

## **Project: FOTONIKA-LV**

# **Unlocking and Boosting Research Potential for Photonics in Latvia – Towards Effective Integration in the European Research Area**

**Grant agreement no: 285912**

**Agendas and contents of 69 knowledge exchange, scientific quality sustaining,  
planning or forward looking workshops**

**WP1 - Partnerships, Exchange of Know-how and Experience**

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**Release Approval**

<b>Name</b>	<b>Role</b>	<b>Date</b>
Sandra Smalina	WP Leader	
Arnolds Ubelis	Project Manager	

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## 1. Introduction

The tradition of holding a colloquium on topics of interest to the research community emerged at the Association FOTONIKA-LV from the regular weekly scientific seminars at the each of the three associated institutes. The first FOTONIKA-LV colloquia were organized from the time that the Association was founded in April 24, Year 2010 before the Project was approved for funding. When the project proposal “**FOTONIKA-LV, reg. Nr. 285912 Unlocking and Boosting Research Potential for Photonics in Latvia – Towards Effective Integration in the European Research Area**” was retained for financing the colloquia become a regular feature of the functioning of the Association.

During January 2015 the last two colloquia numbered **LXXIV and LXXV** were organized. In general the working language was Latvian, but frequently seconded guests are invited to contribute as well more in English but sometimes also in Russian. In addition to research topics other issues including science and innovation policy as well as technology commercialization problems, intellectual property issues as well as outreach to research-driven SMEs operating in the general field of photonics were subjects of colloquia.

This deliverable highlights the agendas of all 69 colloquia. The colloquia together with much larger number of smaller-scale events together was an effective means of communication and a tool for internal scientific quality control. The colloquia provided the intellectual environment where new ideas for basic and applied research and even projects emerged. The total number of events is much larger than the number that was foreseen in project planning.

The coordinator,

Dr. Arnolds Ubelis

2. Agendas and contents of 69 knowledge exchange, scientific quality sustaining, planning or forward looking workshops.



**Latvijas Universitātes zinātnisko institūtu asociācija**

*(Association of three institutes of the University)*

**FOTONIKA – LV**

*(dibin.(founded) 24.04.2010)*

*Godātie kolēģi!*

*Dear Colleagues!*

*Ieviešam tradīciju un, lūdzu, sanākam uz pirmo ikmēneša kolokviju:*

*(we are starting tradition with monthly colloquia of association FOTONIKA-LV)*

*piektdien 17.decembrī,2010 , 9.00-10.30, LU ASI auditorijā Vecrīgā, Šķūņu 4,  
4.stāvā*

*Programmā*

- 1. Atskats uz 07.12.2010. iesniegto projektu konkursam FP7-REGPOT-2011-1 un tā sagatavošanas niansēm ( summary about submitted project proposal to FP7-REGPOT-2011-1 call)*
- 2. Asociācijas FOTONIKA-LV projektu grupas izveide un jaunu projektu perspektīvas (New project task force of FOTONIKA-LV)*
- 3. FP7 projekta FOTONIKA-LV un asociācijas FOTONIKA-LV Padomes (Management Board) apstiprināšana.*
- 4. Dažādi.*

*Kafija un kūkas atzīmējot pirmo veiksmīgo sadarbību pie projekta izstrādes.*

*(Coffee and cakes celebrating the first joint project proposal)*

FP7 projekta FOTONIKA-LV koordinātors

Dr.Arnoalds Ūbelis, 13.12.2010



Latvijas Universitātes zinātnisko institūtu asociācijas

## **FOTONIKA–LV**

dibināšanas līgums

### Preambula

Mūsdienu terminoloģijā ar vārdu „fotonika” vienoti apzīmē nozares un jomas, kuras orientētas uz optisko tehnoloģiju attīstību un to pielietojumiem sakaros, ražošanā, medicīnā un sadzīvē. Fotonikas ierīces ražo, pastiprina, pārveda un/vai uztver optisko starojumu (t. sk. redzamo gaismu), vai arī manipulē ar šo starojumu. Fotonika ir viens no galvenajiem 21. gadsimta tehniskā progresa virzītājspēkiem, kas nodrošina optisko komunikāciju, informācijas tehnoloģiju, apgaismes tehnikas, Saules enerģētikas, displeju, robotikas, medicīnas, sadzīves elektronikas, kosmisko un militāro tehnoloģiju strauju izaugsmi, balstītu uz panākumiem fundamentālos un lietišķos pētījumos. Fotonikas tehnoloģijām visā pasaulē pievērš pastiprinātu uzmanību, un šajā nozarē ieplūst milzīgas investīcijas. 2006. gadā pasaules fotonikas tirgus apjoms bija 228 miljardi EUR, un pēc Eiropas Komisijas ierosmes ir izveidota un aktīvi darbojas tehnoloģiskā platforma PHOTONICS '21. Arī Latvijā notiek gan pētniecības darbi dažādos fotonikas virzienos, gan fotonisku ierīču un elementu ražošana, gan arī paplašinās šādu ierīču pielietojumi. Tomēr fotonikas sektoram valstī uz šo brīdi pietrūkst intelektuāli stipru institucionālu līderu un resursu (t.sk.cilvēkresursu) pielietojuma koordinācijas. Tā rezultātā sabiedrība Latvijā zaudē labklājības izaugsmes iespējas, ko varētu dot augstas pievienotas vērtības un pasaulē konkurētspējīgas šī sektora produkcijas ražošana gan tradīcijām bagātajā Rīgā, gan citur Latvijā, kā piemēru minot Līvānos.

Mēs, zemāk parakstījušies LU Atomfizikas un spektroskopijas institūta (ASI), LU Astronomijas institūta (AI) un LU Ģeodēzijas un ģeoinformātikas institūta (GGI) direktori kopīgā zinātniskajā seminārā 2010.gada 29. aprīlī vienojamies par LU zinātnisko institūtu asociācijas FOTONIKA–LV izveidošanu sekojošu mērķu sasniegšanai:

- Fundamentālos un lietišķos pētījumos balstīta fotonikas sektora izaugsme Latvijā;
- Resursu mobilizācija un kopīgu projektu realizācija;
- Cilvēkresursu kvantitatīvās un kvalitatīvās kapacitātes nostiprināšana.

Izvirzītie mērķi ir saskaņā ar LU un triju institūtu vēsturisko misiju, nosakot nacionāla līmeņa korporatīvo atbildību par fotonikas attīstību Latvijā tuvākajos gados un desmitgadēs.

Balstoties uz triju institūtu intelektuālo un zinātniski-tehnisko potenciālu, mēs kopā ar institūtu zinātniskajiem kolektīviem apņemamies aktīvi kopīgi darboties transdisciplinārajā fotonikas jomā, turpinot pēdējā gadu simtenī Latvijā pastāvējušās zinātnes un tehnoloģiju tradīcijas un ejot kopsoļā ar mūsdienu norisēm ES un pasaulē.

LU ASI direktors

LU AI direktors

LU ĢĢI direktors



Prof. Jānis Spīgulis

Dr. Ilgmārs Eglītis

Dr. Jānis Balodis

Rīga 29.04.2010



**Latvijas Universitātes zinātnisko institūtu asociācija**

**FOTONIKA – LV**

*Kolokvijs 21.01.2011, Plkst.10.00*

*LU ASI auditorijā Vecrīgā, Šķūņu 4, 4.stāvā*

*Programmā*

*Latvija un Eiropas Kosmosa Aģentūra ([www.esa.int/](http://www.esa.int/))*

*(Latvia in contacts with European Space Agency)*

*Ziņojumi (reporting): A.Ūbelis, K.Karolis, V.Veckalns, A.Rubans*

*Vidēji 20 min uz ziņojumu*

*A.Ūbelis. Ieskats ESA (Insight in ESA)*

*K.Karolis. Latvia un ESA sadarbības formālā puse*

*(LV and ESA formal part of cooperation)*

*V.Veckalns. Iezīmētās sadarbības perspektīvas (Marked collaboration topics)*

*Referenti no institūtiem: Asociācijas FOTONIKA-LV potenciāls un ESA*





**Latvijas Universitātes zinātnisko institūtu asociācijas**

**FOTONIKA – LV**

*IV kolokvijs, 18.04.2011, plkst.10.00-11.30*

*Vad.A.Ūbelis*

*Raiņa bulv.19, LU Vēstures muzeja telpā 4.stāvā ejot pa galvenajām kāpnēm*

**Programmā**

*(programme – presentation "kick-off" meeting of the project)*

**1. 10.00-10.40.**

ES Septītās ietvara programmas projekta (FP7 project) "FOTONIKA- LV - Unlocking and Boosting Research Potential for Photonics in Latvia – Towards Effective Integration in the European Research Area" plānojuma prezentācija ( presentation)

Projekta koordinators un ziņotājs kolokvijā (coordinator) - dr.Arņolds Ūbelis

*Proposal reference number: FP7-285912, under the call FP7-REGPOT 2011-1. The project has been recorded as having arrived on 07/12/2010 16:59:39*

*Projekts FOTONIKA-LV vairāk kā 291 FP7 ES projekta konkurencē ir ierindots 2.vietā un ir novērtēts ar 15 punktiem no 15 iespējamiem. Projekta finansējuma kopapjoms no ES gandrīz 4 milj.EUR. Šajā konkursā finansējuma pietiek tikai 20 izciliem projektiem no ES dalībvalstīm, kurām ir tā saucamie „convergence regions” (winner in the competition among 291 project)*

**2. 10.40-11.10**

Jautājumi un diskusija par 2011.gada plāniem un darbiem, t.i. lai sagatavotu visu triju institūtu zinātnes infrastruktūru, telpas un mobilizētu cilvēku resursus labam projekta startam 2012.gada 1.februārī un efektīvai tā realizācijai kalpojot fotonikas sektora nostiprināšanai Latvijā gan fundamentālās gan pielietojamās zinātnes jomās. (discussion on the implementation)

**3. 11.10-11.30 Diskusijas turpinājums pie kafijas un kūkas**



**Latvijas Universitātes zinātnisko institūtu asociācijas**

**FOTONIKA – LV**



**V kolokvijs, piektdien, 30.09.2011, plkst.9.00-10.30**  
**Vad.(chair) A.Ībelis**

**LU ASI, Šķķņu ielā 4, Vecrīga, auditorija, 4.st.**

**Programmā (agenda)**

**1. 9.00 - 9.45**

ES Septītās letvara programmas projekts *"FOTONIKA- LV - Unlocking and Boosting Research Potential for Photonics in Latvia – Towards Effective Integration in the European Research Area"* - izcila iespēja un perspektīva izaugsmei un radošam darbam un vienlaicīgi liela atbildība nacionālā un arī Eiropas Vienotas pētniecības telpas līmenī. ( The project contract number: FP7-285912, under call FP7-REGPOT 2011-1 outstanding opportunity towards creative research, growth and simultaneously responsible and important national and ERA scale corporate task .)

Projekta koordinators un ziņotājs kolokvijā (reporter) - Dr.Arņolds Ībelis  
Līdzziņotāji, projekta darba pakešu vadītāji (correorters – WP leaders)

*Projekts FOTONIKA-LV konkursā FP7-REGPOT 2011-1 vairāk kā 291 FP7 ES projekta konkurencē ir ierindots 2.vietā un neatkarīgu ES līmeņa ekspertu vērtējumā ir saņēmis 15 punktus no 15 iespējamajiem. 15 punktu vērtējumu saņēma vēl 7 projekti, bet pārējie, kuri tiks finansēti, saņēma 14,5 punktus. Projekta finansējuma kopapjoms no ES kopīgā budžeta gandrīz 4 milj.EUR. Šajā konkursā finansējuma pletiek tikai 20 izcillem projektiem no ES dalībvalstīm, kurām ir tā saucamie „convergence regions”*

**2. 9.45-10.30. Jautājumi un diskusija par jau paveikto un vēl veicamiem sagatavošanās darbiem 2011.gadā plāniem (t.i. līdz galam fiksētu asociācijas FOTONIKA-LV tiesisko statusu un lai sagatavotu visu triju institūtu zinātnes infrastruktūru, telpas un mobilizētu cilvēku resursus labam projekta startam 2012.gada 1.februārī un efektīvai tā realizācijai kalpojot fotonikas sektora nostiprināšanai Latvijā gan fundamentālās gan pielietojamās zinātnes jomās).**  
(questions and discussions on preparatory efforts in starting stage including legal status of the Association)

# ***LU ASI***

## ***ZINĀTNISKAIS SEMINĀRS***

Šķūņu ielā 4, auditorijā (4. stāvā)

Ceturtdien, 2011. gada 22. decembrī plkst. 9.00

LU zinātnisko institūtu asociācijas

FOTONIKA-LV kolokvijs

Arnolds Ūbelis

ES 7. IP projekta „FOTONIKA-LV”  
aktuālie jautājumi



## Latvijas Universitātes zinātnisko institūtu asociācijas

### FOTONIKA – LV

*VII kolokvijs, ceturtdien, 02.02.2012, plkst.10.00-11.30*

Vad.A. Ūbelis

LU ASI, Šķūņu ielā 4, Vecrīga, auditorija, 4.st.

Programmā (Agenda – the start of the project)

#### 1. 10.00 - 10.20

Īss ziņojums par ES Septītās lētvara programmas projekta "FOTONIKA- LV - Unlocking and Boosting Research Potential for Photonics in Latvia – Towards Effective Integration in the European Research Area" - uzsākšanu atbilstoši LU/EC kontrakta FP7-REGPOT-CT-2011-285912- FOTONIKA-LV nosacījumiem un LU vadības attiecīgiem rīkojumiem.

