

# **SPIE** Crimean chapter



**Taurida National V.Vernadsky University**  
Vernadsky av 4  
Simferopol, 95007, Crimea, Ukraine



**Annual Report of SPIE TNU Student Chapter**

## Chapter Leaders

**President: Izdebskaya Yana**

**Vice – President: Nataliya V. Shostka**

**Treasurer: Yevheniy Yu. Semuk**

**Secretary: Andrey V. Klimukh**

**List of all current student members of SPIE Student Chapter of Taurida National V. Vernadsky University:**

- 1. Yana V. Izdebskaya**
- 2. Nataliya V. Shostka**
- 3. Alexander F. Rubass**
- 4. Yevheniy Yu. Semuk**
- 5. Sergey I. Lagunov**
- 6. Dmitry V. Solodovnichenko**
- 7. Yaroslav S. Kachin**
- 8. Sergey V. Hablenko**
- 9. Kirilo I. Kotlyariv**
- 10. Dmitry V. Shmelev**
- 11. Luiza Z. Mavlutalieva**
- 12. Anna O. Romanova**
- 13. Ivan A. Ostovskiy**
- 14. Andrey V. Klimukh**
- 15. Babichev Ye. Yevheniy**

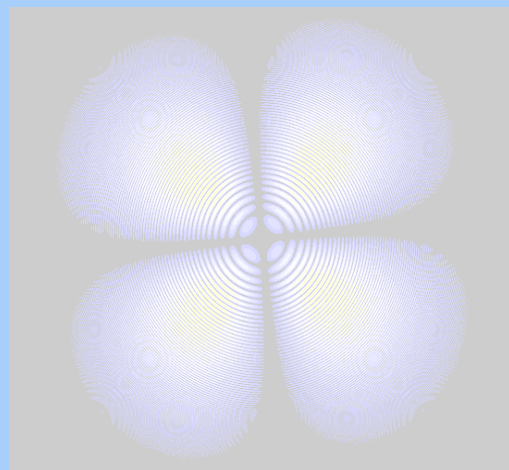
## Activities Completed:

Students of our SPIE Chapter took part at international conferences (2005-2006):

1. Olympiad "Computer modeling-2005" on May 17-21, 2005, Crimea, Ukraine (Sergey Lagunov).
2. Annual Young Student's Conference "Singular Optics" on April 12-16, 2005, Simferopol, Ukraine (all students of TNU SPIE Chapter).
3. '50<sup>th</sup> Annual Meeting SPIE / Optics and Photonics' on 30 July - 06 August, 2005, San Diego, CA, USA (Yana Izdebskaya)
4. '89<sup>th</sup> OSA Annual Meeting/ Frontiers in Optics' on 16 - 21 October, 2005, Tucson, AZ, USA (Yana Izdebskaya),
5. "Correlation Optics' 2005" on September 6-9, 2005, Chernivci, Ukraine//The analysis of the vertical and mode structure after the fiber (Kiril Kotlyarov).
6. "Correlation Optics' 2005" on September 6-9, 2005, Chernivci, Ukraine//Ya. Izdebskaya (Ukraine). New type of singular beams generated by optical wedge.
7. "Correlation Optics' 2005" on September 6-9, 2005, Chernivci, Ukraine //Evolution of the vortex core and the polarization state of the singular beams in crystals (Aleksandr Rubass).
8. "Photonics Europe" on 3-7 April, 2006, Strasbourg, France (Yana Izdebskaya).
9. Organization of 6-nd Young Scientist Conference "Singular and Nonlinear Optics-2006" at Taurida National V. Vernadsky University (17-21 April, 2006) (all SPIE students);

Our students made oral reports during academic year:

1. Laser measurements for biomedical applications" (Luiza Mavlutaliev)
2. Fast electrically switchable holographic mirror (Yaroslav Kachin)
3. Propagation of optical vortices in optical fibers with Kerr nonlinearity (Sergey Hablenko)
4. Nonlinear optical beams carrying phase dislocations (Alexander Rubass)
5. Optical Vortices (Yevheniy Yu. Semuk)
6. Generation of Higher-Order Optical Vortices by the Dielectric Wedge (Nataliya V. Shostka)
7. Spiral-type beams (Kirilo I. Kotlyariv)
8. Composite optical vortices (Sergey I. Lagunov)



## *Education*

New short courses were listening by students of Phys. Department:

- **New applications of correlation optics in biology and medicine**
- **Electronic design automation and circuit design**

There were all interested persons. Mainly, there are professors, candidates of sciences, students and PhD Candidates from our University, Technical Institutions, Colleges and High schools).

