





Objective WP4. to facilitate development and transfer of knowledge in photonics at national and international level, to raise publicity and visibility of FOTONIKA-LV researchers community and to become a recognised partner in the European Research Area by:

- > participation in at least 24 conferences in the photonics fields;
- organisation in Riga (start tradition for photonics) of three large scale photonics conferences and linked to the conferences 3 research training courses for young researchers;
- organisation of 3 strategy planning & technology foresight workshops to contribute to the development of national RTD and innovation policy in the photonics domain;
- contribution to sustainable development in Latvia and the Baltic region, in particular, through the organisation of the third in the field large-scale conference entitled "Sustainable development, smart future manufacturing technologies and the knowledge society"





Knowledge Transfer and Training. Organisation of Workshops, Conferences at Research Courses. Contribution to Policy Developm

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Task 4.1	Presentation and testing the FOTONIKA- LV research community scientific results	47 grants ensured for att
4.1	at high level international conferences.	44 International events
Task	International Conference "Advanced	Organised:
4.2	Photonics Technologies" Riga 2012"	August 23-28, 2012
	August 2012 with accompanying exhibition and linked summer school.	
Task	1 st International conference	Organised:
4.3	"BIOPHOTONICS - RIGA 2013" in	August 26-31, 2013
	summer 2013 with accompanying summer school.	
Task	1st International Conference: "Remote	Organised:
4.4	Sensing in Night time atmosphere and	October 16-22, 2014
	Nighttimes photochemistry – Riga 2014"	·
Task	3 rd International Conference on	Organised:
4.5	Integrative Approaches Towards	June 27-30, 2012
	Sustainability: "Sustainable development,	
	knowledge society and smart future	
Tools	manufacturing technologies".	Organised:
Task	Three strategy planning and technology	1) October 9 – 11, 2013;
4.6	foresight workshops.	1) October 9 – 11, 2013, 2) & 3) =

Dina Bērziņa, WP4 leader

tending

shifted to extended WP5

- 4.1. Presentation and testing the FOTONIKA-LV researches community scientific results in high level international conferences
- financed <u>47 travels</u> of 23 researchers (17+30 travels for 13+17 researchers; several researchers participated repeatedly);
- project promoted on <u>33 Conferences</u> and 10 research visits (15+18 conferences) including (target: <u>24 conferences</u>):
 - 37 (18+18) reports: 19 (7+12) oral presentations + 18 (11+7) poster reports;
 - about 77 (20+57) new contacts established

€	Nr of travels	Participants //
1 345	2	Balodis Jānis
443	1	Bērziņš Uldis
780	1	Bezuglov Nikolai
800	1	Brūvelis Mārtiņš
816	1	Eglīte Mārīte
800	1	Eglītis Ilgmārs
745	2	Ekers Aigars
228	1	Feruļova Inesa
700	1	Haritonova Diāna
1 096	2	Janpaule Inese
798	1	Kirova Teodora
800	1	Natālija Lesiņa
1 427	2	Spīgulis Jānis

€	Nr of travels	Participants { / / / }
728	1	Alnis Jānis
910	1	Asare Lāsma
1 880	1	Atvars Aigars
976	1	Balodis Jānis
1 301	2	Beldavs Vidvuds
854	1	Brūveris Mārtiņš
1 833	1	Del Pino Jorge Roberto
800	1	Eglītis Ilgmārs
346	1	Haritonova Diāna
778	1	Janpaule Inese
800	1	Kaminskis Jānis
700	1	Kirova Teodora
4 489	2	Salmiņš Kalvis
2 753	2	Spīgulis Jānis
504	1	Svilans Miķelis
3 406	8	Ūbelis Arnolds