*(Short report on the project start and relevant management decisions)*

Projekta koordinators - Dr.Arņolds Ūbelis

*Projekts FOTONIKA-LV konkursā FP7-REGPOT 2011-1 vairāk kā 291 FP7 ES projekta konkurencē ir ierindots 2.vietā un neatkarīgu ES līmeņa ekspertu vērtējumā ir saņēmis 15 punktus no 15 iespējamiem. 15 punktu vērtējumu saņēma vēl 7 projekti, bet pārējie, kuri tiks finansēti, saņēma 14,5 punktus. Projekta finansējuma kopapjoms no ES kopīgā budžeta gandrīz 4 milj.EUR. Šajā konkursā finansējuma pietiek tikai 20 izcilēm projektiem no ES dalībvalstīm, kurām ir tā saucamie „convergence regions”*

#### 2. 10.20-11.20

Insight in Science activities at Gothenburg University and

Spectroscopy of Negative Ions - Fundamental Processes, Femtosecond Spectroscopy and Applications in Astrophysics

Dag Hanstorp, Professor, Department of Physics, University of Gothenburg, Sweden,

Uldis Berziņš, Dr.Hab., Lead recruited researcher of FOTONIKA-LV project.

#### 2. 11.20-11.30 .....

Diskusija, kurai kafiju uzsauc projekta FOTONIKA-LV koordinators Arņolds Ūbelis



## Latvijas Universitātes zinātnisko institūtu asociācijas

### **FOTONIKA – LV**

VIII kolokvijs, **piektdien,** 16.03.2012, plkst.10.00-11.30  
Vad.A.Ībelis

LU ASI, Šķūņu ielā 4, Vecrīga, auditorija, 4.st.

#### *Programmā*

1. 10.00 - 10.15

*Īss ievads par zinātniskās karjeras ilgtermiņa plānošanas praksi – Dr.Aigara Eķera piemērs*  
*Scientific carier development planning – success story of Dr.Aigars Ekers*  
Dr.Arņolds Ībelis

2. 10.15-11.00

*Laser manipulation, molecular beams, cold gases*  
Dr. Aigars Eķers, Lead Researcher of FOTONIKA-LV project.  
*Context: WP2, Task 2.2; Task 2.9; Task 2.10. WP3, Task 3.3 in the project*  
FP7-REGPOT-CT-2011-285912- FOTONIKA-LV





## Latvijas Universitātes zinātnisko institūtu asociācijas

### FOTONIKA – LV

IX kolokvijs, **otrdien**, 03.04.2012, plkst.10.00-11.30  
Vad.A. Ūbelis

LU ASI, Šķūņu ielā 4, Vecrīga, auditorija, 4.st.  
Programmā

1. 10.00 - 10.15

Dr.Hab.Uldis Berziņš

*Ievads. Ieskaits sadarbībasvēsturē ar kolēģiem Lundā un mūsu viesi*

Prof. Zhongshan Li, [www.lunduniversity.lu.se/](http://www.lunduniversity.lu.se/), [www.llc.lu.se/](http://www.llc.lu.se/).

*Insight in the history of collaborations with colleagues in Lund and with our guest Ass. Prof. Zhongshan Li.*

*Zhongshan Li received a Bachelor of Science in Solid-state Physics in 1992 and a Master of Science in Infrared Physics in 1995 from Jilin University, Changchun China. He came to Lund Sweden on January 1997 and started his graduate studies at the Division of Atomic Physics Lund University soon after. He received his Ph.D. in Engineering Science in Atomic and Molecular Physics for Lund University on October 2000.*

2. 10.15-11.00

Ass. Prof. Zhongshan Li lekcija.

Laser combustion diagnostics: some examples from Lund'

Brief introduction of Division and group. Talk about three experiments:

- CH radical imaging in turbulent jet flames
- Quantitative  $\text{H}_2\text{O}^+$  measurement in HCCI engine using PF-PLIF
- Measure 'dark' molecular species in combustion by probing ro-vibration transitions using IRPS/DFWM



## Latvijas Universitātes zinātnisko institūtu asociācijas

### **FOTONIKA – LV**

**X kolokvijs, ceturtdien, 26.04.2012, plkst.9.00-10.30**  
Vad.A.Ūbelis (chair)

LU ASI, Šķūņu ielā 4, Vecrīga, auditorija, 4.st.  
Programmā - Agenda

1. 9.00 - 9.15

Dr.Hab. Jānis Spīgulis, Dr.Arņolds Ūbelis

*ievads. Ieskats sadarbībasvēsturē ar Dr.Romanu Viteru*

*Insight in the history of collaborations with Dr.Roman Viter*

*Dr. Roman Viter, Experimental physics department, Senior researcher Odessa National I.I. Mechnikov University, web-page: <http://labsurf.onu.edu.ua>*

2. 9.15-10.00

*Roman Viter, PhD in Physics lekcija.*

*Lecture of Roman Viter, PhD in Physics*

*A. Introduction of Odessa National University*

*B. Metal oxide nanostructures for biosensors application*

*C. Starting project: BIOSENSORS-AGRICULT. FP7-IRSES-2012-Nr.316177 - "DEVELOPMENT OF NANOTECHNOLOGY BASED BIOSENSORS FOR AGRICULTURE" (2012-2016)*

3. 10.00 - .... discussions&coffee





**Sestais 7.IP koordinatoru seminārs**  
**līderiem Latvijas zinātnē, kuri vēlas koordinēt projektu pieteikšanu,**  
**realizāciju un konsorciā darbu ES Septītā letvara programmā**  
**vai piedalīties tās PEOPLES un ERC IDEAS projektu konkursos**



### **XI kolokvijs**

*(Joint colloquium and training FP7 workshop for project coordinators in Latvia)*

### **Pasākumu apvienotā programma**

*(Joint Agenda)*

**Laiks:** **Piektdiena,** 11.05.2012, plkst.10.15-12.15

**Vieta:** **LU ASI, Šķūņu ielā 4, Vecrīga, auditorija, 4.st.**

**Vadītājs:** **A.Ūbelis**

1. 10.15 - 10.30

Dr.Arnlods Ūbelis. *Ievads. Ieskats Asociācijas FOTONIKA-LV vēsturē. Tās un to veidojošo institūtu pieredze kopīgu letvara programmu projektu pieteikšanā un realizācijā (Sharing the experience and praxis of Association FOTONIKA-LV).*

2. 10.30 - 10.45

Dr.Arnlods Ūbelis. *Asociācijas FOTONIKA-LV "task force" projektu sagatavošanai un pieteikšanai ( The project task force duties):*

- *aktuāliem FP7 PEOPLES programmas projektiem ar termiņiem augustā un septembrī (towards pending FP7 Peoples calls);*
- *FP7 pēdējam konkursu kopumam, kurš tiks izsludināts 2012.gada 10.jūlijā (Towards last call of proposals of FP7 – expected to be launched in July 10, 2012);*
- *Sagatavošanās Horizon 2020 pirmā gada konkursiem un stratēģija (Strategy towards HORIZON 2020).*

3. 10.45 - 11.00

*15 minūtes jautājumiem un diskusijai, lai prioritizētu auditorijas intereses (15 minutes of questions and answers to prioritize the audience interests).*

4. 11.00 - 12.00

*Kas rosina kļūt par projekta koordinatoru!!!*

*Interaktīva diskusija par Latvijas spēcīgāko zinātnes grupu iespējām konkursos, atverot "on line" interesējošo konkursu sadaļas CORDIS portālā –*

*<http://cordis.europa.eu>*

*(How to become the project coordinator –Interactive discussion using online the web page*

*<http://cordis.europa.eu>)*

5. 12.00 - 12.20 *Individuālas sarunas (personal contacts)*



## **XII kolokvijs**

**Laiks:** Ceturtdiena 31.05.2012, plkst.9.00-10.30

**Vieta:** LU ASI, Šķūņu ielā 4, Vecrīga, auditorija, 4.st.

**Vadītājs:** A.Ūbelis

1. 9.00 - 9.10  
Dr.Arņolds Ūbelis. *Ievads – kolēģi un sadarbība*  
(welcome speech towards speakers).
2. 9.10 - 9.50  
Dr.Donāts Erts. *LU Ķīmiskās fizikas institūta darbi nanopasaules mērogos*  
(The Institute of Chemical Physics in research in nanoscale physics)
3. 9.50 - 10.20  
Dr.Romans Vīters. *Atomāro slāņu uzklāšanas tehnoloģijas*  
(Technologies of monolayers).
4. 10.20 - diskusijas un kafija



## **XIII kolokvijs**

**Laiks:** Ceturtdiena 07.06.2012, plkst.9.30-11.00

**Vieta:** LU ASI, Šķūņu ielā 4, Vecrīga, auditorija, 4.st.

**Vadītājs:** A.Ūbelis

1. 9.30 - 9.45  
Dr.Arņolds Ūbelis. *Ievads – iespējas lielu projektu iniciatīvām*  
(Opportunities with the large project initiatives)
2. 9.45 - 10.30  
Vidvuds Beldavs. *„Latvijas izrāviens uz augsta ienākuma ekonomiku: zinātnes un tehnoloģiju un tehnoloģiju komercializācijas loma. „Latvia’s breakthrough to a high-income economy: The role of Key Enabling Technology commercialization”*
3. 10.30 - 11.00  
Disputs un pirmās norunas par tēmu: FOTONIKA-LV jauno projektu „task force” un tā uzdevumi sekojot 2012.gada projektu pieteikumu sagatavošanas ceļakartei.  
(Project task force activities according to the roadmap of 2012)
4. 11.00 - brīva diskusija par idejām pie kafijas





## XIV kolokvijs

**Laiks:** Otrdiena, 14.08.2012, plkst. 15.00-16.30  
**Vieta:** LU ASI, Šķūņu ielā 4, Vecrīga, auditorija, 4.st.  
**Vadītājs:** A. Ūbelis

1. 15.00-15.10  
Prof. J. Spīgulis. *Ievads – sadarbības iespējas biofotonikā ar Lomonosova MVU Starptautisko lāzeru centru. (Introduction - potential of collaboration in biophotonics with International Laser Centre of Lomonosov MSU).*
2. 15.10-16.10  
Prof. Alexander Priezzhev. *„Biophotonics at the International Laser Centre of Lomonosov Moscow State University”*
3. 16.10 – 16.30 diskusija pie kafijas tases (coffee, discussion)



## XV kolokvijs

**Laiks:** Ceturtdiena, 06.09.2012, plkst. 9.00- 10.30  
**Vieta:** LU ASI, Šķūņu ielā 4, Vecrīga, auditorija, 4.st.  
**Vadītājs:** A. Ūbelis

1. 9.00- 9.15 Ievads: FP7 projekta FOTONIKA-LV *secondment* finansu instruments – lieliska iespēja veidot *kritisko masu* iespaidīgu eksperimentu veikšanai.  
Introduction: The secondment instrument in the FP7 project FOTONIKA-LV – great opportunity to form *critical masses* for large scale experimental efforts
2. 9.15-10.00  
MsC. Aigars Apsītis, MsC Jānis Blahins Negatīvo jonu projekts „GRIBAM” (Göteborg -Rīga Ion Beam Apparatus(Mobile)) paveiktais un iespējas (Negative ion project GRIBAM already done and opportunities.
3. 10.00-10.10  
Jautājumi un diskusija (Questions and comments)
4. 10.10 – 10.30  
Diskusija pie kafijas tases (coffee, discussion)



### *XVI kolokvijs*

**Laiks:** *Piektdiena, 21.09.2012., plkst.10.00- 11.30*  
**Vieta:** *LU ASI, Šķūņu ielā 4, Vecrīga, auditorija, 4.st.*  
**Vadītājs:** *A.Ūbelis*

- 10.00- 10.15 A.Ūbelis ievadvārds: BSI uzņēmums ar ko Latvija var lepoties un augt.  
A.Ūbelis : Baltic Scientific Instruments Ltd – advanced enterprise contributing to economy growth in Latvia
- 10.15-11.15 Dr.Vladimirs Gostilo, Dr. Mihails Šorohovs  
Baltic Scientific Instruments Ltd pētniecībā motivēts mazais un vidējais uzņēmums. Vajadzības un idejas nākotnei:  
Jonizējoša starojuma pusvadītāju detektori: perspektīvas un problēmas  
Detectors of ionizing radiation: perspectives and problems  
Baltic Scientific Instruments Ltd. research driven SME. Needs and ideas for future.
- 11.15-11.30 Jautājumi un diskusija (Questions and comments)  
Vidvuds Beldavs: Īsi par zinātņi Novosibirskā  
(Shortly on science in Novosibirsk)
- 11.30 –12.30 Diskusija pie kafijas tases (coffee, discussion)



### *XVII kolokvijs*

**Laiks:** *Ceturtdiena, 04.10.2012., plkst.9.00- 10.30*  
**Vieta:** *LU ASI, Šķūņu ielā 4, Vecrīga, auditorija, 4.st.*  
**Vadītājs:** *A.Ūbelis*

9.00 - 9.45 Dr. A.Ūbelis

**FOTONIKA-LV: ieskats nākotnē** (*FOTONIKA-LV: insight in future*)  
Finansētie projekti, iesniegtie projektu pieteikumi, paredzamie projektu pieteikumi uz pieejamiem konkursiem, ierosmes jauniem projektu pieteikumiem, stipendiju projekti.  
Associācija FOTONIKA-LV Finanšu perspektīva „de facto” līdz 2016.gadam.  
(*Financed projects, submitted projects proposals, foreseen project proposals to announced calls, initiatives for pending calls, fellowship projects and applications: Financial perspective of Association FOTONIKA-LV „de facto”*).

