

## 1-PERSONAL DATA

**Surname:** Elahi

**Name:** Parviz

**Address:** Physics Department, Boğaziçi, University, 34342/Bebek, Istanbul, Turkey

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## 2-DEGREES

**PhD**, Physics, Feb 2005

Faculty of Science

PhD Thesis: “Thermo optic effects in end-pumped solid-state and fiber lasers.”

Shiraz University, Shiraz, Iran

**Master of Science**, August 1998

Faculty of Science

MSc Thesis: “Solitons in two-level mediums.”

Shiraz University, Shiraz, Iran

**Bachelor of Science**, June 1995

Faculty of Science

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## 3-LANGUAGE SKILLS

**Persian** (Native)

**English** (Fluent)

**Turkish** (Intermediate)

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## 4-CURRENT EMPLOYMENT

**Assistant Professor**, Physics Department, Faculty of Art and Science, Boğaziçi University, Istanbul, Turkey (2020-Present)

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## 5-PREVIOUS WORK EXPERIENCE

**Senior Researcher**, Ultrafast Optics and Lasers Laboratory, Advanced Research Laboratories, Physics Department, Bilkent University, Bilkent, Ankara (2010-2020).

**Assistant Professor**, Physics Department, Shiraz University of Technology, Shiraz, Iran (2008-2010).

**Assistant Professor**, Physics Department, Payame Noor University, Shiraz, Iran (2005-2008).

## **6-RESEARCH FUNDING AND GRANTS**

1- Design and fabrication of double-end-pumped laser cavity with thermal effects considerations, Arsanjan Azad University, Arsanjan, Iran (2003-2005) (Principal Investigator).

2- Investigation of electron emission in a dispersive medium, Arsanjan Azad University, Arsanjan, Iran (2003-2005) (Co-Investigator).

3-300-W, picosecond fiber laser for ultra-high-speed, non-thermal processing of metals, The Scientific and Technological Research Council of Turkey (TUBITAK), Turkey (2013-2015) (Principal Investigator).

4-Theoretical and experimental study on a novel synchronously-pumped Raman fiber laser, The Scientific and Technological Research Council of Turkey (TUBITAK), Turkey (2015-2017) (Principal Investigator).

5-Development of a burst-mode ultrafast Tm-fiber laser system, The Scientific and Technological Research Council of Turkey (TUBITAK), Turkey (2017-2019) (Researcher).

6-Self-adjusted counter-propagating optical tweezer, start-up grant, Bogazici University (2021-2023) (Principal Investigator).

7- Development of new generation laser-induced breakdown spectroscopy for food science The Scientific and Technological Research Council of Turkey (TUBITAK), Turkey (2022-2024) (Principal Investigator).

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## **7-LIST OF TEN MOST IMPORTANT PAPERS**

1- F. Kalantarifard, P. Elahi, G. Makey, O. M. Maragò, F. Ömer Ilday, Giovanni Volpe, “Intracavity Optical Trapping”, *Nat. Commun.*, 10 (1), 2683 (2019).

2-P. Elahi, H. Kalaycioglu, Ö. Akçaalan, C. Ertek, K. Eken, F. Ömer Ilday, “High-power Yb-based all-fiber laser delivering 300-fs pulses for high-speed ablation-cooled material removal,” *Opt. Lett.*, 43, 535 (2018).

3-(Invited paper) H. Kalaycıoğlu, P. Elahi, Önder Akçaalan, and F. Ömer Ilday, “High-repetition-rate ultrafast fiber lasers for material processing,” *IEEE J. Sel. Top. Quantum. Electron.*, 24, (2018).

4-P. Elahi, H. Kalaycıoğlu, Önder Akçaalan, and F. Ömer Ilday, “Burst-mode thulium fiber laser delivering femtosecond pulses with 1-GHz intra-burst repetition rate,” *Opt. Lett.*, 42, 3803 (2017).

5-O. Tokel, A Turnali, G. Makey, P. Elahi, S. Ilday, T. Çolakoğlu, E. Ergeçen, Ö. Yavuz, R. Hübner, M. Zolfaghari Borra, I. Pavlov, A. Bek, R. Turan, S. Tozburun, F. Ömer Ilday, “In-chip microstructures and photonic devices fabricated by nonlinear laser lithography deep inside silicon,” *Nat. Photon.* 11, 639 (2017).

6-C. Kerse, H. Kalaycıoğlu, P. Elahi, B. Çetin, Denizhan K Kesim, Ö. Akçaalan, S. Yavaş, M. D Aşık, B. Öktem, H. Hoogland, R. Holzwarth, F. Ömer Ilday, “Ablation-cooled material removal with ultrafast bursts of pulses,” *Nature*, 537(7618), 84 (2016).

