Hall
9:15-9:35	Report <i>"Bioinformatics and European science integration"</i> Alvis Brāzma (UK)	Ziedonis Hall
9:35-9:55	Report <i>"New drugs for centennial heart: contents of long chain acylcarnitines and trimethylamine-N-oxide as a novel treatment option for cardiometabolic health"</i> Maija Dambrova	Ziedonis Hall
9:55-10:15	Report <i>"New challenges in optimizing diabetes therapy: Successful use of biobank resources for public health development and personalized medicine solutions"</i> Jānis Kloviņš	Ziedonis Hall
10:15-10:35	Report <i>"Complex approach to antimicrobial resistance research hospitals"</i> Uga Dumpis	Ziedonis Hall
10:45 - 11:30	Coffee and tea	Conference centre lobby
11:00 - 11:30	Poster Session (1A) of Medical and health sciences section	Atrium (tbc)
11:30 -11:50	Report <i>"Iodine Deficit National Prevention Strategy and Effect Monitoring in the Context of Efficiency and Security"</i> Ilze Konrāde	Ziedonis Hall
11:50-12:10	Report <i>"Sepsis Research for Children in Latvia - Scientific Results and Practical Benefits"</i> Jana Pavāre	Ziedonis Hall
12: 10 -12:30	Report <i>"The functional hand as safety unit from microsurgeon's view"</i> Dzintars Ozols	Ziedonis Hall
12: 30 -12:50	Report <i>"Surgical patient safety"</i> Gundars Katlaps (USA)	Ziedonis Hall

13:00-14:30	<b>Lunch</b>	Restaurant „Klīversala”
14:30-14:50	<b>Report</b> <i>“The use of autologous mononuclear cells in the clinic. Security aspects”</i> Ēriks Jakobsons	Ziedonis Hall
14:50-15:10	<b>Report</b> <i>“Implementing and Evaluating Health Care Leadership &amp; Management Initiatives: Ensuring Security and Quality in Turbulent Times”</i> Ziedonis Douglas (USA)	Ziedonis Hall
15:10-15:30	<b>Report</b> <i>“Persistent viral infections in the development of nervous system diseases”</i> Modra Murovska	Ziedonis Hall
15:30-15:50	<b>Report</b> <i>“Looking back &amp; learning forward; Education in dentistry-Yesterday, today and tomorrow” - Developments and impacting factors”</i> Michael Melkers (USA)	Ziedonis Hall
16:00-16:45	<b>Coffee and tea</b>	Conference centre lobby
16:45-17:05	<b>Report</b> <i>“The role of simulation in improving the safety of children aged patients”</i> Reinis Balmaks	Ziedonis Hall
17:05-17:25	<b>Report</b> <i>“Patient safety system development opportunities in Latvia: legal aspects”</i> Solvita Olsena	Ziedonis Hall
17:25-17:45	<b>Report</b> <i>“Patient safety incidents: should patients be informed?”</i> Signe Mežinska	Ziedonis Hall
17:45 -18:15	<b>Section summary</b>	Ziedonis Hall

Tuesday, 19 June

Theme of the day: To mark global science trends and look for Latvia's opportunities

Time	Natural Sciences section	Venue
8:30-9:00	<b>Registration</b>	Atrium
9:00-9:15	<b>Section Introduction</b> Moderators – Arvīds Barševskis/Andris Jankevics (UK)	Conference centre Hall A
9:15-9:45	<b>Report</b> <i>„Research in coherent processes in atoms conducted in Latvia”</i> Mārcis Auziņš	Conference centre Hall A
9:45-10:15	<b>Report (tbc)</b> Vjačeslavs Kaščejevs	Conference centre Hall A
10:15-10:45	<b>Report</b> <i>“What can be calculated with a quantum computer?”</i> Andris Ambainis	Conference centre Hall A
10:45 - 11.30	<b>Coffee and tea</b>	Conference centre lobby
11.30 -12.00	<b>Report</b> <i>„Quantum-inspired relaxations of graph isomorphism”</i> Laura Mančinska (Denmark)	Conference centre Hall A
12: 00-12.30	<b>Report</b> <i>„Planets around distant stars, and the search for life on them”</i> Dainis Dravīņš (Sweden)	Conference centre Hall A
12: 30 -13.00	<b>Report</b> <i>„Data sharing and data reuse in metabolomics: principles and recommendations”</i> Andris Jankevics (UK)	Conference centre Hall A
13:00-14:30	<b>Lunch</b>	Restaurant „Klīversala”
14:00-14:30	<b>Poster Session of Natural Sciences section (2C)</b>	Atrium
14:30-15:00	<b>Report</b> <i>“Natural sciences and precision medicine”</i> Andrejs Ērglis	Conference centre Hall A
15:00-15:30	<b>Report</b> <i>„Dream on paleontology: Devonian fishes and tetrapod ancestry search”</i> Ervīns Lukševičs	Conference centre Hall A
15:30-16:00	<b>Report (tbc)</b> Edgars Sūna	Conference centre Hall A