9.45 – 10.30

Jautājumi, diskusija un kafija (Questions, comments, discussion)



## **XVIII kolokvijs**

**Laiks:** **Piektdiena, 26.10.2012., plkst.10.00- 11.30**  
**Vieta:** **LU ASI, Šķūņu ielā 4, Vecrīga, auditorija, 4.st.**  
**Vadītājs:** **A.Ūbelis**

10.00 -10.15 Dr. A.Ūbelis

ievads – tiesiskums valstī un **FOTONIKA-LV** problēmas (*Introduction - rule of law in the country and related FOTONIKA-LV problems*)

10.15 – 11.00 Advokāts Juris Narkēvičs  
Saruna par tēmu (*discussion on the issue*)  
Zinātnieka radošā brīvība un iniciatīva - tiesiskais un sociālais nodrošinājums Latvijā un ES (*Legal and social support to creativity and social guarantees to researchers in Latvia and in EU*)

11.00 – 11.30 Jautājumi, diskusija un kafija (*Questions, comments, discussion and coffee*)





### **XIX kolokvijs**

**Laiks:** Ceturtdiena, 01.11.2012., plkst.9.00- 10.30  
**Vieta:** LU ASI, Šķūņu ielā 4, Vecrīga, auditorija, 4.st.  
**Vadītājs:** A.Ūbelis

- 9.00 - 9.15 Dr. A.Ūbelis:  
Ievads – FOTONIKA-LV prioritātes satelītu, atmosfēras un ģeodinamisko novērojumu tehnoloģijās (Advances of FOTONIKA-LV in technologies satellite ranging and in observation of Earth atmosphere and geodynamics).
- 9.15 – 10.15 Dr.M.Ābele, MsC. J.Vjaters:  
Atmosfēras sastāva un tās dinamikas kartogrāfija ar teleskopiskām sistēmām, kuras vienlaicīgi izmanto lāzerus un platjoslas spektru gaismas avotus. Cartography of composition and dynamics with telescopic devise combining lasers and broadband spectra beams.  
Dr.A.Ūbelis: Cilvēku resursu mobilizācijas un finansu resursu piesaistes projektu pieteikumu iespējas (Opportunities of human resource and financial resource projects)
- 10.15 – 10.45 Jautājumi, diskusija un kafija (Questions, comments, discussion and coffee)





## XX kolokvijs

**Laiks:** *Piektdiena, 16.11.2012., plkst.10.00- 11.45*  
**Vieta:** *LU ASI, Šķūņu ielā 4, Vecrīga, auditorija, 4.st.*  
**Vadītājs:** *A.Ūbelis*

- 10.00 - 10.15 Dr. A.Ūbelis:  
levads – FOTONIKA-LV projekta aktualitātes un tehnoloģiskie sasniegumi (*Latest in FOTONIKA-LV project and advancements in Technologies*)
- 10.15 – 11.15 MsC Janis Blahins un Aigars Apsītis:  
**a)** Negatīvo jonu iekārta GRIBAM – Geteborgā paveiktais (*Negative ion apparatus GRIBAM- progress in Gothenburg*).  
**b)** Darbs pie universālās vakuma uzputināšanas iekārtas renovācijas un telpu sakārtošana pagrabstāvā (*Efforts in building vacuum sputtering device and renovations in earthfloor*).  
**c)** Progress RF induktīvi saistītās plazmas generatoru jomā (*Progress with RF inductively coupled plasma sources*)
- 11.15 – 11.45 Jautājumi, diskusija un kafija (*Questions, comments, discussion and coffee*)



European  
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## XXI kolokvijs

**Laiks:** *Otrdiena 2012.18.decembrī, plkst.10.00- 11.30*  
**Vieta:** *LU ASI, Šķūņu ielā 4, Vecrīga, auditorija, 4.st.*  
**Vadītājs:** *A.Ūbelis*

- 10.00 - 10.15 Dr. A.Ūbelis:  
levads – FOTONIKA-LV projekts iespējas izaugsmei Satelītu lāzeru pozicionēšanas tehnoloģiju jomai Latvijā (*Opportunities towards advancements in SLR in LATVIA*)
- 10.15 – 11.15 PhD grāda pretendents Kalvis Salmiņš, Dr.Māris Ābele, Dr.Jānis Balodis, MsC. Jānis Vjaters  
**a) Pamatziņojums.** Rīga grib un var atgūt savu vietu pasaules līderu grupā SLR jomā tehnoloģijās, pielietojamos un fundamentālos pētījumos (*Riga is willing and able to regain its position among the world leaders in SLR technology, as well as basic and applied research*)  
**b) Līdzziņojumi (copresentations)**
- 11.15 – 11.45 Jautājumi, diskusija un kafija (*Questions, comments, discussion and coffee*)



### **vXXII kolokvijs**

**Laiks:** Ceturtdiena, 20.12.2012., plkst.13.00- 14.45

**Vieta:** LU ASI, Šķūņu ielā 4, Vecrīga, auditorija, 4.st.

**Vadītājs:** A.Ībelis

- 13.00 - 13.15 Dr. A.Ībelis:  
levads – FOTONIKA-LV projekta aktualitātes noslēdzot 2012.gadu  
un sākot 2013.gadu  
( FOTONIKA-LV project - finalizing Year 2012 and starting 2013.)
- 13.15 – 14.00 Dr.Hab.Uldis Berziņš  
**a) Pamatziņojums:** Negatīvo jonu pētījumi. FOTONIKA-LV  
pienesums 2012.gada un nākošā gada plāni.  
(Contribution of FOTONIKA-LV in the domain of negative ions)
- b) Līdzziņojums:** MsC Janis Blahins un Aigars Apsītis
- 14.00 – 14.45 Jautājumi, diskusija un kafija  
(Questions, comments, discussion and coffee)



### **XXIII kolokvijs**

**Laiks:** Otrdiena, 22.01.2013., plkst.10.00- 11.30

**Vieta:** LU GGI, Raiņa blv. 19, LU Muzeja zāle - 415. auditorija, 4.st.

**Vadītājs:** A.Ībelis

- 10.00 – 10.10. Dr. A.Ībelis. leadvārdi un referentu cildināšana  
(Welcome address)
- 10.00 – 10.30 Dr. J.Balodis  
Īss ieskats GGI 2013. gada plānos un tālāko gadu perspektīvā
- 10.30 - 11.15 M.sc.ing. Inese Janpaule  
Latvijas geoida modeļa aprēķini, kvalitātes novērtējums un  
salīdzinājums ar globālajiem gravitācijas lauka modeļiem  
(Stāsts par problēmu un darbu Karlsruhes Lietišķo zinātņu universitātē).  
(Computation of the Latvian Geoid, Quality Assessment and Comparison with  
Global Gravity Field Models. Report on problem and work done in the  
University of Applied Sciences in Karlsruhe)
- 11.15 – 11.30 Jautājumi, diskusija un kafija  
(Questions, comments, discussion and coffee)



## XXIV kolokvijs

**Laiks:** **Piektdiena, 25.01.2013., plkst.10.00- 11.30**

**Vieta:** **LU ASI, Šķūņu 4. auditorija, 4.st.**

**Vadītājs:** **A.Ūbelis**

10.00 – 10.10. Dr. A.Ūbelis. Ievadvārdi

(Welcome address)

10.00 – 10.40 Dr. A.Ūbelis

leskats Valsts Kontroles ziņojumā par IZM un Latvijas zinātnes un inovāciju politikas auditu

<http://www.lrvk.gov.lv/index.php?id=2207&start=20&temaid=0&lietaid=0&zz=1>

un Eiropas komisijas Latvijai veltītā

darba dokumentā **Brussels, 30.5.2012 SWD(2012) 320 final**

[http://ec.europa.eu/europe2020/pdf/nd/swd2012\\_latvia\\_en.pdf](http://ec.europa.eu/europe2020/pdf/nd/swd2012_latvia_en.pdf)

(Insight in two documents:

➤ 07.03.2012, State Audit Office Audit report

"The Efficiency and Compliance with the Requirements of Regulatory Enactments of the Activities of the Ministry of Education and Science in Developing and Organising the Implementation of the National Science Policy";

➤ Brussels, 30.5.2012, SWD(2012) 320 final. COMMISSION STAFF WORKING DOCUMENT Assessment of the 2012 national reform programme and convergence programme for LATVIA)

10.40 - 11.10 Diskusija par Latvijai prioritāru fotonikas zinātnes un tehnoloģiju sektoru (Institūtu direktori, FOTONIKA-LV valde un klātesošie)

(Discussion of photonics domain in Latvia)

11.10 –11.30 Jautājumi, diskusija par dažādiem jautājumiem un kafija

(Questions, comments, discussion and coffee)





## XXV kolokvijs

**Laiks:** **Piektdiena, 15.02.2013., plkst.10.00- 11.30**

**Vieta:** **LU ASI, Šķūņu 4. auditorija, 4.st.**

**Vadītājs:** **A.Ībelis**

10.00 – 10.10. Dr. A.Ībelis. Ievadvārdi un referentu cildināšana  
(Welcome address)

10.10 – 10.50 Dr. Māris Ābele.  
Lāzera un baltās gaismas stara teleskops –  
tehnoloģisks izaicinājums un jaunas iespējas atmosfēras un  
ģeodinamisko pētījumu jomās.  
(Laser&white light beam telescope challenging technology breakthrough  
opening new opportunities in the domains of geodynamics and  
atmosphere research.)

10.50 - 11.15 Dr.gr.pret.Kalvis Salmiņš, MSc Jānis Vjaters, Dr.Jānis Balodis u.c.  
Līdzziņojumi vai disputa uzstāšanās  
(Copresentations or disputable interventions)

11.15 –11.30 Jautājumi, diskusija un kafija  
(Questions, comments, discussion and coffee)



## XXVI kolokvijs

**Laiks:** Ceturtdiena, 14.03.2013., plkst.9.00- 10.30

**Vieta:** LU ASI, Šķūņu 4., auditorija, 4.stāvs

**Vadītājs:** A.Ūbelis

9.00 – 9.10. Dr. A.Ūbelis. Ievadvārdi un referenta cildināšana

*(Welcome address)*

9.10 – 9.50 LZA prezidents, profesors Ojārs Spārītis

*(The Prezident of Latvian Academy of sciences)*

Latvijas zinātne un Latvijas zinātņu akadēmija

*(Science in Latvia and Latvian Academy of Sciences) Latvian*

9.50 - 10.10 Dr.A.Ūbelis

Associācija FOTONIKA-LV Latvijas fotonikas sektoru mobilizējošs nacionālās nozīmes zinātnes centrs.

*(Association FOTONIKA-LV – nacional science center mobilization photonics domain in Latvia )*

10.10–10.30 Jautājumi, diskusija un kafija

*(Questions, comments, discussion and coffee)*



## XXVII kolokvijs

**Laiks:** *Piektdiena, 15.03.2013., plkst.10.00 – 11.30*

**Vieta:** *LU ASI, Šķūņu 4. auditorija, 4. st.*

**Vadītājs:** *A. Ūbelis*

10.00 – 10.07. Dr. A. Ūbelis. Ievadvārdi un referentu cildināšana

10.07 - 10.07. Dr. O. Balcers. Rīgas Fotonikas centrs piedāvā iepazīties ar fotonikas jomas Latvijas uzņēmumu - GroGlass. (Introduction to SMEs GroGlass)  
(Welcome address)

10.15 – 10.50 Guntis Mārciņš, LU fizikas specialitātes doktorants

Magnetronu putināšanas metode un tās lietojums antireflektīvu optisko pārklājumu ražošanā, ar pārklājumu ražošanu saistītās fizikālās problēmas SIA „GroGlass” rūpnīcā.

Seminārā klausītāji tiks iepazīstināti ar magnetronu putināšanas pamatiem, un šīs metodes pielietojumu antireflektīvo pārklājumu izveidē. Guntis stāstīs par SIA "Groglass" ražošanas procesu un ar to saistītajām fizikālajām problēmām.

(Magnetron sputtering and its use in making optical layers. Topical research and development directions.)

10.50 – 11.30 Jautājumi, diskusija un kafija

(Questions, comments, discussion and coffee)





European  
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## XXVIII kolokvijs

**Laiks:** *Piektdiena, 12.04.2013., plkst. 10.00 – 11.30*

**Vieta:** *LU ASI, Šķūņu 4. auditorija, 4. st.*

**Vadītājs:** *A. Ūbelis*

10.00 – 10.15. Dr. A. Ūbelis. Ievadvārdi un referentu cildināšana  
(Welcome address)

10.15 - 11.15. Dr. Jānis Alnis.

- . A) Kopskats par paveikto Maksa Planka Kvantu Optikas institūtā Minhenē;  
(Short survey of scientific activities in Max-Planck-Institute of Quantum Optics in Munich)
- B) Pirmie aktuālie darbi atgriežoties Latvijā;  
(Plans for the first step of research activities after repatriation)
- C) Optisko frekvenču ķemju (sietu) pamatprincipi  
(Basics of optical frequency combs)

11.15 – 11.30 Jautājumi, diskusija un kafija  
(Questions, comments, discussion and coffee)

*P.s.*

Kolēgi! Pirms kolokvija visi interesanti ir aicināti 9.00 atnākt uz darba semināru, kur Dr. Māris Ābele prezentēs savus pēdējos pētījumus un apsvērumus par satelītu lokācijas teleskopu, kurā vienuviet ir savietoti lāzera stars un baltās gaismas kūlis.