7- E. Pinçe, S. KP Velu, A. Callegari, P. Elahi, S. Gigan, G. Volpe, G. Volpe, “Disorder-mediated crowd control in an active matter system,” *Nat. Commun.* 7, 10907 (2016).

8-S. Yilmaz, P. Elahi, H. Kalaycıoğlu, and F. Ömer Ilday, “Amplified spontaneous emission in high-power burst-mode fiber lasers,” *J. Opt. Soc. Am. B.* 32, 2462 (2015).

9-K. Gürel, P. Elahi, L. Budunoglu, Ç. Senel, P. Paltani, and F. Ömer Ilday, “Prediction of pulse-to-pulse intensity fluctuation characteristics of high power ultrafast fiber amplifiers,” *Appl. Phys. Lett.* 105, 1111 (2014).

10-P. Elahi, S. Yilmaz, B. Eldeniz, and F. Ömer Ilday, “Generation of picosecond pulses directly from 100-W, burst mode, doping-managed Yb-doped fiber amplifiers,” *Opt. Lett.*, 39, 236 (2014).

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## **8-TEACHING EXPERIENCE**

1-Physics 201, Physics 202, Physics 101, Modern Optics, Quantum Electronics and Modern quantum mechanics (grad. course) at Physics Department, Bogazici University (since 2020).

2-Physics 102, at Bilkent University (2018).

3.1- Undergrad. Courses: Physics 101, 102, Modern Physics, Optics, Spectroscopy, Mathematical physics 1 and 2, Quantum mechanics 1 and 2, electromagnetic 1 and 2.

3.2-Grad. Courses: Modern quantum Mechanics 1 and 2, Electrodynamics 1 and 2, advanced laser physics, Quantum electronics, Mathematical physics 3.

At Department of Physics, Shiraz University of Technology, Shiraz, Iran (2008-2010).

4.1-Undergrad. Courses: Physics 101, 102, Modern Physics, Optics, Spectroscopy, Mathematical physics 1 and 2, Quantum mechanics 1 and 2, electromagnetic 1 and 2.

4.2-Grad. Courses: Modern quantum Mechanics 1 and 2, Electrodynamics 1 and 2, advanced laser physics, Quantum electronics, Mathematical physics 3.

At Department of Physics, Payame Noor University, Shiraz, Iran (2005-2008).

5-Spectroscopy, Electromagnetism, Modern optics, Quantum mechanics, laser physics, applied optics, at Shiraz University, Shiraz/Bu Ali Sina University, Hamedan /Maleke Ashtar University, Isfahan, Iran (2000-2005).

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## 9-OTHER KEY ACADEMIC MERIT

### Administrations

- 1-Director of Graduate program, Payame Noor University, Shiraz, Iran (2005-2008).
- 2-Administrator of Sarvestan Payame Noor University, Sarvestan, Iran (2008).

### Certifications

- Winter college on fiber optics, fiber lasers and sensors (ICTP, Trieste, Italy, 2007). (Certification).
- 2-OSA review certification, 2020

### Invited talks

- 1-The Physics of ultra-short laser interaction with metals, *International Workshop on Optics and Photonics*, Islamabad, Pakistan (2017).
- 2-Fiber Lasers: Recent Advances, *International Workshop on Optics and Photonics*, Islamabad, Pakistan (2017).
- 3-An Introduction to Lasers, *International Workshop on Optics and Photonics*, Islamabad, Pakistan (2017).
- 4-Laser Material Processing, From thermal to ablation-cooled material Removal, *10<sup>th</sup> International Scientific School*, Islamabad, Pakistan (2018).
- 5-Ultrafast fiber lasers: Recent development and application in micromachining and microsurgery, *Institute of Advanced Studies in Basic Sciences*, Zanjan, Iran (2018).
- 7-Laser matter interaction: from physics to applications, *Cankaya University*, Ankara, Turkey (2020).
- 8-High efficient, Low energy, high-speed laser material processing, *International School on Physics & Allied Disciplines (ISPAD) National Centre for Physics (NCP)*, Islamabad, Pakistan (2021).
- 9-High efficient laser-material processing at GHz repetition rates in the ablation-cooled regime, *World congress for Optics and Photonics, ICO 25-OWLS 16*, Dresden Germany (Sep. 2022).
- 10-Intrinsic feedback optical tweezers, *World congress for Optics and Photonics, ICO 25-OWLS 16*, Dresden Germany (Sep. 2022).
- 11-(Plenary talk) P. Elahi, “Ultra-high repetition rate lasers: A new horizon in laser micromanaging and microsurgery.” The Annual Physics Conference of Iran, Zahedan, Iran (2022).
- 12-(Invited talk) P. Elahi, “Fiber lasers: Developments and applications, from ultra-short to continuous-wave lasers,” *27<sup>th</sup> Special School on Topics in Physics*, Zanjan, Iran (2022).