	Location	Dates	Event
1	St. Petersburg, Russia	3-9 June, 2012	21st International Conference on Spectral Line Shapes – ICSLS 21
2	Jena, Germany	19-21 June, 2012	3 rd International Congress on Biophotonics – ICOB 2012
3	Vienna, Austria	22-27 June, 2012	European Geosciences Union General Assembly 2012 – EGU GA 2012
4	Barcelona, Spain	24-29 June, 2012	17 th Cambridge Workshop on Cool Stars, Stellar Systems and the Sun –
			CoolStars 17
5	Gothenburg, Sweden	9-13 July, 2012	44 th Conference of the European Group on Atomic Systems – EGAS 44
6	Palaiseau, France	23-27 July, 2012	23 rd International Conference on Atomic Physics - ICAP 2012
7	Nauchny, Crimea	9-13 September, 2012	The Zeiss-50 telescope: the first hundred years working for astronomy
/	Ukraine	9-13 September, 2012	
8	Ottawa, Canada	24-27 September, 2012	2012 Joint Conference "Satellites in the Service of Humanity"
9	Enschede,	16-17 October, 2012	First international GOCE SOLID EARTH workshop
	the Netherlands		
10	Obergurgl, Austria	18-23 November, 2012	Cold and Utracold Molecules
11	Vienna, Austria	7-12 April, 2013	European Geosciences Union General Assembly 2013 – EGU GA 2013
12	Tbilisi, Georgia	7-8 May, 2013	23 rd EUPOS International Conference
13	Brussels, Belgium	22 May, 2013	7 th European Photonics Cluster and National Technology Platform Meeting
14	Kosice, Slovakia	17-30 June, 2013	School of Biophotonics 2013
15	Porto, Portugal	23-26 July, 2013	12 th International Conference on Education and Training in Optics and
			Photonics

	Location	Dates	Event
1	Potsdam, Germany	1-6 September, 2013	International Association of Geodesy, Scientific Assembly 2013
2	Edinbourgh, UK	9-13 September, 2013	ESA Living Planet Symposium
3	Riga, Latvia	11-13 September, 2013	18th International Conference on Innovation "Baltic Dynamics 2013"
4	Oulu, Finland	30 September, 2013	The Progress in Photonics
5	South Kohala, USA	09-13 November 2014	The Next Giant Leap: Leveraging Lunar Assets for Sustainable Pathways to Space
6	Eulivaskida Iaman	11-15 November, 2013	18th International Workshop on Laser Ranging - Pursuing Ultimate Accuracy &
6	Fujiyoshida, Japan		Creating New Synergies
7	Davasala Palaine	ls, Belgium 12-13 December, 2013	18th Meeting of the International Optoelectronics Association – IOA
/	brusseis, beigium		EPIC 10th Anniversary
8	San Francisco, USA	1-6 February, 2014	SPIE Photonics West / BIOS
9	Drague C7	15-23 March, 2014	International workshop on scientific use, digitization and preserving astronomical
9	Prague, CZ		photographic records
10	Athens, Greece	9-11 April, 2014	Industrial Technology Conference
11	Brussels, Belgium	14-17 April 2014	SPIE Photonics Europe 2014
12	Nordwijk, NL	3-4 June, 2014	ESA Workshop: Industry Space Days - B2B
13	Helsinki, Finland	30 June - 4 July, 2014	Asteroids, Comets and Meteors 2014 Conference
1./	Nochi Russia Ib-11 October 2017	6 11 October 2014	6th International Symposium on Non-equilibrium Processes, Plasma, Combustion and
14 Sochi, Russ		Atmospheric Phenomena - NEPCAP 2014	
15	Hsinchu, Taiwan	16-28 October, 2014	Workshop on Coherent Manipulation between Light and Matter and the Third
13			TLL/COLIMA Meeting
16	Annapolis, USA	27-31 October, 2014	19th International Workshop on Laser Ranging, Celebrating 50 Years of SLR:
			Remembering the Past and Planning for the Future
17	Paris, France	25-28 November, 2014	5th International GOCE User Workshop
18	Brussels, Belgium	ium 14-15 January, 2015	BILAT 2.0 EU-U.S Innovation Conference "How to integrate the innovation
			dimension in the EU-U.S. S&T Agreement?"

	ternational conferences // /s/ // 6//4/ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \
	Oral presentations
1	120 cm Baldone Ceiss telescope
2	Absolute gravity measurements in the Fennoscandian postglacial rebound area: history, network, results
3	Applications of iodine and bromine atomic resonance spectra sources for atmosphere research
4	Commercialisation of Photonic Technologies in Latvia
5	Distant optical sensing of blood pulsations for cardiology and anaesthesiology
6	Doppler Profile Particularities in Supersonic Beams for Circular, Square and Arbitrary Collimating
U	Apertures
7	EUPOS-Riga certification procedure in Latvia
8	GNSS Network Time Series Analysis
9	Hands-on optics and photonics outreach in Riga
10	Hazards and Risk @ SLR Network, Updates and New Challenges
11	International Lunar Decade and the Declaration for an International Lunar Decade
12	Laser Manipulation of Electromagnetically Induced Transparency in Rydberg Atoms in the Dipole
12	Blockade/Antiblockade Regimes
13	Modernization and Characterization of the Riga SLR Timing System
14	Peculiarities of Bright and Dark States Formation in Three-level Ladders of NaHyperfine Levels
15	Photonics activities in Latvia and Baltics
16	Preserving history and technical "know-how" - experience at SLR station Riga
17	Research Activities in Geodesy at the University of Latvia
18	Secondary photochemical reactions and technologies for active remote sensing of nocturnal atmosphere -
10	international consortium project "NOCTURNAL ATMOSPHERE" (2013-2017)
19	Single snapshot RGB multispectral imaging at fixed wavelengths: proof of concept