*P.s. Before the cologium at 9.00 the seminar will take place where Dr. Māris Ābele will present the advances towards SLR telescope design having combination of laser and white light beams.*



## XXIX kolokvijs

**Laiks:** Ceturtdiena, 18.04.2013., plkst.9.30.00 – 11.00

**Vieta:** LU ASI, Šķūņu 4. auditorija, 4. st.

**Vadītājs:** A. Ūbelis

9.30 – 9.45. Dr. A. Ūbelis. leadvārdi un referentu cildināšana  
(Welcome address)

9.45 - 10.30. Dr. Hab.Phys Linards Skuja.  
Ko mēs zinām par  $\text{SiO}_2$  (What we know about  $\text{SiO}_2$ )

10.30 – 11.00 Jautājumi, diskusija un kafija  
(Questions, comments, discussion and coffee)



## XXX kolokvijs

**Laiks:** Ceturtdiena, 25.04.2013., plkst.9.30.00 – 11.00

**Vieta:** LU ASI, Šķūņu 4. auditorija, 4. st.

**Vadītājs:** A. Ūbelis

9.30 – 9.45. Dr. A. Ūbelis. leadvārdi un referentu cildināšana  
(Welcome address)

9.45 - 10.30. Prof. Konrad Banaszek, Faculty of Physics,  
University of Warsaw.  
"Generation of non-classical photon pairs in non-linear waveguides"  
Coordinator of the project : **Fostering Excellence in Photonics and Quantum Science.** FP7-REGPOT-2012-2013-1, [316244](#) / [PhoQuS@UW](mailto:PhoQuS@UW)

10.30 – 11.00 Jautājumi, diskusija un kafija  
(Questions, comments, discussion and coffee)



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## XXXI kolokvijs

**Laiks:** Ceturtdiena, 02.05.2013., plkst.10.00 – 11.30

**Vieta:** LU ASI, Šķūņu 4. auditorija, 4. st.

**Vadītājs:** Aigars Ekers

10.0 – 10.15. Dr. Aigars Ekers. Ievadvārdi un referentu cildināšana  
(Welcome address)

10.15 - 11.00. Dr. Kaspars Tārs.,  
"Proteīnu foldings"  
(Protein folding)

**Protein folding** is the process by which a [protein](#) structure assumes its functional shape or conformation. It is the physical process by which a [polypeptide](#) folds into its characteristic and functional [three-dimensional structure](#) from [random coil](#).<sup>[1]</sup> Each [protein](#) exists as an unfolded polypeptide or random coil when translated from a sequence of [mRNA](#) to a linear chain of [amino acids](#). This polypeptide lacks any stable (long-lasting) three-dimensional structure (the left hand side of the neighbouring figure). Amino acids interact with each other to produce a well-defined three-dimensional structure, the folded protein (the right hand side of the figure), known as the [native state](#). The resulting three-dimensional structure is determined by the amino acid sequence ([Anfinsen's dogma](#)).<sup>[2]</sup>

• <sup>1</sup> [Alberts, Bruce](#); Alexander Johnson, Julian Lewis, Martin Raff, Keith Roberts, and Peter Walters (2002). ["The Shape and Structure of Proteins"](#). Molecular Biology of the Cell; Fourth Edition. New York and London: Garland Science. ISBN 0-8153-3218-1.

• <sup>2</sup> [Anfinsen, C.](#) (1972). ["The formation and stabilization of protein structure"](#). Biochem. J. **128** (4): 737–49. [PMC 1173893](#). [PMID 4565129](#).





## XXXII kolokvijs

**Laiks:** **Piektdiena, 03.05.2013., plkst. 10.00 – 11.30**

**Vieta:** **LU ASI, Šķūņu 4. auditorija, 4. st.**

**Vadītājs:** **A. Ūbelis**

10.0 – 10.15. Dr. A. Ūbelis. Ievadvārdi un referentu cildināšana  
(Welcome address)

10.15 - 11.00. Dr. Kerstin Cuhls  
Kā notiek forsaita vingrinājumi un kā to var izmantot  
(How Foresight is performed and can be used)  
CC Innovations- und Technologie Management und Vorausschau  
Fraunhofer Institut für System- und Innovationsforschung (ISI)

In [futures studies](#), especially in Europe, the term "**foresight**" has become widely used to describe activities such as:

- [critical thinking](#) concerning long-term developments,
- [debate](#) and effort to create wider [participatory democracy](#),
- [shaping the future](#), especially by influencing [public policy](#).

In the last decade, scenario methods, for example, have become widely used in some European countries in policy-making.<sup>[1]</sup> The FORSOCIETY network brings together national Foresight teams from most European countries, and the [European Foresight Monitoring Project](#) is collating material on Foresight activities around the world. In addition, foresight methods are being used more and more in [regional planning](#) and decision –making ("regional foresight").

**Foresight (psychology)** is the ability to predict, or the action of predicting, what will happen or what is needed in the future. Studies suggest that much of human daily thought is directed towards potential future events. Because of this and its role in human control on the planet, the nature and evolution of foresight is an important topic in psychology.<sup>[1]</sup> Recent neuroscientific, developmental and cognitive studies have identified many commonalities to the human ability to recall past episodes.<sup>[2]</sup> Science magazine selected new evidence for such commonalities one of the top ten scientific breakthroughs of 2007. However, there are fundamental differences between mentally travelling through time into the future versus the past<sup>[3]</sup> ([episodic memory](#)).

1. <sup>1</sup> Suddendorf & Corballis (2007) "The evolution of foresight: What is mental time travel and is it uniquely human". Behavioral and Brain Sciences, 30, 299-313.
2. <sup>2</sup> Addis DR, Wong AT, Schacter DL. Remembering the Past and Imagining the Future: Common and Distinct Neural Substrates During Event Construction and Elaboration. Neuropsychologia 2007; 45:1363-1377. Hassabis D, Kumaran D, Vann SD, Maguire EA. Patients with Hippocampal Amnesia Cannot Imagine New Experiences. Proceedings of the National Academy of Sciences of the United States of America 2007; 104:1726-1731.
3. <sup>3</sup> Suddendorf T. Episodic Memory Versus Episodic Foresight: Similarities and Differences. Wiley Interdisciplinary Reviews Cognitive test Science, 1, 99-107.

11.00 – 11.30 Jautājumi, diskusija un kafija  
(Questions, comments, discussion and coffee)





### XXXIII kolokvijs

**Laiks:** *Piirmidiena, 17.06.2013., plkst.10.00 – 11.30*

**Vieta:** *LU ASI, Šķūņu 4. auditorija, 4. st.*

**Vadītājs:** *A. Ūbelis*

10.0 – 10.15. Dr. A.Ūbelis. Ievadvārdi un referentu cildināšana  
(Welcome address)

10.15 - 11.00. Dr. A.Ūbelis, Dr.A.Ekers, Dr.J.Spīgulis  
FP7 iegūtā pieredze un pēdējas konkursu iespējas;  
(Learning from succes and failures in FP7.)  
HORIZON 2020 – jauni izaicinājumi un lielākas iespējas  
(HORIZON 2020 new challenges)  
Structural funds from ES and other options

11.00 – 11.30 Jautājumi, diskusija un kafija  
(Questions, comments, discussion and coffee)



## XXXIV kolokvijs

**Laiks:** Ceturtdiena, 20.06.2013., plkst.9.00 – 10.30

**Vieta:** LU ASI, Šķūņu 4. auditorija, 4. st.

**Vadītājs:** A. Ekers

10.0 – 10.15. Dr. A.Ekers. leadvārdi un referentu cildināšana

(Welcome address)

10.15 - 11.00. Prof. Harold Metcalf, Stony Brook University

"Efficient Excitation of Rydberg States Using STIRAP"

"There are reasons why it's desirable to put all the atoms of a sample into the Rydberg states, leaving none in the ground state. This talk will begin with a description of our nano-lithography experiments with meta-stable helium that motivate such a need, then discuss our spectroscopy and measurements of the Rydberg states, and continue on to present our technique for the absolute measurement of STIRAP efficiency. Since perfect adiabaticity is only an ideal, some real-world considerations that impact on the non-adiabaticity of experiments will be discussed. Finally there will be a presentation of our preliminary results of internal state atom interferometry."



**Harold J. Metcalf**, a Physics professor at Stony Brook University, is the man behind the project. Metcalf and his students perform basic research that has no attainable end product. "We use lasers to shine on beams of atoms, to make atoms do what we think would be interesting to make them do," he said.

To further his educational goals, Metcalf helped launch the Laser Teaching Center at Stony Brook over 12 years ago, which hosts undergraduate and high school students to conduct hands-on optics and laser research projects

In the late 1960's, our early work with N2 pumped dye lasers was precision measurements in atoms. Later we studied the OH free radical and the Stark effect in Rydberg atoms. Laser cooling work began in 1981 and was extended to sub-Doppler cooling, quantum states of motion, dark states, and magnetic effects. More recently we focused on ultra-strong optical forces with a huge velocity capture range provided by non-monochromatic light. These forces were recently exploited for atomic nanofabrication.

**Metcalf has had several Visiting Professor appointments including MIT, École Normale Supérieure, Ben Gurion, Utrecht, and others.**

11.00 – 11.30 Jautājumi, diskusija un kafija

(Questions, comments, discussion and coffee)



### XXXV kolokvijs

**Laiks:** *Piektdiena, 21.06.2013., plkst 10.00 – 11.30*

**Vieta:** *LU ASI, Šķūņu 4. auditorija, 4. st.*

**Vadītājs:** *A. Ekers*

10.0 – 10.15. Dr. A.Ekers. Ievadvārdi un referentu cildināšana  
(Welcome address)

10.15 - 11.00. Dr. Malgorzata Glodz (Polijas ZA Fizikas institūts)  
Probing a state which is "not probed"

11.00 – 11.30 Jautājumi, diskusija un kafija  
(Questions, comments, discussion and coffee)



### XXXVI kolokvijs

**Laiks:** *Piektdiena, 19.07.2013., plkst 9.30 – 11.00*

**Vieta:** *LU ASI, Šķūņu 4. auditorija, 4. st. Rīga*

**Vadītājs:** *A. Ūbelis*

9.30 – 9.45. Dr. A.Ūbelis. Ievadvārdi un referentu cildināšana  
(Welcome address)

9.45 - 10.30. Dr. Andris Vaivads, Zviedrijas Kosmosa Fizikas institūts  
(Swedish Institute of Space Physics)  
Heliosfēra kā plazmas laboratorija: kosmiskie pavadoņi, Cluster,  
MMS un citi.  
( "Plasma laboratory" in heliosphere )

10.30 – 11.00 Jautājumi, diskusija un kafija  
(Questions, comments, discussion and coffee)





### XXXVII kolokvijs

**Laiks:** *Ceturtdiena, 15.08.2013., plkst 10.00 – 11.30*

**Vieta:** *LU ASI, Šķūņu 4. auditorija, 4. st. Rīga*

**Vadītājs:** *A. Ūbelis*

- 10.00 – 10.25. Dr. A.Ūbelis. leadvārdi, FOTONIKA-LV projekts un ciemiņa cildināšana  
(Welcome address and shortly about the project FOTONIKA-LV)
- 10.25 - 11.00. MsC Andris Liepiņš, Ekonomikas Ministrijas Valsts sekretāra  
vietnieks  
(Ministry of economics, Vice State secretary)  
Saruna par tautsaimniecību un zinātņi (about science and economys)
- 11.00 – 11.30 Jautājumi, diskusija un kafija  
(Questions, comments, discussion and coffee)



### XXXVIII kolokvijs

**Laiks:** *Ceturtdiena, 22.08.2013., plkst 10.00 – 11.30*

**Vieta:** *LU ASI, Šķūņu 4. auditorija, 4. st. Rīga*

**Vadītājs:** *A. Ūbelis*

- 10.00 – 10.25. Dr. A.Ūbelis. leadvārdi, FOTONIKA-LV projekts un ciemiņa cildināšana  
(Welcome address and shortly about the project FOTONIKA-LV)
- 10.25 - 11.10. MsC Martiņš Bondars,  
**Kādā pasaulē dzīvo Latvija?!**  
(Which kind of world Latvia exist in ?! )
- 11.10 – 11.30 Jautājumi, diskusija un kafija  
(Questions, comments, discussion and coffee)





## XXXIX kolokvijs

**Laiks:** Ceturtdiena, 06.09.2013., plkst 10.00 – 11.30

**Vieta:** LU ASI, Šķūņu 4. auditorija, 4. st. Rīga

**Vadītājs:** A. Ūbelis

10.00 – 10.15. Dr. J.Alnis. Ievadvārdi, FOTONIKA-LV projekts un ciemiņa cildināšana  
(Welcome address and shortly about the project FOTONIKA-LV)

10.15 - 11.00. Dr. Jérôme Rousval  
Optisko frekvenču ķemmes no Menlo Systems  
(Optical frequency combs from Menlo Systems)

[j.rousval@menlosystems.com](mailto:j.rousval@menlosystems.com)

[www.menlosystems.com](http://www.menlosystems.com)

Menlo Systems GmbH

Am Klopferspitz 19a, D-82152 Martinsried

Erbium fiber based femtosecond frequency comb made by Menlo Systems is being installed at the IAPS by the author of the talk. This optical frequency comb synthesizer covers broad optical spectrum 530...900 nm emitting femtosecond pulses with 4ns period. An output at 1064 nm is also available. Live demonstration in the lab will follow.