## **Skills**

1-Software and Simulators: Maple, MATLAB, Origin, Mathematica, Beam propagation simulator (simulation for ultra-short pulse propagation in the fiber), Laser gain simulator (simulation for continuous-wave amplifiers).

2-Devices: Experience working with optical, laser, and measurement devices such as CO<sub>2</sub>, Ar, Copper-vapor, Nd:YAG, and fiber lasers. Optical spectrum analyzer, Oscilloscope, Autocorrelator, Laser diode drivers, Galvanometer scanners, Signal source analyzer (Radiofrequency and Audio-analyzer), Digital sampling oscilloscope, SEM, Laser scanning microscope, etc.

3-More than 10 years of experience in modern optics laboratories.

## **The referee for scientific journals**

- OSA Continuum, Optics Letters, Optics Express, JOSA B, Optics Communications, Applied Surface Science, Applied Physics B, IEEE Photonics Journal, Scientific Report, Optical Materials Express.

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## **RESEARCH OUTPUT**

### **RESEARCH OUTPUT: REFEREED JOURNALS**

35-A. Ciarlo, G. Pesce, F. Kalantarifard, P. Elahi, G. Volpe, A. Sasso, “Intracavity feedback Optical Trapping”, *Il Nuovo Cimento C.*, 45 (6), (2022).

34- Giovanni Volpe, et. al. “Roadmap for Optical tweezers,” *J. of Physics: Photonics* (to be appeared).

33-F. Kalantarifard, P. Elahi, G. Makey, O. M. Maragò, F. Ömer Ilday, Giovanni Volpe, “Intracavity Optical Trapping”, *Nat. Commun.*, 10 (1), 2683 (2019).

32- G. Makey, Ö. Yavuz, D. K. Kesim, A. Tural, P. Elahi, S. Ilday, O. Tokel, F. Ömer Ilday, “Breaking crosstalk limits to dynamic holography using orthogonality of highdimensional random vectors”, *Nat. Photon.* 13, 251 (2019).

31-P. Elahi, H. Kalaycıoğlu, Ö. Akçaalan, C. Ertek, K. Eken, F. Ömer Ilday, “High-power Yb-based all-fiber laser delivering 300-fs pulses for high-speed ablation-cooled material removal,” *Opt. Lett.*, 43, 535 (2018).

30-(Invited paper) H. Kalaycıoğlu, P. Elahi, Önder Akçaalan, and F. Ömer Ilday, “High-repetition-rate ultrafast fiber lasers for material processing,” *IEEE J. Sel. Top. Quantum. Electron.*, 24, (2018).

29-P. Elahi, H. Kalaycıoğlu, Önder Akçaalan, and F. Ömer Ilday, “Burst-mode thulium fiber laser delivering femtosecond pulses with 1-GHz intra-burst repetition rate,” *Opt. Lett.*, 42, 3803 (2017).

28-P. Elahi, H. Kalaycıoğlu, H. Li, Ö. Akçaalan, and F. Ömer Ilday, “175 fs-long pulses from a high-power single-mode Er-doped fiber laser at 1550 nm,” *Opt. Commun.* 403, 381 (2017).