	Poster presentations
1	Analytical model of transit time broadening for two-photon excitation in a three-level ladder and its
1	experimental validation
2	Asteroid regoliths: The development of a database
3	Atomic Physics Group in RIGA and GRIBAM "Gothenburg Riga Ion Beam Apparatus - Mobile"
4	Baldone Schmidt telescope astronomical photos archive
5	Clinical measurements analysis of multi-spectral photoplethysmograph biosensors
6	Effects of dark-state formation in the hyperfine excitation spectra of Na atoms
7	ESF project "Biophotonics research group" at University of Latvia
8	Eventual Participation in GMES of Institute of Geodesy and Geoinformation
9	GNSS station displacement analysis
10	Improvement of Latvian geoid model using GNSS/levelling, GOCE data and vertical deflection
10	measurements
11	Improvement of Latvian Geoid Model Using GOCE Data and Vertical Deflection Measurements
12	Laser manipulation of adiabatic states and its application towards resolution of hyper-fine structure and
12	population switching
13	Manifestation of dark state formation in Na hyperne level system
14	New Carbon Stars in Region $\delta > 60^{\circ}$
15	On the Geodynamics in Latvia
16	Riga SLR station upgrade and status report
17	Satellite laser ranging in the University of Latvia since 1975
18	Two Component Superluminal Light

4.2. Organisation of the 1st International Conference "Photonics Technologies-Riga 2012", August 2012; Exhibition for "high-tech" SMEs - "Photonics technologies-Baltics 2012"; Research training course- "Photonics Technologies-RIGA 2012" for young researchers 1/2

Conference organised on 23-28 August, 2012: www.lu.lv/fotonika-lv/implementedprojects/regpot-2011-1/knowledge-transfer-and-training/photonics-technologies-riga-2012;

- Results:
 - 97 participants form 14 countries;
 - 12 Plenary lectures, 22 presentations on Parallel sessions (including Young researchers), 19 Poster presentations by young researchers, round-table discussion;
 - 11 lectures on Research training course followed in total by 40 Young researchers;
 - 7 SME participants for the Exhibition;
 - published Conference Abstracts;
 - reported on the 71st Scientific Conference of the University of Latvia
- Complimentary Brokerage event on FP7 Photonics topics organised by FP7 project Ideal-ist
 Dina Bērziņa, WP4 leader

4.2. Organisation of the 1st International Conference "Photonics Technologies-Riga 2012", August 2012; Exhibition for "high-tech" SMEs - "Photonics technologies-Baltics 2012"; Research training course- "Photonics Technologies-RIGA 2012" for young researchers 2/2

Outcome:

- contributed to raising general awareness on the issues covered, especially among the young researchers;
- as establishing roadmap for photonics development in Latvia and the whole Baltic region;
- conference emphasised EU partnerships, innovation, and transfer of knowledge and technology to industry not only in Latvia, but also the context of ERA and coherent with the Innovation Union 2020;
- participants of the Round table discussion concluding the Conference provided input for a Policy Briefing document which has been distributed to national policy makers

4.3. Organisation of the 1st International Conference "BioPhotonics, Riga 2013", August 2013; Exhibition for "high-tech" SMEs - "BioPhotonics technologies in Baltic See region - 2013"; Research training course: "BioPhotonics, RIGA 2013" for young researchers

Conference, Exhibition and Training course organised in Riga, University of Latvia 26-31 August, 2013: www.lu.lv/bpr2013;

1/3

- Results:
 - 95 participants form 17 countries;
 - 18 Plenary lectures, 22 oral presentations by young researchers, 29 Poster presentations by young researchers;
 - 18 lectures on Research training course followed in total by 36 young researchers and about 15 other conference participants;
 - 10 participants for the Exhibition;
 - published Conference Abstracts;
 - published Conference Proceedings