11.10 – 11.30 Jautājumi, diskusija un kafija  
(Questions, comments, discussion and coffee)



## XXXX kolokvijs

**Laiks:** *Piektdiena, 27.09.2013., plkst 10.00 – 11.30*

**Vieta:** *LU ASI, Šķūņu 4. auditorija, 4. st. Rīga*

**Vadītājs:** *A. Ūbelis*

10.00 – 10.15. Dr. A. Ūbelis. Ievadvārds, referenta cildināšana.  
(Welcome address)

10.15 - 11.00. Dr. Aleksejs Lihačovs  
FP7- INFRA-2011-1.1.19 projekts. **LASERLAB-EUROPE III.**  
Contr.Nr.284464 un darbs pie darba stacijas ādas virsmas fluorescences vizualizācijai un tās dzišanas dzīvēs laiku un fotobalēšanas raksturlielumu pētījumiem.  
(The project FP7- INFRA-2011-1.1.19 **LASERLAB-EUROPE III**, Contr. **Nr.284464** – “The Integrated Initiative of European Laser Research Infrastructures and efforts to design workstation for parallel imaging of tissue fluorescence Life Time and Photo-Bleaching-rates”) <http://www.laserlab-europe.net/>

### **The Integrated Initiative of European Laser Research Infrastructures**

Laserlab-Europe is in the third phase of its successful cooperation: the Consortium now brings together 30 leading organisations in laser-based inter-disciplinary research from 16 countries. Together with associate partners, Laserlab covers the majority of European member states. 20 facilities offer access to their labs for European research teams.

Lasers and photonics, one of only five key enabling technologies identified by the European Union, are not only essential for the scientific future but also for the socio-economic security of any country. Given the importance of lasers and their applications in all areas of sciences, life sciences and technologies, the main objectives of the Consortium are:

- To maintain a competitive, inter-disciplinary network of European national laser laboratories;
- To strengthen the European leading role in laser research through Joint Research Activities (JRA), pushing the laser concept into new directions and opening up new applications of key importance in research and innovation;
- To offer transnational access to top-quality laser research facilities in a highly co-ordinated fashion for the benefit of the European research community;
- To increase the European basis in laser research and applications by reaching out to neighboring scientific communities and by assisting the development of Laser Research Infrastructures on both the national and the European level.

Information for users: <http://www.laserlab-europe.eu/transnational-access/information-for-users>

11.00 - 11.30 Jautājumi, diskusija un kafija  
(Questions, comments, discussion and coffee)



## XLI kolokvijs

**Laiks:** **Piektdiena, 11.10.2013., plkst 10.00 – 11.30**

**Vieta:** **LU ASI, Šķūņu 4. auditorija, 4. st. Rīga**

**Vadītājs:** **A. Ūbelis**

10.00 – 10.15. Dr. A.Ūbelis. leivadvārdi.

(Welcome address)

10.15 - 11.00. Dr. A.Ūbelis

**Regional Smart Specialization: Photonics, Quantum Sciences and technologies**

**D.Foray, P.A. David and B.Hall**

### **A) Smart Specialisation: the Concept**

- *It is **not** a **planning doctrine** that would require a region to specialize in a particular set of industries.*
- *It is an approach to policy that considers whether those activities already are strong or showing promise where the region can benefit from (more) R&D and innovation*

Collège du Management de la Technologie – CDM  
Chaire en Economie et Management de l'Innovation – CEMI

### **B) Decision-making step where top-down meets bottom-up:**

- Focus on a limited number of areas with potential for smart specialisation emerging from entrepreneurial discovery;
- Areas where the region has foundations for excellence !!!;
- Pay attention to horizontal priorities (Key Enabling Technologies, grand social challenges, etc.)

### **C) What Horizon 2020 expects from Cohesion policy**

- *Develop **stairways to excellence** through capacity building and support to **a vibrant innovation-enabling environment***
- *Upgrade the ways Cohesion policy supports Research and Innovation (increased use of international peer reviews, monitoring performance through indicators)*
- *Improvement of information flows towards local players*
- *Improved local take-up of global Horizon 2020 initiatives and their enhancement by the Structural Funds (impact of transnational R&D projects on local communities – feedback and interactions of SF R&I funded local and national schemes)*
- *Improved interactions between developing Innovation Union initiatives (34 commitments of the IU Communication) at local and regional level.*

11.00 - 11.30 Jautājumi, diskusija un kafija

(Questions, comments, discussion and coffee)





## XLII kolokvijs

**Laiks:** **Piektdiena, 01.11.2013., plkst 10.00 – 11.30**

**Vieta:** **LU ASI, Šķūņu 4. auditorija, 4. st. Rīga**

**Vadītājs:** **A. Ūbelis**

10.00 – 10.15. Dr. A. Ūbelis. leadvārds, un referenta cildināšana  
(Welcome address)

10.15 - 11.00. Dr. Amara Graps  
**Planētu, asteroidu un kosmisko putekļu vide vide un projektu pieredze tās pētījumos.**  
(Planets, asteroids, cosmic dust and relevant research project experience)

11.00 - 11.30 Jautājumi, diskusija un kafija (Questions, comments, discussion and coffee)

Amara Graps, 47, is an astronomer linked to Southwest Research Institute (SwRI) in Boulder, Colorado, supporting the New Horizons Pluto mission and continuing her studies of circum/interplanetary dust charging and dynamics and the origin of water on the terrestrial planets. Previously, she was in Italy as a (long-distance) associate researcher with the Planetary Science Institute (PSI), as a researcher at the Institute of Interplanetary Space Physics (INAF-IFSI) in Rome, Italy, where she supported the space missions (Cassini, Rosetta, Dawn) that carry INAF's infrared spectrometers, and as an astronomy instructor at the American University of Rome. Her work experience, primarily in astronomy, astrophysics, and planetary science research, was gained from work at SwRI, IFSI, MPI-K, NASA-Ames, Stanford University, the University of Colorado and the Jet Propulsion Laboratory. In addition, she consulted for engineering, computer, and medical companies in Heidelberg and the Silicon Valley working on numerical analysis, technical writing, and WWW site projects.

In her ESA and NASA projects, she has analyzed data from the Ulysses spacecraft, GORID/Express spacecraft, Cassini spacecraft, Galileo spacecraft, SOHO spacecraft, NASA's Kuiper Airborne Observatory, NASA's ER-2 aircraft, the Voyager 2 spacecraft, the Pioneer Venus Orbiter spacecraft, the Infrared Astronomical Satellite (IRAS), the Space Shuttle's SpaceLab 2, and ground-based telescopes in Hawaii, California, and Arizona. The data includes dust from Jupiter's magnetosphere and Earth's geostationary orbit, the Sun, Comet Shoemaker-Levy 9, Comet Halley, Supernova 1987a, Venus, Mars, Io, Mercury, the Moon, Saturn's and Uranus' rings, asteroids, Earth's atmosphere, protostars, molecular clouds, galaxies, novae, main-sequence stars, and the exhaust-cloud around the Space Shuttle. In July 2001, she completed her PhD in Physics from Universität Heidelberg (Germany) and the Max Planck Institut für Kernphysik, researching the charged dust dynamics of the Jovian dust streams. Her previous formal education occurred in conjunction with her jobs: She earned her B.S. in Physics in 1984 from the University of California, Irvine while she was working at JPL, and her M.S. in Physics (w/Computational Physics option) in 1991 from San Jose State University while she was associated with NASA Ames. very interested in helping people learn about the cultural interdependent nature of people on our

<http://www.zoominfo.com/p/Amara-Graps/40916561>





## XLIII kolokvijs

**Laiks:** **Sestdiena, 21.12.2013., plkst 9.30 – 11.00**

**Vieta:** **LU ASI, Šķūņu 4. auditorija, 4. st. Rīga**

**Vadītājs:** **A. Ūbelis**

9.30 – 9.40. **Dr. A. Ūbelis.** leivadvārdi., un referenta cildināšana  
(Welcome address)

9.40 - 10.10. **G. Ambroziewicz** – REGPOT Programme Coordinator

### Synergies between Horizon 2020 and Regional Policy in the EU

1010 – 10.40 . Discussion about opportunities in Latvia

Horizon 2020 is the biggest EU Research and Innovation programme ever with nearly €80 billion of funding available over 7 years (2014 to 2020) – in addition to the private investment that this money will attract. It promises more breakthroughs, discoveries and world-firsts by taking great ideas from the lab to the market.

Horizon 2020 is the financial instrument implementing the [Innovation Union](#), a [Europe 2020](#) flagship initiative aimed at securing Europe's global competitiveness.

Seen as a means to drive economic growth and create jobs, Horizon 2020 has the political backing of Europe's leaders and the Members of the European Parliament. They agreed that research is an investment in our future and so put it at the heart of the EU's blueprint for smart, sustainable and inclusive growth and jobs.

By coupling research and innovation, Horizon 2020 is helping to achieve this with its emphasis on excellent science, industrial leadership and tackling societal challenges. The goal is to ensure Europe produces world-class science, removes barriers to innovation and makes it easier for the public and private sectors to work together in delivering innovation. Horizon 2020 is open to everyone, with a simple structure that reduces red tape and time so participants can focus on what is really important. This approach makes sure new projects get off the ground quickly – and achieve results faster.

The EU Framework Programme for Research and Innovation will be complemented by further measures to complete and further develop the [European Research Area](#). These measures will aim at breaking down barriers to create a genuine single market for knowledge, research and innovation.



## XLIV kolokvijs

**Laiks:** **Piektdiena, 27.12.2013., plkst 11.00 – 11.40**

**Vieta:** **LU ASI, Šķūņu 4. auditorija, 4. st. Rīga**

**Vadītājs:** **A. Ūbelis**

11.00 – 11.10. **Dr. A. Ūbelis.** leadvārds, un referenta cildināšana  
(Welcome address)

11.10- 11.40. Saruna ar **Māris Kuņickis** - LATVENERGO valdes locekli, ražošanas direktoru.  
(Member of Board and the Director of production at the largest energy enterprise in the country)

10.40 – 12.00 . Discussion and coffee

**Māris Kuņickis**, LU FMF 2005.gadā absolvēja MsC apakšvirziena „Fizika un Tehnoloģijas līdzsvarotai attīstībai” studijas ar maģistra darbu : „Enerģiju taupoši gaismas avoti un iekārtas Rīgas apgaismojuma sistēmā – vad.A.Ūbelis”

### **2012 – LATVENERGO GROUP SUSTAINABILITY AND ANNUAL REPORT**

[Http://www.nasdaqomxbaltic.com/upload/reports/elek/2012\\_ar\\_en\\_uni\\_con\\_ias.pdf](http://www.nasdaqomxbaltic.com/upload/reports/elek/2012_ar_en_uni_con_ias.pdf)

Governance. Page 17

**Māris Kuņickis**

Member of the Management Board

Date appointed: 16. 11. 2012

Expiration of the term: 15. 11. 2015

Māris Kuņickis (33) has over ten-year experience in business, including six years in corporate management. Before the employment in the Management Board of Latvenergo AS, commenced by M. Kuņickis in 2010, he was the Director of the Riga Municipality Agency Rīgas Gaisma. His work experience at Rīgas Gaisma began as early as 2000, taking him through a number of positions related to technology and development. In 2002, M. Kuņickis received a Bachelor degree in engineering at the Riga Technical University, Faculty of Power and Technical Engineering, followed by a 2005 Master degree at the University of Latvia, Faculty of Physics and Mathematics. In 2011, he was appointed as a Member of the Board at the Latvian Association of Power Engineers and Energy Constructors (LAPEEC)



## **XLV kolokvijs**

**Laiks:** **Piektdiena, 17.01.2014., plkst 10.00 – 11.30**

**Vieta:** **LU ASI, Šķūņu 4. auditorija, 4. st. Rīga**

**Vadītājs:** **A. Ūbelis**

10.00 – 10.15. Dr. A.Ūbelis. Ievadvārds, un referenta cildināšana  
(Welcome address)

10.15 - 11.00. Dr. Amara Graps  
**Jaunu projektu iniciatīvas**  
(New project initiatives)

11.00 - 11.30 Jautājumi, diskusija un kafija (Questions, comments, discussion and coffee)

**REĢISTRĀCIJA**





## XLVI kolokvijs

**Laiks:** Otrdiena, 01.28.2014., plkst 10.00 – 11.30

**Vieta:** LU ASI, Riga Photonics Centre, Šķūņu 4. auditorija, 4. st. Rīga

**Vadītājs:** A. Ūbelis

**10.00 – 10.15.** Dr. A.Ūbelis. Ievadvārds, un referenta cildināšana  
(Welcome address)

**10.15 - 11.00.** Tomas Mosteikis and Arturas Belickas, Altechna LTD.  
Services and capabilities of Altechna, serving photonics research and industry throughout the Baltic region

**11:00 – 11:30** Jautājumi, diskusija un kafija (Questions, comments, discussion and coffee)

### About Altechna

Altechna is a reliable supplier of laser optics, crystals, lasers and optomechanics. Since 1996 professional staff and trustworthy partners allows us to offer a wide range of laser related products and custom solutions as well as consultations from the qualified physicists. Altechna ensures high quality of all the products as they are thoroughly tested and inspected in our in-house metrology laboratory.