- 27-O. Tokel, A Turnali, G. Makey, P. Elahi, S. Ilday, T. Çolakoğlu, E. Ergeçen, Ö. Yavuz, R. Hübner, M. Zolfaghari Borra, I. Pavlov, A. Bek, R. Turan, S. Tozburun, F. Ömer Ilday, “In-chip microstructures and photonic devices fabricated by nonlinear laser lithography deep inside silicon,” *Nat. Photon.* 11, 639 (2017).
- 26-C. Kerse, H. Kalaycıoğlu, P. Elahi, B. Çetin, Denizhan K Kesim, Ö. Akçaalan, S. Yavaş, M. D Aşık, B. Öktem, H. Hoogland, R. Holzwarth, F. Ömer Ilday, “Ablation-cooled material removal with ultrafast bursts of pulses,” *Nature*, 537(7618), 84(2016).
- 25-(Invited paper) C. Kerse, H. Kalaycıoğlu, P. Elahi, Ö. Akçaalan, and F. Ömer Ilday. “3.5-GHz intra-burst repetition rate ultrafast Yb-doped fiber laser,” *Opt. Commun.* 366, 404 (2016).
- 24-A. Tandiroviç Gürsel, P. Elahi, F. Ömer Ilday, and M. Sadettin Özyazıcı, “Theoretical analysis of doping management and its effects on power scaling,” *Turkish J. of Elec. Engin. Comp. Sci.*, 24, 2336 (2016).
- 23- E. Pinçe, S. KP Velu, A. Callegari, P. Elahi, S. Gigan, G. Volpe, G. Volpe, “Disorder-mediated crowd control in an active matter system,” *Nat. Commun.* 7, 10907 (2016).
- 22-S. Yilmaz, P. Elahi, H. Kalaycıoğlu, and F. Ömer Ilday, “Amplified spontaneous emission in high-power burst-mode fiber lasers,” *J. Opt. Soc. Am. B.* 32, 2462 (2015).
- 21-K. Gürel, P. Elahi, L. Budunoglu, Ç. Senel, P. Paltani, and F. Ömer Ilday, “Prediction of pulse-to-pulse intensity fluctuation characteristics of high power ultrafast fiber amplifiers,” *Appl. Phys. Lett.* 105, 1111 (2014).
- 20-P. Elahi, S. Yilmaz, B. Eldeniz, and F. Ömer Ilday, “Generation of picosecond pulses directly from 100-W, burst mode, doping-managed Yb-doped fiber amplifiers,” *Opt. Lett.*, 39, 236 (2014).
- 19-P. Elahi and M. Ebrahimi, “Analytical investigation of thermal stress in enamel and dentin under CW and pulsed Er:YAG solid-state laser,” *EPJ AP*, 65, 20102 (2014).
- 18-P. Elahi, S. Yilmaz, Ö. Akçaalan, H. Kalaycıoğlu, B. Öktem, Ç. Senel, F. Ömer Ilday, and K. Eken, “Doping management for high-power fiber lasers: 100 W, few-picosecond pulse generation from an all-fiber-integrated amplifier,” *Opt. Lett.*, 37, 3042 (2012).
- 17-P. Elahi and S. Morshedi, “Calculation of temperature distribution and thermo-optical effects in double-end-pumped slab laser,” *J. Eng. Phys. Thermophys.*, 84, 1224 (2011).
- 16-P. Elahi and B. Farsi, “The analytical calculation of temperature distribution of dentin under pulse Er:YAG laser radiation,” *EPJ AP*, 51, 20701 (2010).
- 15-P. Elahi and S. Morshedi, “The double-end-pumped cubic Nd:YVO<sub>4</sub> laser: Temperature distribution and thermal stress,” *Pramana-J. Phys.* 74, 67 (2010).

- 14-P. Elahi and B Farsi, "The analytical evaluation of temperature distribution in dentin under a pulse Er:YAG laser radiation and investigation of pulse energy and pulse duration on it," *Laser in Medicine* , 6, 1 (2009). (Persian Language).
- 13-A. Gharaati, P. Elahi and M. Jafari, "Calculation of temperature distribution in eccentric multi core diode pumped fiber lasers by Green function method," *Acta Phys. Pol. A.*, 116, 566 (2009).
- 12-P. Elahi and A. Niakowsari, "The analytical calculation of temperature-dependent propagation constant, V no. and wave guide dispersion in super-Gaussian diode-pumped fiber lasers," *Acta Phys. Pol. A.*, 116, 525 (2009).
- 11-P. Elahi and N. Zare, "The analytical solution of rate equations in end-pumped fiber lasers with minimum approximation and temperature distribution during the operation," *Acta Phys. Pol. A.*, 116, 522 (2009).
- 10-F. Kalantarifar, H. Nadgaran, and P. Elahi, "The analytical and numerical investigation of thermo-optic effects in double-end-pumped solid state lasers", *International Journal of Physical Science (IJPS)*, 4, 369 (2009).
- 9-P. Elahi and M. Ebrahimi, "The analytical investigation of thermal stress in dentin and enamel under CW Er:YAG laser radiation," *Laser in Medicine* , 6, (2009). (Persian Language).
- 8-P. Elahi, B. Farsi, and M. Goodarzi, "The analytical investigation of temperature distribution in enamel under Er:YAG laser radiation," *Laser in Medicine* , 5, (2009). (Persian Language).
- 7-P. Elahi, A. Taghavi, and A. Gharaati, "The analytical investigation of temperature distribution in off central-diode-pumped lasers," *Pramana- J. Phys.* 70, 649 (2008).
- 6-A. Gharaati, P. Elahi, and S. Cari, "Propagation of Spatial Solitons with Nonlinear Kerr Effect in Thermal Medium," *Acta Physica Polonica A.*, 112, 891 (2007).
- 5-P. Elahi, H. Nadgaran, F. Kalantarifar, "Core temperature in super-Gaussian pumped air-clad photonic crystal fiber lasers compared with double-clad fiber lasers," *Pramana- J. Phys.* 68, 529 (2007).
- 4-H. Nadgaran, P. Elahi, "Numerical simulation and analytical description of thermally induced depolarization in diode-pumped laser rods pumped by a super-Gaussian beam," *International Journal of Pure and Applied Physics*, 2, 215 (2006).
- 3-H. Nadgaran, P. Elahi, "The overall phase shift and lens effect calculation using Gaussian boundary conditions and paraxial ray approximation for an end-pumped solid-state laser," *Pramana- J. Phys.* 66, 513 (2006).
- 2-H. Nadgaran, P. Elahi, "The analytical investigation of thermal, stress and thermo-optic properties of double-clad Yb:glass fiber laser under a super-Gaussian pump source," *Pramana-J. Phys.* 65, 95 (2005).