4.3. Organisation of the 1st International Conference
"BioPhotonics, Riga 2013", August 2013; Exhibition
for "high-tech" SMEs - "BioPhotonics technologies in Baltic
See region - 2013"; Research training course:
"BioPhotonics, RIGA 2013" for young researchers
2/3

Outcome:

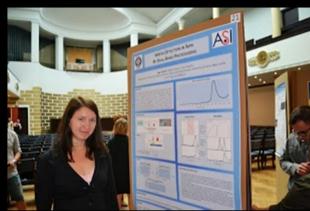
- conference confirmed the growing role of Biphotonics technologies - the hottest topics of the field were reviewed by internationally recognised experts (J.Popp, D.Sampson, V.Tuchin, S.Andersson-Engels, S.Svanberg, etc.);
- students' feedback collected and analysed confirm the success of 3-day training course;
- discussed knowledge has to be disseminated to more young researchers and companies in the Baltic countries by help of Baltic Photonics Cluster;
- participants expressed interest to meet again, so would be useful to make Biophotonics-Riga as a regular event
 Dina Bērziņa, WP4 leader

4.3. Organisation of the 1st International Conference "BioPhotonics, Riga 2013", August 2013; Exhibition for "high-tech" SMEs - "BioPhotonics technologies in Baltic See region - 2013"; Research training course: "BioPhotonics, RIGA 2013" for young researchers















4.4. Organisation of the 1st International Conference:
"Nocturnal Atmosphere, Remote Sensing and Laser
Ranging: NOCTURNAL - Riga 2014" and linked research
training course "Adventure of Nocturnal Atmosphere:
From Earth to Night Sky - Riga 2014"
1/3

Conference and Training course organised in Riga, University of Latvia 16-22 October, 2014: www.lu.lv/fotonika-lv/NOCTURNAL2014:

- Results:
 - 63 participants form 15 countries;
 - 17 Plenary lectures, 22 Poster presentations by young researchers;
 - 32 attendees of the Research training course;
- Complimentary event: International Day of Photonics 21 October

4.4. Organisation of the 1st International Conference:
"Nocturnal Atmosphere, Remote Sensing and Laser
Ranging: NOCTURNAL - Riga 2014" and linked research
training course "Adventure of Nocturnal Atmosphere:
From Earth to Night Sky - Riga 2014"
2/3

Outcome:

- conference confirmed the growing role of Photonics, Quantum Sciences and Space Sciences and Related Technologies in presentations of internationally recognised experts (L.Grunwaldt, Saleh Ahmed, J.Zwiener, J. del Pino, etc.) and round-table discussion;
- shared experience and discussed urgent issues of Nocturnal Atmosphere, Remote Sensing and Laser Ranging developments:
 - indicating the main technologies and sectors of photonics having crucial impact for the development of Europe's leading role in research and innovation;
 - participants' expertise contributed to new advancements in the domain

4.4. Organisation of the 1st International Conference:
"Nocturnal Atmosphere, Remote Sensing and Laser
Ranging: NOCTURNAL - Riga 2014" and linked research
training course "Adventure of Nocturnal Atmosphere:
From Earth to Night Sky - Riga 2014"
3/3





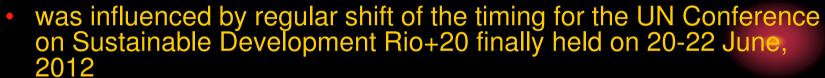




4.5. Organisation of the 3rd International Conference on Integrative Approaches Towards Sustainability:

"Sustainable development, knowledge society and smart future manufacturing technologies" – KNOWLEDGE (1/5)

Conference organised on 27-30 June, 2012: http://www.lu.lv/knowledge;



Results:

- 61 Participants form 15 countries;
- 14 Plenary lectures (including 3 Skype presentations), 16 presentations on Parallel sessions, 25 oral/poster Presentations from Young researchers, 2 round-table discussions including follow-up to Rio+20;
- reported on the 71st Scientific Conference of the University of Latvia;
- Conference Proceedings in Springer International Publishing AG, Cham (Series "World Sustainability")

- 4.5. Organisation of the 3rd International Conference on Integrative Approaches Towards Sustainability:
- "Sustainable development, knowledge society and smart future manufacturing technologies" – KNOWLEDGE (2/5)

Outcome:

- conference discussed substantial tendencies towards future manufacturing and relevant corporate responsibilities of knowledge society in context of sustainability on Earth – evidently: large-scale and worldwide foresight exercises are essential for that purpose;
- participants of Round table discussion concluding the Conference agreed to raise a Foresight Forum Riga – 2015: Knowledge society, future manufacturing, and Earth sustainability