16:00-16:45	Coffee and tea	Conference centre lobby
16:45-17:15	<b>Report</b> <i>„Defining and assessing ecological quality of European waters: Science – policy interface „</i> Sandra Poikāne (Italy)	Conference centre Hall A
17:15-17:45	<b>Report</b> <i>„Coleopterological Research in Latvia: History and Future Challenges”</i> Arvīds Barševskis	
17:45-18:15	<b>Section summary</b>	Conference centre Hall A

<p style="text-align: center;">Wednesday, 20 June</p> <p style="text-align: center;"><i>Theme of the day: "Latvia on its way to a smart country. Synthesis of education, science and technologies"</i></p>		
Time	Forum “Formula of Latvia 2050”	Venue
8:30-9:00	Registration	Atrium
9:00-9:30	<p style="text-align: center;"><b>Opening</b></p> <p>Rector of the University of Latvia Indriķis Mužnieks,  Prime Minister of the Republic of Latvia H.E. Māris Kučinskis  Minister of Education and Science of the Republic of Latvia  Kārlis Šadurskis  Chair of Sustainable Development Commission of the 12<sup>th</sup> Saeima of the  Republic of Latvia  Laimdota Straujuma  Director-General, DG for Research and Innovation of the European  Commission Jean-Eric Paquet  Head of the project "Formula of Latvia 2050", Professor of University  of Latvia Mārcis Auziņš  Moderator: Arnis Krauze</p>	Ziedonis Hall
9:30- 11:00	<p style="text-align: center;"><b>Part 1 “Smart country and information society “</b></p> <p style="text-align: center;"><b>Reports</b></p> <p><i>“Digital Transformation and Future Development of Latvia”</i>  Juris Binde  <i>“How to Be Smart in a Smart State?”</i>  Žanete Ozoliņa  <b>Panel discussion</b>  Panelists: Valdis Zatlers, Andris Razāns, Gundars Bērziņš, Jānis Grabis</p>	Ziedonis Hall
11:00 - 11.30	Coffee and tea	Conference centre lobby
11.30 -13.00	<p style="text-align: center;"><b>Part 2 “Technological development perspectives of Latvia “</b></p> <p style="text-align: center;"><b>Reports</b></p> <p><i>“Development Trends of Engineering Sciences in Latvia”</i>  Leonīds Ribickis  <i>“Work, Education and Business in the Economics of Future”</i>  Ieva Tetere  <i>“Will Robots Take Our Jobs?”</i>  Normunds Bergs  <b>Panel discussion</b>  Panelists: Signe Bāliņa, Vjačelsavs Dombrovskis, Andrejs Vasiljevs,  Arnis Sauka</p>	Ziedonis Hall

13:00-14:00	Lunch	Restaurant „Klīversala”
14:00-15:20	<p><b>Part 3 “Education and Science: Challenges in formula of Latvia 2050” Reports</b></p> <p>“Precision Education. Personality in Class 2050” Indriķis Muižnieks</p> <p>“Simulation Technologies – a Safe Foundation for the Education of the Future” Aigars Pētersons</p> <p>“Medicine of the 21<sup>st</sup> Century – Integration of Science for Human Welfare” Andrejs Ērglis</p> <p><b>Panel discussion</b></p> <p>Panelists: Līga Lejiņa, Tālis Juhna, Girts Rungainis, Jānis Grēviņš</p>	Ziedonis Hall
15:20-15:30	<p><b>Forum “Formula of Latvia 2050” summary</b></p> <p>“At the Midpoint of Implementing Strategy of Latvia 2030. Main Conclusions Contributed by Cycle of Forums “Formula of Latvia 2050. Development Scenarios” Pēteris Vilks</p>	Ziedonis Hall
15:30-16:30	Congress closing, summary and awards	Ziedonis Hall
16:30	<b>Conference closing event</b>	Restaurant „Klīversala” Open Terrace

\*Programme will be updated regularly



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