1-P. Elahi, H. Nadgaran, "The measurement and comparison of the thickness of Harvard and Ariyadent Zinc Phosphate cement with He-Ne laser Interferometer ," Journal of laser in medicine , 3, 18 (2005).

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## **RESEARCH OUTPUT: CONFERENCE PROCEEDING AND ABSTRACT**

63- A. Ciarlo, G. Pesce. F. Kalantarifard, P. Elahi, A. Callegary, G. Volpe, A. Sasso, " Periodic feedback effect in counterpropagating optical tweezers." Optical Trapping and Optical Micromanipulation XVII, SPIE (2022).

62- C. Polat, G. Nuran Yapici, S. Elahi, P. Elahi, "Machine learning-based high-precision and real-time focus detection for laser material processing systems. " Optics, Photonics and Digital Technologies for Imaging Applications VII, SPIE (2022).

61- S Elahi, C Polat, O Safarzadeh, P Elahi, " Noise robust focal distance detectio in laser meterial processing using CNNs and Gaussian process." Optics, Photonics and Digital Technologies for Imaging Applications VII, SPIE (2022).

60- F. Kalantarifard, G. Volpe, P. Elahi, "Self-adjusted counter propagating optical tweezer," Optical Trapping and Optical Micromanipulation XVII, SPIE (2021).

59- F. Kalantarifard, P. Elahi, G. Makey, B. Unlu, O. M. Maragò, F. Ömer Ilday, G. Volpe, "Optical trapping of microparticles and yeast cells at ultra-low intensity by intracavity nonlinear feedback forces," Optical Trapping and Optical Micromanipulation XVII, SPIE (2020).

58- G. Makey, O. Yavuz, D. K. Kesim, , A. Turnali, P. Elahi, J. Toumi, M. S. El-Daher, S. Ilday, O Tokel, and F. Ömer Ilday, "Applying the principle of orthogonality of high dimensional random vectors to obtain high-density, large-volume 3D holographic display," (CLEO Pasific Rim)(Hong Kong 2018).

57-O. Tokel, G. Makey, D. K. Kesim, O. Yavuz, A. Turnali, P. Elahi, J. Toumi, M. S. El-Daher, S. Ilday, and F. Ömer Ilday, "Large-volume, multiplane Fresnel holography for 3D displays," (APS March Meeting)(USA 2018).

56-(Invited) P. Elahi, "Laser Material Processing, From thermal to ablation-cooled material Removal," (10<sup>th</sup> International Scientific School, Islamabad, Pakistan 2018).

55-(Invited) P. Elahi, "The Physics of ultra-short laser interaction with metals," (10<sup>th</sup> International Scientific School, Islamabad, Pakistan 2017).

54-(Invited) P. Elahi, "Fiber Lasers: Recent Advances, International,"(10<sup>th</sup> International Scientific School, Islamabad, Pakistan 2017).

53-(Invited) P. Elahi, "An Introduction to Lasers," (10<sup>th</sup> International Scientific School, Islamabad, Pakistan 2017).



52-C. Kerse, H. Kalaycıoğlu, P. Elahi, B. Çetin, D. K. Kesim, Ö. Akçaalan, S. Yavaş, M. D. Aşık, B. Öktem, H. Hoogland, R. Holzwarth, and F. Ömer Ilday, “Ablation-cooled laser-material processing” (LPM)(Japan 2017).