### Altechna products include:

- General optics;
- Polarization optics;
- Laser & nonlinear crystals;
- Lasers & laser accessories;
- Custom optics;
- Metrology and other services

### Workshop of Photonics (former Altechna R&D departament):

At Workshop of Photonics® we create instruments and solutions for laser micromachining tasks. We address the needs of both industrial and academic customers.

Our key competencies lie in:

- Feasibility studies on femtosecond laser micromachining;
- Development of custom femtosecond laser systems and optical modules;
- Small scale production (job shop) in the area of laser micromachining;
- Laser system automation software;
- Custom electronics for laser based systems and devices.

### Companies we represent:

InnoLas – manufacturers of solid state and hybrid lasers with excellent beam profile, the company is able to offer laser systems with parameters unmatched by other companies.

Andor Technology - world leaders in EMCCD, ICCD and sCMOS and spectroscopy cameras. We will talk about their usage in microscopy, spectroscopy and astronomy.

Miyachi – market leader in laser welding, laser marking, resistance welding, and hot bar applications.

Photonic Cleaning Technologies – American company offering precision optics cleaning solutions with their unique product First Contact cleaning polymer.

Aerotech - manufactures highest performance motion control, positioning tables/stages.

### **Tomas Mosteikis**

Sales engineer : Phone: +370 52725738; Mob: +370 68299870; Fax: 370 52723704

Email: [tomas.mosteikis@altechna.com](mailto:tomas.mosteikis@altechna.com)





## XLVII kolokvijs

**Laiks:** *Piektdiena, 31.01.2014., plkst 10.00 – 11.30*

**Vieta:** *LU ASI, Šķūņu 4. auditorija, 4. st. Rīga*

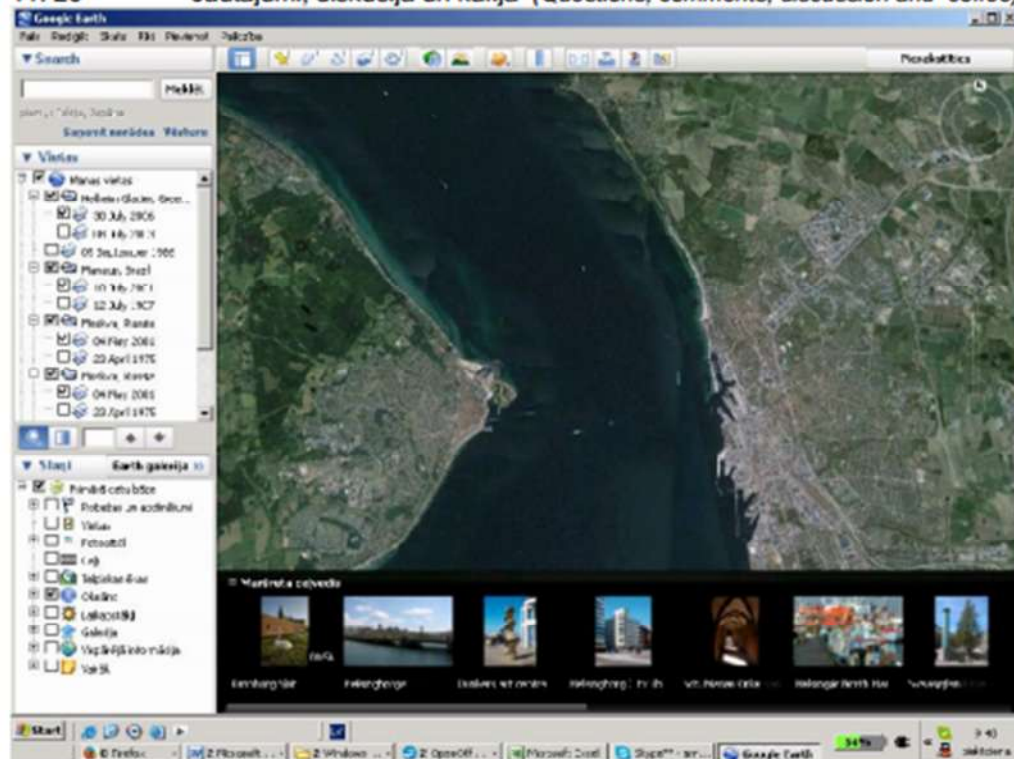
**Vadītājs:** *A. Ūbelis*

10.00 – 10.15. Dr. A. Ūbelis. Ievadvārds, un referenta cildināšana  
(Welcome address)

10.15 - 11.00. Mats Kjaer – "Stimulating innovation in Latvia: The IDEON model from Lund, Sweden". Mats was involved in the development of the Lund Technopark in the early 1980s at a time when shipbuilding and other industries in Sweden had collapsed in the face of withering competition from Korea and other Asian competitors. The Swedes created a bright future from a grim reality. So can Latvia. Mats led the SEB Bank expansion into the Baltics and Eastern Europe and now spends much of his time in Riga.

11:00 – 11:20 Ģirts Ozoliņš, CEO, Eventech. Eventech is a Latvian firm that produces picosecond timers used by a large share of the world's laser ranging stations. Eventech is exploring various options for expanding into related markets and possible diversification based on their technical scales. Eventech will share some of their thinking with the group.

11. 20 - Jautājumi, diskusija un kafija (Questions, comments, discussion and coffee)











## XLVIII kolokvijs

**Laiks: Trešdien, 05.02.2014., plkst 10.00 – 11.30**

**Vieta: Rīgas Fotonikas Centrs, Šķūņu iela 4. sapulču zāle 1. stāvs. Rīga**  
(PLACE – Riga Photonics Center, Old Town, Šķūņu iela 4)

**Vadītājs (chair): Vidvuds Beldavs**

10.00 – 10.10. Vidvuds Beldavs. Ievadvārds, un referenta cildināšana  
(Welcome address)

10.15 - 11.15. Dr. Amara Graps un Pauls Irbiņš – Runās par iespējām veidot zinātnes piedzīvojumu centrus Latvijā un kā piesaistīt vairāk studentus lai mācās zinātņi, matemātiku un inženierzinātnes (How to raise interest and to convince students to study Natural sciences, engineering and mathematics)

11. 20 - Jautājumi, diskusija un kafija (Questions, comments, discussion and coffee)

*Par programmu angļu valodā*

### Enabling our youth to experience science

Rīga has over 100,000 students but offers limited opportunity to experience science. Latvia has an urgent need to graduate more scientists and engineers so that the Latvian economy can grow and produce more products with higher value added. Students need to experience science early, to learn to love science and become scientists.

The Riga Photonics Center is organizing a meeting to introduce ideas how science can be introduced to students to inspire those with a passion for science, math and engineering. Scientists, educators, political leaders, concerned parents and business leaders concerned about the future of Latvia are invited to participate.

### SPEAKERS

- **Pauls Irbins**, has developed three science experience centers for Latvia. Pauls is businessman but also a space activist and is the only Latvian who passed the first cut with the Mars One Mission to go to Mars sometime after 2020. More - <http://www.delfi.lv/novados/cesu-novads/cesis/zinas/latviji-brauciet-kozmosa-aicina-pauls-irbins.d?id=43722134#dqlslv-9074:3914514>
- **Amara Graps**, is an American astronomer studying the asteroids and interplanetary dust among several other topics. Amara has a Latvian heritage and has recently moved to Latvia. She often speaks to student groups about astronomy. More - <http://www.psi.edu/about/staff/graps/graps.html>

Funding from multiple sources including the European Union's Horizon 2020 Science and the People program is available for projects aimed at linking science and youth to increase the number of students seeking to become scientists. Needed is a group ready to fight for such a project for Riga.





## XLIX kolokvijs

**Laiks: Piekdien, 28.02.2014., plkst 10.00 – 11.30**

**Vieta: Rīgas Fotonikas Centrs, Šķūņu iela 4. Lekciju telpā 4. stāvs.**

**Vadītājs (chair): Arnolds Ūbelis**

10.00 – 10.20. Arnolds Ūbelis. Ievads, „Foresight” - tālredzības loma asociācijas FOTONIKA-LV izaugsmē un FP7 REGPOT projekta FOTONIKA-LV korporatīvie uzdevumi  
(Welcome address – Importance of foresight for the development of Association FOTONIKA-LV and corporate tasks of FP7 FOTONIKA-LV Project - Contribution to policy development by conducting 3 strategy planning workshops including technology foresight exercises for national and regional scale developments in photonics fields resulting roadmaps policy advice documents for decision makers, governments and National Photonics Strategy Group.)

)  
10.20 - 11.10. Vidvuds Beldavs „Foresight process and smart specialization”  
(Tālredzības process un viedā specializācijas definēšana  
Sandra Šmaliņa - „Foresight process methodology” (Tālredzības process metodika)

**11:10- 11:15 FOTONIKAS balvas piešķiršana**

11. 15 - Jautājumi, diskusija un kafija (Questions, comments, discussion and coffee)About Foresight

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## Foresight <http://www.bis.gov.uk/foresight>

**Our role is to help government think systematically about the future**

Since its creation in 1994 the Foresight Programme has helped the UK Government to think systematically about the future. We use the latest scientific and other evidence combined with futures analysis to tackle complex issues and help policy makers make decisions affecting our future.

Our work makes a critical contribution to meeting important challenges of the 21st century - such as food security, flooding and obesity.

By combining the latest science and evidence with futures analysis, we help policy makers tackle complex issues with a better understanding of the potential opportunities and challenges that lie ahead.

We do this in three ways:

- Major Foresight Projects: in-depth two-year studies which build a comprehensive evidence base on major issues looking 20-80 years into the future
- Policy Futures Projects: shorter projects which provide futures and evidence analysis to fill a specific gap in existing policy understanding

**The Future of Manufacturing - <http://www.bis.gov.uk/foresight/out-work/projects/current-projects/future-of-manufacturing>**

**The International Foresight Academy** FP7-PEOPLE-IRSESg.a. 294959 is the first organization to bind together Foresight activities around the globe and from contrasting cultural and political contexts. Foresight is used differently in various regions of the world. Foresight activities vary according to sponsors and customers, methods used, topics explored, actors involved etc. During the past 30 years in Europe, Foresight has become an unconventional means of political priority setting and strategic decision making that affect a wide set of societal stakeholders. The added value of foresight is seen in the shared goals and visions among a group of participating actors from different sectors, the development of networks, and the combination of relevant information on current trends and future developments with actor-based information and attitudes.



## L kolokvijs

**Laiks: Piektdien, 11.04.2014., plkst 10.00 – 11.30**

**Vieta: Rīgas Fotonikas Centrs, Šķūņu iela 4. Lekciju telpā 4. stāvs.**

**Vadītājs (chair): Arnolds Ūbelis**

10.00 – 10.15. Arnolds Ūbelis. Ievads un ziņotāja cildināšana  
(Welcome words)

)

10.1- 11.00 Mikēlis Svilāns  
Pētniecības iespējas un perspektības silīcija mikrofonikas jomā Latvijā.

11.00-11.30 - Jautājumi, diskusija un kafija (Questions, comments,  
discussion and coffee)

Mikēlis Svilāns Senior Photonics Research Engineer, Canada **Central Research Institute, Huawei Technologies (Canada)** February 2013 – March 2014 Ontario. Silicon photonics on SOI switching fabric research and development.

He has impressive experience of employment in industry

*He acquired his Dr. Ing., Semiconductor Electronics in 1974 – 1980 at the Institut für Halbleitertechnik, RWTH Aachen. Doctorate thesis: "The fabrication and study of GaAlAs/GaAs wide band-gap emitter bipolar transistors"*

*M. Eng. Sc., Digital Electronics was received in the University of Adelaide (1972 – 1974)  
The topic. Master's thesis topic: "Digital Diffusion Analogue". Hard-wired digital computer for solving the one-dimensional diffusion equation in real time for application in diving safety instrumentation, in collaboration with the Aeromedical Laboratory*

Dominance of interests:

- III-V compound semiconductor optoelectronic devices
  - \* Device design of InGaAsP lasers and photodetectors
  - \* Process design for semiconductor devices and circuits
  - \* Cesium vapour magnetometers & gradiometers
- Characterization of non-linear optics polymers and application to electro-optic modulators
- Process and device design for VIS/NIR photodetector arrays
- Photolithographic reticle mask layout





## LI kolokvijs

**Laiks: Trešdien, 16.04.2014., plkst 10.00 – 11.30**

**Vieta: Rīgas Fotonikas Centrs, Šķēņu iela 4. Lekciju telpā 4. stāvs.**

**Vadītājs (chair): Arnolds Ūbelis**

10.00 – 10.15. Arnolds Ūbelis. Ievads un ziņotāja cildināšana  
(Welcome words)

)  
10.1- 11.00 Dr. Arvind Kumar Saxena ( *Physical Research Laboratory Space &  
Atmospheric Science Division, Ahmedabad, Gujarat-india.*)  
Study of cluster ions by mass spectrometry and optical spectroscopy

### Research Interests:

1. Photoionization and fragmentation study of atoms, molecules and clusters
2. Study of collision of clusters with molecules
3. Mass spectrometric study of carbon clusters produced by laser ablation
4. Optical emission spectroscopy of laser ablated plasma plume interacting with the ambient gas
5. Infrared spectroscopy of astrochemical ice analogs

[www.prl.res.in/~aksaxena](http://www.prl.res.in/~aksaxena)





## **LII kolokvijs**

**Laiks:** Piektdien 25.04.2014., plkst 9.00- 10 15.

**Vieta:** Rīgas Fotonikas Centrs, Skūņu iela 4. Lekciju telpā 4. stāvs.

**Vadītājs (chair):** Arnolds Ūbelis

9.00 – 9.10 . Arnolds Ūbelis. Ievads un ziņotāja cildināšana  
(Welcome words)

9.10- 10.15 Prof. Eimuntas Paršeliūnas,  
([http://www.gkk.ap.vgtu.lt/media/cv/10033\\_EN.pdf](http://www.gkk.ap.vgtu.lt/media/cv/10033_EN.pdf))

(Vilnas Gedimina university Department of Geodesy and Cadastre)

In 1922, 12 April at the University in Kaunas, Lithuania founded the Department of Geodesy. However, the origins of Geodesy studies reach the much previous times. They launched at the old Vilnius University.