4.5. Organisation of the 3rd International Conference on Integrative Approaches Towards Sustainability:

 "Sustainable development, knowledge society and smart future manufacturing technologies" – KNOWLEDGE (3/5)





4.5. Organisation of the 3rd International Conference on Integrative Approaches Towards Sustainability:

 "Sustainable development, knowledge society and smart future manufacturing technologies" – KNOWLEDGE (4/5)

Content

Part 1 - Plenary lectures and invited contributions

Chapter 1.1: Sustainable development, knowledge society and knowledge-based economy - Policy of education, research, and technological development Chapter 1.2: Worldwide expertise and expectations: Sustainable development and future smart manufacturing

Part 2 - Invited articles from contributors to poster sessions of the Conference

Chapter 1.1: Social Corporate responsibility and Environment

Chapter 1.2: Science on/for sustainable development

Chapter 1.3: Smart Future manufacturing and Zero Emissions concept

Chapter 1.4: Sustainable Development Indicators of Knowledge Society and Knowledge Based Economy

Publishing Agreement



Series Title: World Sustainability Series

The following agreement has been approved by and entered into between

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Arnolds Úbelis, University of Latvia, Institute of Atomic Physics and Spectroscopy, Raina blvd. 19, LV 1586 Riga, Latvia;

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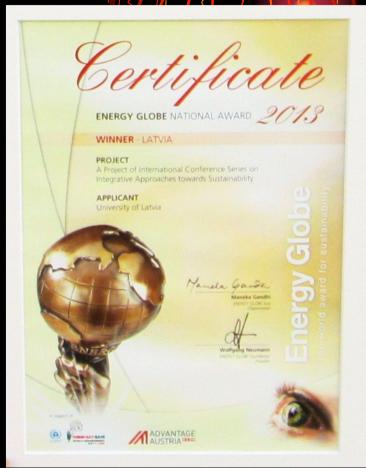
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4.5. Organisation of the 3rd International Conference on Integrative Approaches Towards Sustainability:
"Sustainable development, knowledge society and smart future manufacturing technologies" – KNOWLEDGE (5/5)

Additional Success: National ENERGY GLOBE Award Latvia

- Participant: University of Latvia
- Project: A Series of Conferences on Integrative Approaches towards Sustainability



4.6. Organisation of three strategy planning and technology foresight 2 days workshops

1. Photonics, Quantum Sciences and technologies in Baltic countries

1st regional workshop on strategy planning and technology foresight:

- organised October 9 11, 2013;
- Speakers: Arnolds Übelis, Aigars Ekers, Kerstin Cuhls;
- 15 participants;
- included colloquium for broader audience: "Smart Specialisation - Photonics, Quantum Sciences and technologies"

4.6. Organisation of three strategy planning and technology foresight 2 days workshops

1. Photonics, Quantum Sciences and technologies in Baltic countries



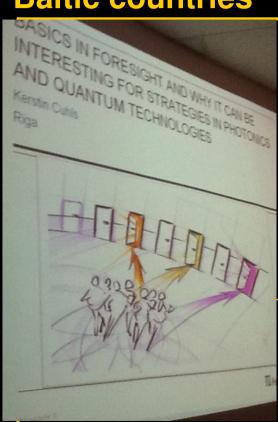
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Bērziņa, WP4 leader

4.6. Organisation of three strategy planning and technology foresight 2 days workshops

1. Photonics, Quantum Sciences and technologies in

Baltic countries



Tough process

Singularity

Frankling

Happy end...

Foresight essence

Deliverables

D4.9, **D4.10** – Task 4.1:

 Interim report on Participation in high level international conferences – delivered: July 2013 & January 2015

D4.11, **D4.12** – Tasks 4.2 - 4.5:

 Reports on 2 International Conferences, Exhibitions and Research Courses – delivered: July 2013 & January 2015

D4.13 – Reports on three strategy planning and technology foresight workshops (delivery date: January 2015) = shifted to extended WP5

Milestones

- MS.10 1st International Conference "Advances in Photonics Technologies, Riga 2012" due on: August 2012 achieved
- MS.11 1st International Conference "Biophotonics, Riga 2013" due on : August 2013 achieved
- MS.12 1st International Conference "NOCTURNAL Riga 2014" due on : August 2014 achieved in October 2014
- MS.13 3rd International Conference "Sustainable development, knowledge society and future Manufacturing"
 - due on: June 2012 achieved