51-F. Ömer Ilday, H. Kalaycıoğlu, P. Elahi, “Ablation-cooled laser-material removal sets new targets for ultrafast lasers.” (CLEO Pacific Rim)(Singapore 2017)(Invited).

50-P. Elahi, Huihui Li and F. Ömer Ilday, “3.5-W, Femtosecond Chirped Pulse Amplification Fiber Laser System at 1560 nm.” (CLEO Pacific Rim)(Singapore 2017).

49-P. Elahi, Ayse Cansu Ertek, Koray Eken, and F. Ömer Ilday, “50-W, 1.6-GHz Pulse Repetition Rate from a Burst-Mode Yb-Doped Fiber Laser. ”(CLEO Pacific Rim)(Singapore 2017).

48-Ahmet Turnali, Onur Tokel, Denizhan Koray Kesim, Ghaith Makey, Ihor Pavlov, P. Elahi, and F. Ömer Ilday, “Buried waveguides written deep inside silicon,” (CLEO Europe)(Munich, Germany 2017).

47-Önder Akçaalan, H. Kalaycıoğlu, P. Elahi, Petro Deminskyi, F. Ö. Ilday, “Compact 1.5-GHz Intra-burst Repetition Rate Yb-doped All-PM-Fiber Laser System for Ablation-cooled Material Removal,” (CLEO Europe) (Munich, Germany 2017).

46-P. Elahi, Huihui Li and F. Ömer Ilday, “3.5-W, 42-MHz, Single-Mode Chirped Pulse Amplification Fiber Laser System at 1560 nm,” (CLEO Europe) (Munich, Germany 2017).

45-P. Elahi, Ghaith. Makey Ahmet Turnali, Onur Tokel, and F. Ömer Ilday, “1.06 $\mu$ m-1.35 $\mu$ m Coherent Pulse Generation by a Synchronously-Pumped Phosphosilicate Raman Fiber Laser,” (CLEO Europe) (Munich, Germany 2017).

44-Sabareesh KP Velu, Erçağ Pinçe, Agnese Callegari, P. Elahi, Sylvain Gigan, Giovanni Volpe, Giorgio Volpe, “Controlling Active Brownian Particles in Complex Settings,” (Optical Trapping Applications) (USA 2017).

43-Tesfay Teamir, P. Elahi, Ghaith Makey, Ilday Fatih, “Noise-induced creation and annihilation of dissipative solitons (DS) in a passively mode-locked laser,” (APS March Meeting)(USA 2017 ).

42-Ghaith Makey, Onur Tokel, Ahmet Turnali, Ihor Pavlov, P. Elahi, Özgün Yavuz, Fatih Ilday, “Holograms Deep Inside Silicon.” (Computational Optical Sensing and Imaging) (Heidelberg Germany 2016).

41-F Ömer Ilday, C Kerse, H Kalaycioglu, P Elahi, S Yavas, D Kesim, Ö Akçaalan, B Çetin, B Öktem, M Asik, H Hoogland, R Holzwarth, “Ablation-cooled material removal with ultrafast bursts of pulses.” (APS March Meeting 2016 USA).

40-Ercag Pince, Sabareesh KP Velu, Agnese Callegari, P. Elahi, Sylvain Gigan, Giovanni Volpe, Giorgio Volpe, “Manipulation of long-term dynamics in a colloidal active matter system using speckle light fields.” (APS March Meeting 2016 USA).