In 1969, after establishment of the Vilnius Civil Engineering Institute, the Geodesy Department moved to Vilnius and continued its activity is connected with Vilnius Gediminas Technical University, Environmental Engineering Faculty Department of Geodesy and Cadastre prepare Geodesy, Geodesy and Cartography specialists of first and second university studies stages.

*Coffee and discussions*



## **LIII kolokvijs**

**Laiks: Piektdien 25.04.2014., plkst 10.30 – 11.45**

**Vieta: Rīgas Fotonikas Centrs, Šķūņu iela 4. Lekciju telpā 4. stāvs.**

**Vadītājs (chair): Arnolds Ūbelis**

10.30 – 10.40. Arnolds Ūbelis. Ievads un ziņotāja cildināšana  
(Welcome words)

10.40- 11.30 Prof. Dainis Draviņš (Lund Observatory)

11.30 - Coffee and discussions

### ***“Astronomical Imaging a Thousand Times Sharper than Hubble: Optical Interferometry with the Cherenkov Telescope Array”.***

Dainis Draviņš dzimis Zviedrijā, universitātes studijas Lundas un Upsalas universitātēs (dabzinātnes un modernas valodas), doktorantūrā Lundā un Kalifornijas Tehnoloģiju Institutā, Pasadenā; doktora eksāmens no Lundas universitātes. Zinātniskais darbs orientēts uz metodēm un precīzo novērojumu pielietojumiem optiskā astronomijā. Projekti par saules un zvaigžņu spektroskopiju, fotometriju caur Zemes atmosfēru, astrometriju no kosmosa, interferometriju, kvantu optiku, u.c.

Iesaistījies Ventspils Starptautiskā Radioastronomijas Centra izveidošanā, bijis viesu profesors Latvijas Universitātē, piedalījies vasaru skolu organizēšanā Lietuvā, Latvijā. Darba periodi daudzviet pasaulē, it sevišķi Eiropas Dienvidu Observatorijā Čīlē. Zviedrijas Karaliskās Zinātņu Akadēmijas loceklis, LZA ārzemju loceklis. Darbība dažādās komitejās un darba grupās pie Eiropas Dienvidu Observatorijas (ESO), Eiropas Kosmiskās Aģentūras (ESA), Starptautiskās Astronomijas Savienības (IAU). Ietilpst ekspertu grupā Eiropas Zinātnes Padomes (ERC) Horizons 2020 programmā.

**Abstract:** Much of the progress in astronomy is led by improved imaging. In the optical, one tantalizing threshold will be two-dimensional imaging of stellar surfaces. With typical angular sizes of a few milliarcseconds, bright stars require interferometry over kilometer-long baselines to be resolved. A (somewhat unexpected) opportunity to realize such a kilometer-size diffraction-limited optical imager arises from the development of extensive Cherenkov telescope arrays, primarily built to detect flashes of Cherenkov light in air induced by gamma rays. Although the optical quality of these telescopes is not high, they can be exploited for intensity interferometry and electronically combined in software. The method – invented long ago by Hanbury Brown and Twiss – is a two-photon measurement, recognized as the first experiment in quantum optics. In its modern digital version, it would create a long-baseline optical interferometer in software to reveal the surfaces of rotationally flattened stars with their circumstellar disks and winds, monitor a nova eruption, or possibly even visualize an exoplanet during its transit across some nearby star.



## **LIV kolokvijs**

**Laiks: Trešdien 04.06.2014., plkst 10.0 – 11.39**

**Vieta: Rīgas Fotonikas Centrs, Šķūņu iela 4. Lekciju telpā 4. stāvs.**

**Vadītājs (chair): Arnolds Ūbelis**

10.00 – 10.10. Arnolds Ūbelis. Ievads un ziņotāja cildināšana  
(Welcome words)

10.10- 11.00 Dr. Marek Banaszkiewicz. Director of Space Research Centre  
At Polish Academy of Sciences, [www.cbk.waw.pl](http://www.cbk.waw.pl)

11.00 - 11.30 - Coffee and discussions

**Dr. Marek Banaszkiewicz**

PhD in theoretical physics, habilitation in astrophysics, Since 2006 Director of Space Research Centre PAS. Fields of activity: planetology, space technology, Earth observations. Coinvestigator in ESA missions: Ulisses, Rosetta, Herschel, Bepi Colombo. President of Polish Astronautical Society 1995. - 2001. Member of Eurisy Council 2006 - 2009. Member of Scientific Council of ISSI 2000 - 2003, Polish representative in GMES Partner's Bard since 2010





## LV kolokvijs

**Laiks:** Trešdien 18.06.2014., plkst 15.00 – 17.00

**Vieta:** LU galvenā māja Raiņa bulv.19, Kafējnīcā

**Vadītājs (chair):** Dr.Jānis Balodis.

15.00 – 15.10. Dr.Jānis Balodis. Autora cildināšana  
(Welcome words)

15.10 - 17.00 Dr. Jānis Klētnieks, Par Astronomiju un Ģeodēziju Latvijā  
19.gadsimtā.  
Grāmatas atvēršana.

Jānis Klētnieks - ir zinātņu vēsturnieks un LZA Goda doktors, Jānis Klētnieks pazīstams ar publikācijām tehnisko zinātņu vēsturē, tajā skaitā bijuši daudzi apskati par pirmatnējiem astronomiskajiem priekšstatiem latviešu folklorā, Latvijas etnogrāfijā un arheoloģijā. J. Klētnieks meklējis senās Baltijas iedzīvotāju astronomisko priekšstatu saistību ar reliģiskajiem ticējumiem, tradīcijām un izpausmēm citur Eiropā un Tuvo Austrumu tautu kultūrvēsturiskajā skatījumā. Kopš 2002.gada viņš piedalījies un vadījis Latvijas Ārzemju mākslas muzeja organizētajos Karnakas tempļa un Džosera piramīdas izpēti darbos Ēģiptē un senatnes pieminekļu apsekošanā dažādās valstīs.



## LVI kolokvijs

**Laiks:** Trešdien 09.07.2014., plkst 10.00 – 11.30

**Vieta:** Rīgas Fotonikas Centrs, Šķūņu iela 4. Lekciju telpā 4. stāvs

**Vadītājs (chair):** Dr.Amara Graps.

10.00 – 10.15. Dr.Amara Graps. Autora cildināšana  
(Welcome words)

10.15 - 11.00 Dr. Marco Delbo, Cracking up asteroids with Sun light

Lab. Cassiopée, UMR UNS-CNRS-OCA, Observatoire de la Côte d'Azur  
(OCA), marco.delbo@oca.eu

### ABSTRACT:

We have recently shown that the repeated temperature excursion between day and night can break rocks at the surface of asteroids (Delbo et al., 2014 Nature 508, 233-236).

I will describe the laboratory experiments that allowed us to reach the conclusions above and how important is thermal cracking for producing fresh regolith on asteroids and other airless solar system bodies.

For instance, production of fresh regolith originating in thermal fatigue fragmentation may be an important process for the rejuvenation of the surfaces of near-Earth asteroids.

Furthermore, as the efficiency of thermal fragmentation increases with decreasing heliocentric distance, this process can be very dramatic on low-perihelion asteroids (e.g. at the distance of Mercury and below).

Acknowledgements: This work was supported by the French Agence National de la Recherche (ANR) SHOCKS and NASA SSERVI.



photo credits: <http://www.space.com/25334-asteroid-dust-spawned-by-sunlight.html>



## LVII kolokvijs

**Laiks: Piekdien 11.07.2014., plkst 10.00 – 11.30**

**Vieta: Rīgas Fotonikas Centrs, Šķūņu iela 4. Lekciju telpā 4. stāvs**

**Vadītājs (chair): Dr.Amara Graps.**

10.00 – 10.15. Dr.Kalvis Salmiņš. Autoru cildināšana

(Welcome words)

10.15- 10.45 Dr. Georg Kirchner (Space Research Institute, Austria),  
Satellite Laser Ranging at Graz - present status / future plans:

- performance characteristics of SLR Graz
- kHz SLR
- Space debris, Multi-Static Ranging etc.
- Satellite Spin determinations

10.45 – 11.11 Dr. Ludwig Grunwaldt Activities of GFZ Potsdam.

11.15 - 11.45 - *Coffee and discussions*



## LVIII kolokvijs

**Laiks: Tresdiena 30.07.2014., plkst 11.00 – 12.30**

**Vieta: Rīgas Fotonikas Centrs, Šķūņu iela 4. Lekciju telpā 4. stāvs**

**Vadītājs (chair): Dr.A.Ubelis.**

11.00 – 11.15. Dr.A.Ubelis. Autoru cildināšana

(Welcome words)

11.15- 11.45 Dr. Amara Graps (FOTONIKA-LV)

Dr.Normunds Jakobsonsng (Ventspils Radioastronomy Center)

PhD student Karina Šķirmante Potsdam.

Potential of Ventspils Radioastronomy facilities for research training

11.45 - *discussions*





## **LX kolokvijs**

**Laiks: Piektdiena 08.08.2014., plkst 11.30 -12.30**

**Vieta: Rīgas Fotonikas Centrs, Šķūņu iela 4. Lekciju telpā 4. stāvs**

**Vadītājs (chair): Dr.A.Ubelis.**

11.30 – 11.40. Dr.A.Ubelis. Autoru cildināšana  
(Welcome words)

11.40 - 12.30 **Dr. P. S. Smertenko, Dr. V.V.Naumov,**  
Institute for Fundamental Problems of High Tehnology, Kyiv, Ukraine  
Eventual **Proposal to HORIZON 2020 calls :**  
**“Skin Measurement Device for Health Care, Cosmetology and Dermatology”**

12.30 - discussions and coffee



## **LXII kolokvijs**

**Complementary to research training course for Young Researchers  
Adventure of Nocturnal Atmosphere: From Earth to Night Sky - Riga 2014**

~~Trešdiena~~  
~~Otrdiena~~ **Laiks: 22.10.2014., plkst 10.00 -12.30**  
**Vieta: Rīgas Fotonikas Centrs, Šķūņu iela 4. Lekciju telpā 4. stāvs**  
**Vadītājs (chair): Dr.Jorge del Pino**

10.00 – 10.15 Dr.Jorge del Pino. Autoru cildināšana  
(Welcome words)

10.15 - 12.30 Advances in satellite ranging technologies. Contributors:  
**Dr.Ludwig Grunwald, Dr. Bülent Bayram, Dr. Mkhailo Medvedskyy ,  
Dr.Maris Abele, Dr.Janis Balodis Dr. Ansis Zariņš, Dr. Augusts Rubans,  
Janis Vjaters, Elina Rutkovska, Andris treijs**

12.30 - Discussions, coffee farewell lunch

### **REĢISTRĀCIJA**

**FOTONIKA – LXII, Kolokvijs** ~~Trešdiena~~ **22.10.2014., plkst 10.00-12.30**



### **LXIII kolokvijs**

**Laiks: Piektdiena 24.10.2014., plkst 10.00 -11.30**

**Vieta: Rīgas Fotonikas Centrs, Šķūņu iela 4. Lekciju telpā 4. stāvs**

**Vadītājs (chair): Dr.Arnavds Ūbelis**

10.00 – 10.15. Dr.Arnavds Ūbelis. Autoru cildināšana  
(Welcome words)

10.15 - 11.00 Advances in cluster sciences .  
**Dr.Arnavd Saxena**

11.30 - Discussions, coffee



### **LXIV kolokvijs**

**Laiks: Otrdiena, 11.11.2014., plkst 10.00 -11.30**

**Vieta: Rīgas Fotonikas Centrs, Šķūņu iela 4. Lekciju telpā 4. stāvs**

**Vadītājs (chair): Dr.Roman Viter**

10.00 – 10.15. Dr.Roman Viter. Autoru cildināšana  
(Welcome words)

10.15 - 11.00 **The Project 'CERIC-ERIC' 'Scientific Applications and Technology Transfer'**  
**Dr. Aden Hodzic.**  
Scientific Industrial Liaison Officer , PhD,  
Organisation: Central European Research Infrastructure Consortium (CERIC) with Headquarter at Synchrotron Elettra, (Italy).