## *6. Grants, Awards*



1. SPIE Activity grant for TNU Student chapter (\$700).
2. Yana Izdebskaya has gotten 2006 SPIE Educational Scholarship Optical Science and Engineering.
3. Yana Izdebskaya (The President of SPIE TNU Student Chapter) has gotten travel grant on "Optics and Photonics'06" in Strasbourg, France.
4. Nataliya V. Shostka SPIE Leadership Travel Grant (\$1,250) for attending SPIE Annual Meeting 13-17 August 2006, San Diego,CA,USA

## *Organizing Activities*

- Organization of 6-nd Young Scientist Conference "Singular and Nonlinear Optics" on 17-22 April, 2006, Simferopol, Ukraine. The sections: Phase singularities and caustics, their applications, Laser physics and applications, Nonlinear effects in active and passive optical devices and systems;
- Co-organization "Correlation optics 2005" on September 6-9, 2005, Chernivci, Ukraine;
- Organization the excursion for new SPIE members to r/d "Domain".
- Organization of Olympiad "Computer modeling-2005"and Photo-Exhibition "Optical vortices" on September 20-23, TNU, Crimea, Ukraine;



## *8. Expected Actions within the Next Year:*

1. Travel grants on SPIE's Annual Meeting- 2006;
2. Organization of 7-nd Young Scientist Conference "Singular and Nonlinear Optics-2006" at Taurida National V. Vernadsky University (April, 2007);
3. Organization of Olympiad "Computer modeling";
4. host speakers;
5. Photo-Exhibition "Optical vortices, caustics" on September, TNU, Crimea, Ukraine for next new SPIE members;

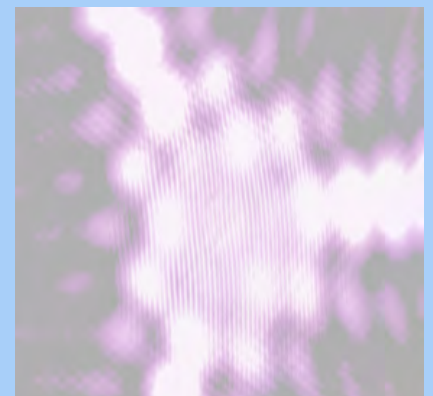
Participation in:

6. 5th World Congress of Biomechanics, Munich, Germany (29 July - 4 August, 2006);
7. "Frontiers in Optics", Rochester, NY, USA (October, 2006).



### 3. Host speakers

1. **Prof. Yuriy Fridman** read lecture “Spin continuity and birefringence in locally isotropic weakly inhomogeneous media” (Taurida National V. Vernadsky University, Department of Theoretical Physics) (March, 2005);
2. **Prof. Igor Dzedolik** «Envelope equations of guided vortex pulse in optical fibers» (Taurida National V. Vernadsky University, Department of Theoretical Physics) (March, 2005);
3. **Prof. Sergey Roshupkin** “Nonparaxial singular beams of higher orders” (Taurida National V. Vernadsky University, Department of Theoretical Physics) (April, 2005).
4. **Dr. Constantin Alexeyev** “Generic singular beams in elliptic fibers”, Taurida National V. Vernadsky University, Department of Theoretical Physics) (January, 2005);
5. **Prof. S.G. Odoulov** (Ukraine) (INVITED). Anomalous pulse propagation in media with dynamic gratings and optical forerunners. (September, 2005)
6. **Prof. V.N. Obuchovsky** Singularities of the Pointing vector and the structure of optical field //Kiev National University (October, 2005)
7. **Prof. Yu. S. Kivshar** Singularities in incoherent light //Australian National University (October, 2005).





## **Contact Information**

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