- 39-Can Kerse, H. Kalaycioglu, P. Elahi, Önder Akçaalan, Seydi Yavas, Mehmet D Asik, Denizhan K Kesim, Koray Yavuz, Barbaros Çetin, F Omer Ilday, “Ablation-cooled material removal at high speed with femtosecond pulse bursts.” (Advanced Solid-State Lasers, ASSL 2015).
- 38-Emre Ergecen, Ugur Tegin, P. Elahi, Cagri Senel, F Omer Ilday, “High energy dissipative Raman soliton laser through XPM stabilization.” (Advanced Solid-State Lasers, ASSL 2015).
- 37-U Tegin, P Elahi, C Senel, E Ergecen, F Ömer Ilday, “Generation of dissipative solitons in normal-dispersion Raman fiber laser.” (CLEO Pacific Rim) (Busan, South Korea 2015).
- 36-F Ömer Ilday, Çağrı Şenel, Ramiz Hamid, Tesfay Teamir, Ihor Pavlov, Ugur Teğın, E Ergeçen, P. Elahi, Roman Iegorov, “Nonlinearity management: From fiber oscillators to amplifiers.” (CLEO Pacific Rim) (Busan, South Korea 2015).
- 35-Can Kerse, H. Kalaycıođlu, P. Elahi, Koray Yavuz, Inam Mirza, Nadezhda M Bulgakova, F Ömer Ilday, “Ultrafast micromachining of Cu and Si at ultra-high repetition rates with pulse bursts” (CLEO Pacific Rim)(Busan, South Korea 2015).
- 34-Ugur Tegin, P. Elahi, Çağrı Şenel, Emre Ergeçen, F Ömer Ilday, “Dissipative solitons generated from a mode-locked Raman laser,” (CLEO Europe) (Munich, Germany 2015).
- 33-H. Kalaycıođlu, P. Elahi, Can Kerse, Önder Akçaalan, Denizhan K Kesim, and F. Ömer Ilday. “Influence of Pump Noise on Mode-locked Fiber Oscillators,” (CLEO Europe) (Munich, Germany 2015).
- 32-P. Elahi, Tesfay G Teamir, Levent Budunoglu, Kutan Gurel, and F Omer Ilday, “Influence of Pump Noise on Mode-locked Fiber Oscillators,” (Advanced Solid-State Lasers, ASSL 2015).
- 31-Sinem Yilmaz, P. Elahi, H. Kalaycioglu, and Fatih Omer Ilday, “Picosecond, burst-mode fiber laser amplifier with 150W average power,” (Europhoton) (Neuchatel, Switzerland August 2014).
- 30-Ugur Tegin, P. Elahi, Sinem Yilmaz, and Fatih Omer Ilday, “Seeded amplification of Stokes wave in an ultrafast fiber amplifiers,” (Europhoton) (Neuchatel, Switzerland August 2014).
- 29-P. Elahi, and Fatih Omer Ilday, “Gain isolation by spectral filtering in fiber lasers for material processing,” (Europhoton) (Neuchatel, Switzerland August 2014).
- 28-Rania Sayed, Fatemeh Kalantarifard, P. Elahi, F. Omer Ilday, Giovanni Volpe, and Onofrio M. Maragò,” Intracavity optical Trapping with Ytterbium doped fiber ring laser,” (Optical trapping and optical Micromanipulation X)( San Diego, California, United States August 2013).
- 27-Ihor Pavlov, Ebru Dulgergil, P. Elahi, and Fatih Omer Ilday, “Time- and Position-Dependent Modeling of High-Power Low-Repetition-Rate Er-Yb-Fiber Amplifier,” (CLEO Europe) (Munich, Germany May 2013).

26-Perviz Elahi, Sinem Yilmaz, Önder Akçaalan, H. Kalaycioglu, Bülent Öktem, Çağrı Senel, F. Ömer Ilday, and Koray Eken, “Doping Management in High Power Fiber Amplifiers: Optimization of Heat Generation and Nonlinear Phase Shift,” (Europhoton). (Stockholm, Sweden August 2012).

25-Kutan Gurel, P. Elahi, Cagri Senel, Punya Paltani, and Fatih Omer Ilday, “Influence of modulation of pump and seed signals on fiber amplification of broadband pulses,” (CLEO)(Baltimore, Maryland May 2011).

24-P. Elahi, Ibrahim Levent Budunoglu, Kutan Gürel, and Fatih Omer Ilday, “Laser oscillator with nonlinear saturable absorber: A pump to signal noise transfer function model,” Nonlinear Optics: Materials, Fundamentals and Applications (NLO)(Kauai, Hawaii July 2011).

23-P. Elahi and Somayyeh Hoseinzadeh, “The propagation of ray in the fiber lasers with thermal aberration consideration,” 16th International School on Quantum Electronics, Laser physics and applications (Nessebar, Bulgaria, September 2010).

22-P. Elahi and Leila Khalafi,” Calculation of temperature distribution of a two-layer model of skin under a pulsed laser,” 16th International School on Quantum Electronics, Laser physics and applications (Nessebar, Bulgaria, September 2010).

21-Alireza Keshavarz, P. Elahi, and Somayyeh Rezazadeh, “Thermal stress effects in a pulsed pumped solid-state laser with super-Gaussian profile,” 16th International School on Quantum Electronics, Laser physics and applications (Nessebar, Bulgaria, September 2010).

20-Hamid Nadgaran, Zahra Moeini, and P. Elahi “Longitudinal phase shift of Ince-Gaussian beam with thermal effect consideration: using a novel ABCD matrix,” 19th International Laser Physics Workshop (LPHYS’10) (Foz do Iguaçu, Brazil, July 2010).