11.30 - Discussions, coffee





## **LXV kolokvijs**

**Laiks: Trešdiena 19.11.2014., plkst 9.00 -10.15**

**Vieta: Rīgas Fotonikas Centrs, Šķūņu iela 4. Lekciju telpā 4. stāvs**

**Vadītājs (chair): Dr.Arņolds Ūbelis**

**Language: English**

9.00 – 9.15. Runātāju cildināšana  
(Welcome words)

9.15 - 10.00 **Vidvuds Beldavs, Aigars Atvars**

"Pārskats par starptautiskajām aktivitātēm Mēness apgūšanā un izmantošanā"

- **A.Atvars. Atskats uz konferenci "The Next Giant Leap: Leveraging Lunar Assets for sustainable pathways to Space",** Havaju salas, ASV, 9.-13.11.2014, <http://2014giantleap.aerospacehawaii.info/>;
- **V.Beldavs. Mēness apgūšanas nosacījumi un plāni. Par konferencē prezentēto referātu "International Lunar Decade".**

10.00 -10.15 *Discussions, coffee*

**REGISTRĀCIJA**



## LXV kolokvijs

**Laiks: Piektdiena 21.11.2014., plkst 10.00-11.15**

**Vieta: Rīgas Fotonikas Centrs, Šķūņu iela 4. Lekciju telpā 4. stāvs**

**Vadītājs (chair): Dr.Arnavs Ūbelis**

**Language: English**

10.00 – 10.15. Runātāju cildināšana  
(Welcome words)

10.15 – 11.00 **Kalvis Salmiņš, Jorge Del Pino.** Pārskats par konferenci "19th International Workshop on Laser Ranging: Remembering the past and Planning for Future".

*The National Aeronautics and Space Administration (NASA), along with the Smithsonian Astrophysical Observatory, and the International Laser Ranging Service (ILRS), organized the 19th International Workshop on Laser Ranging in Annapolis Maryland during the week of October 27-31, 2014 at the Historic Inns of Annapolis. The workshop venue was located in the heart of Annapolis, the state capital of Maryland, and is known as America's Sailing Capital. The city is located near the Chesapeake Bay and situated between the cities of Washington D.C. and Baltimore Maryland.*

*NASA Goddard Space Flight Center (GSFC) had the unique opportunity to host this event at the birthplace of SLR: October 31, 2014 marked the 50th anniversary of the first successful SLR measurement, conducted at what is now the Goddard Geophysical and Astronomical Observatory (GGAO).*

*The theme for this workshop, "Celebrating 50 Years of SLR: Remembering the Past and Planning for the Future" provoked looking back on many accomplishments and present plans for future advances in SLR technology and science.*

<http://ilrs.gsfc.nasa.gov/ilrw19/>



## **LXVII kolokvijs**

**Laiks: Piektdiena 28.11.2014., plkst 10.00-11.15**

**Vieta: Rīgas Fotonikas Centrs, Šķūņu iela 4. Lekciju telpā 4. stāvs**

**Vadītājs (chair): Dr.Arņolds Ūbelis**

**Language: English**

10.00 – 10.15. Runātāju cildināšana  
(Welcome words)

10.15 – 11.00 Dr. Gunārs Silabriedis un kolēģi  
Par Aizsardzības ministrijas, NATO un USA NAVY zinātniskiem pētījumu projektiem

11.00-11.30 Discussions, coffee



## **LXVIII colloquium**

**Date: 12.12.2014., Friday**

**Place: Riga Photonics Center, Skunu street 4, auditorium on 4th floor**

**Chair: Dr.Aigars Atvars**

**Language: English**

Program:

10:00 – 10:05. Welcome words, A.Treijs

10:05 – 11:00 **Prof. Dr. Kerim Allahverdi**, TUBITAK (Turkish Scientific and Technological Research Council), MRC (Marmara Research Centre), Leader of the Lasers and Laser Technologies Lab.

**“Space Technologies Research Institute of TUBITAK”**

11:00 – 11:30 Discussions, coffee





## **LXIX kolokvijs**

**Laiks: Otrdiena 30.12.2014., plkst 10.00 -11.30**

**Vieta: Rīgas Fotonikas Centrs, Šķūņu iela 4. Lekciju telpā 4. stāvs**

**Vadītājs (chair): Dr.Arnlods Ūbelis**

10.00 – 10.15. Dr.Arnlods Ūbelis. Autoru cildināšana  
(Welcome words)

10.15 - 11.00 Spectroscopic studies of spices, nanomaterials and clusters .

**Prof. Jumisree Sarmah Pathak**

Jumi.Sarmah@gmail.com

Indian Institute of Teacher Education, Grandhinagar, Gujarat, India

Indian Institute of Teacher Education epitomizes the extension of the knowledge tradition embedded in the rich intellectual and cultural heritage of India. IITE has been envisioned to introduce and initiate future teachers into the process of transformation into evolved beings who can lead and guide the children of tomorrow towards the knowledge century in the true sense. With holistic training components, value-education and skill-orientation as the mainstay of the teacher education, IITE has a vision of empowering the nation and the world with teachers who can take the onus of shaping the next generation of students with a sense of responsibility for the nation and an orientation for internationalism

**11.00 - Discussions, coffee**



## **LXX kolokvijs**

**Laiks: Otrdiena 13.01.2015., plkst 10.00 -11.30**

**Vieta: Rīgas Fotonikas Centrs, Šķūņu iela 4. Lekciju telpā 4. stāvs**

**Vadītājs (chair): Dr.Arnavds Ūbelis**

10.00 – 10.15. Dr.Arnavds Ūbelis, PhD cand.Kalvis Salmiņš Autoru cildināšana  
(Welcome words)

10.15 - 11.00 **Dr.Irina Lyubych, Dr.Serhii.Horelnykov, Vitaly Zhaborovskyy**  
Sadarbība veicot uzlabojumus LU AI SLR - LS-105 signālu kalibrācijas  
Sistēmā " un izmantoto fotopavairotāju raksturlielumu precizēšanā.  
"Changes in SLR system LS-105 calibration system"  
"PMT H6780-20 characteristics currently in use at SLR system Riga".

11.00 - Discussions, coffee

## **Fundamental Geodynamical Observatory**

The Observatory and the Department described below are well known internationally for its activities in the development of several generations of laser ranging technologies in Riga since the early 70ties of last century<sup>1</sup>: design and testing new equipment; data analysis; algorithms and software for the tracking objects in the vicinity of the Earth. The infrastructure includes complex observational instruments which form the basis for a potentially new approach in Near Earth Object observation – combining laser ranging with optical observation. Geodynamic station of the Institute of Astronomy is running a SLR LS-105 system and a permanent GPS station. SLR station is a member of the International Laser Ranging Service (ILRS) and EUROLAS. Permanent GPS station (RIGA\_12302M002) is a member of the International GPS service (IGS) and EUREF permanent GPS network EPN. SLR station (ILRS code name 1884 Riga) is capable of making day and night observations and measure distances to the satellites in the range from 400 to 28 000 km with single shot accuracy around few cm.

Latvian space scientists have participated for decades in the International [Laser Ranging Service \(ILRS\)](#). The ILRS was established in 1998<sup>2</sup>. The ILRS collects, merges, archives and distributes the Satellite Laser Ranging (SLR) and Lunar Laser Ranging (LLR) observation data sets of sufficient accuracy to satisfy the objectives of a wide range of scientific, engineering and operational applications. These data sets are used by the ILRS to generate a number of scientific and operational data products including: Earth orientation parameters (polar motion and length of day), station coordinates and velocities of the ILRS tracking systems, time-varying geo-centre coordinates, static and time-varying coefficients of the Earth's gravity field, centimeter accuracy satellite ephemerides and fundamental physical constants. The ILRS network<sup>3</sup> consists of more than 40 satellite ranging systems, **Error! Reference source not found..** These systems measure the distance from the Earth to satellites. Measurements are transmitted to the ILRS data centre. Riga has strong and world wide recognized





## **LXXI kolokvijs**

**Laiks: Piektdiena 16.01.2015., plkst 9.00 -10.30**

**Vieta: Rīgas Fotonikas Centrs, Šķūņu iela 4. Lekciju telpā 4. stāvs**

**Vadītājs (chair): Dr.Arnavds Ūbelis**

10.00 – 10.15. Dr.Arnavds Ūbelis, Autora cildināšana  
(Welcome words)

10.15 - 11.00 Dr.Jānis Rupkus, Lielu investīciju tehnoloģisku projektu iespējas un realizācijas problēmas Latvijā  
Large investments in technology projects in Latvia: opportunities and problems

11.00 - Discussions, coffee



## **LXXII colloquium**

**Time: Tuesday 20.01.2015.**

**Place: Riga Photonics Center, Skunu street 4, Riga, auditorium at 4th Floor (4.stāvs).**

**Programm:**

11:00-12:30. Asparuh Markovski. Training seminar on Introduction to Matlab.

**Registration of Participants**





## **LXXIII kolokvijs**

**Laiks: Trešdiena 21.01.2015., plkst 10.00 -11.30**

**Vieta: Rīgas Fotonikas Centrs, Šķūņu iela 4. Lekciju telpā 4. stāvs**

**Vadītājs (chair): Dr.Arnavds Ūbelis**

10.00 – 10.15. Dr.Arnavds Ūbelis, Autora cildināšana  
(Welcome words)

10.15 - 11.00 **Dr.Natalia Naumova**  
**Study of Transmembrane Ca<sup>2+</sup> Transport in Mitochondria of Smooth Muscle Cells by Confocal Microscopy and Flow Cytometry using Potential- and Ca<sup>2+</sup>- Sensitive Fluorescent Biomarkers"**

11.00 - Discussions, coffee



## LXXIV kolokvijs

**Laiks: Ceturtdiena 29.01.2015., plkst 12.00 -13.30**

**Vieta: Rīgas Fotonikas Centrs, Šķūņu iela 4. Lekciju telpā 4. stāvs**

**Vadītājs (chair): Dr.Arnavds Ūbelis**

12.00 – 10.15. Dr.Arnavds Ūbelis, Autora cildināšana  
(Welcome words)

12.15 - 13.00 **Daumants Pfafrods, Z-LIGHT Ltd., Director.**

Stāsts par pasaulē konkurēt spējīgu augstākās raudzes fotonikas tehnoloģiju uzņēmumu Dinvidlatgalē, Līvānos kura darbība daudzu gadu garumā tiešā veidā ir ienesusi miljonus eiro valsts budžetā  
(The story about world wide competitive research driven SMEs in photonics and fiber optics domain).

13.00 - ... Discussions, coffee

About Z-light ([www.Z-light.lv](http://www.Z-light.lv))

Z-Light Ltd. is a dynamic and competitive European company which develops, manufactures and supplies fibres, fibre bundles, cables and laser delivery systems for very sophisticated and expensive scientific, industrial and medical applications worldwide.

Situated in the town of Līvāni, nearly 200 kilometres east of Riga, the capital of the EU member state Latvia, our company specializes in the production of highly reliable and extremely thin fibres - they start from 50 microns being two times thinner than a human hair.

Our group

Our Group consists of three companies - Z-Light Ltd. (Latvia), LightGuideOptics Germany GmbH and LightGuideOptics USA, LLC. The keywords of our group - the best quality, excellent support for customers and short delivery times! All companies of the group are continuously developing new products for laser medicine and industry.

The successful tripartite cooperation and representation in several countries give our group essential competitive advantage as we have broad options to offer the widest range of optics solutions to the customers. LightGuideOptics Germany GmbH which was founded on 15 December, 2004. In 2008 LGO Germany established LightGuideOptics USA, LLC with an aim to ensure successful entry into the U.S. market and develop business activities there. The American company is based in California and has years of experience in the field of fibre technology and sales. LightGuideOptics Germany serves as highly effective sales and marketing channel for our group.

**Production, production development:**

**Z-Light, Ltd.** P.O.Box 1, Līvāni LV-5316, Latvia

Mob.: +37128347729, e-mail: [daumants.pfafrods@z-light.lv](mailto:daumants.pfafrods@z-light.lv), e-mail: [info@z-light.lv](mailto:info@z-light.lv)

**Sales and marketing**

**LightGuideOptics Germany GmbH**

Industriestrasse 33, D-53359 Rheinbach, Germany

phone: +49 2226 15 85-0, e-mail: [info@lgoptics.de](mailto:info@lgoptics.de)

**LightGuideOptics USA, LLC**

Office California Mr Mick Speciale COO

1101 South Winchester Blvd., Suite L-238, CA 95128 San Jose

Cell: +1 408 823 71 11, e-mail: [dspeciale@lgoptics.com](mailto:dspeciale@lgoptics.com)



## **LXXV colloquium**

**Time: Wednesday 04.02.2015.**

**Place: Riga Photonics Center, Skunu street 4, Riga, auditorium at 4th Floor (4.stāvs).**

### **Program:**

#### **Part 1.**

**10:00-11:00. Alexander Narbut. TRIZ tools for innovation development (introduction and invitation to future TRIZ seminars) (seminar in Russian) [Seminar for those who are interested in general knowledge of TRIZ and its application]**

Александр Нарбут. Инструменты ТРИЗ для развития инноваций (введение и приглашение на дальнейшее обучение).

11:00-11:30 Coffee break

#### **Part 2**

**11:30-13:00 Alexander Narbut. First steps in TRIZ (theory and examples). (seminar in Russian) [Seminar for those who are interested in indepth study]**

Александр Нарбут. Первые шаги в ТРИЗ (теория и задачи).

### **Information:**

TRIZ seminars are planned from 01.02.2015 - 30.04.2015.

Lecturer: Dr. Alexander Narbut, TRIZ Master (Ukraine)

on Wednesdays (4th Floor) 10:00-12:00, 13:00-16:00.

and on Saturdays (1st Floor) 10:00-12:00, 13:00-16:00.

TRIZ – theory for inventive problem solving – helps to find patentable solutions.