19-Hamid Nadgaran, Zahra Moeini, and P. Elahi,” Thermal induced longitudinal phase shift in a low concentration fiber lasers,”14th International Conference, Laser Optics (St.Petersburg, Russia, June 2010).

18-P. Elahi\_and Saeedeh Hoseinzaseh,” Thermal aberration in beam propagation in super-Gaussian pumped double-clad fiber lasers,” 14th International Conference, Laser Optics (St. Petersburg, Russia, June 2010).

17-P. Elahi and Leila Khalafi,” High Energy pulse laser in urology, “Thermal modeling of tissue interaction,” Symposium on laser medical applications (Moscow, Russia, July 2010).

16-P. Elahi and Marjan Jahanbekam,” Interaction of CO2 laser with Skin,” Symposium on laser medical applications (Moscow, Russia, July 2010).

15-P. Elahi and Mandana Hooshmand, “The photoelectric differential cross section for a quantum box with finite confining,” International conference on theoretical physics, (Dubna, Russia, July 2010).

14-P. Elahi, Alireza Keshavarz, and Maryam Mehdipour, "The emission differential cross section of an electron in the semi-parabolic quantum well," International conference on theoretical physics, (Dubna, Russia, July 2010).

13-Fatemh Kargar, Mohsen Hatami, and P. Elahi, "The Effects of Self Steepening and Intrapulse Raman Scattering on Frequency Spectrum of Dark Soliton Switching," PIERS Moscow, Russia, August 2009).

12-P. Elahi and Ali Niakowsari, "The analytical investigation of thermal effects on the propagation parameters of fiber lasers," Second international conference and school on photonics, (Belgrade, Serbia. August 2009).

11-P. Elahi and Naser Zare, "A strongly end-pumped Yb-doped double clad fiber lasers: The improvement of the analytical solution of rate equation and the analytical investigation of thermal effects during the operation," Second international conference and school on photonics, (Belgrade, Serbia. August 2009).

10-P. Elahi, Alireza Keshavarz, Mohsen Hatami, and F. Kalantarifard, "The analytical investigation of the stability range of diode-end-pumped laser cavity with thermal effects," Young Optical Scientists Conference, (Moscow, Russia, February 2009).

9-P. Elahi and Ali Niakowsari, "The analytical investigation of thermal effects on the propagation parameters of fiber lasers," Young Optical Scientists Conference, (Moscow, Russia, February 2009).

8-P. Elahi and Ensiyeh Alishiri, "Diode-end-pumped solid-state lasers: The analytical investigation of the lense effects and the overall phase shift with paraxial ray approximation under super-Gaussian pump," (CAOL) (Alushta, Crimea, Ukraine, September 2008).

7-Hamid Nadgaran, P. Elahi, and F. Kalantarifard, "Calculation of ABCD matrix for a diode-pumped laser crystal by thermal effects consideration," (CAOL) (Alushta, Crimea, Ukraine, September 2008).

6-P. Elahi and Fatemeh Mohammadi, "Acentric core fiber lasers: Temperature distribution in the end-pumped configuration," International Conference, Laser Optics (St. Petersburg, Russia, June 2008).

5-P. Elahi, F. Kalantarifard, and Abdolvahab Taghavi, "The analytical investigation of temperature distribution and thermo-optic effects in diode-pumped off-set axial fiber lasers," Iberoamerican Conference on Optics (RIO), Latinamerican meeting on Optics, Lasers and Applications (OPTILAS) (Campinas, Brazil, October 2007).

4-P. Elahi and Marziyeh Daneshvar, "Temperature distribution and thermo-optic behavior of diode-end-pumped laser by Fourier analysis method," The 8<sup>th</sup> international young scientists conference Optics and high technology material science SPO, (Kyiv, Ukrain, October 2007).

3-Abdolrasoul Gharaati, P. Elahi, and Somayeh Cari, "Propagation of spatial solitons with nonlinear Kerr effect in thermal medium," International School and Conference on Optics and Optical Materials (ISCOM) (Belgrade, Serbia, September 2007).

2-P. Elahi, Hamid Nadgaran, and F. Kalantarifard “Longitudinally Modes Characteristics of Ince-Gaussian Beams in Laser Resonators with Quadratic-Index Active Medium,” (CAOL) (Yalta, Crimea, Ukraine, September 2005).

1-Hamid Nadgaran and P. Elahi, “The analysis of temperature distribution in an end-pumped solid-state laser for spectroscopic applications,” The eighteenth colloquium on high resolution molecular spectroscopy (Dijon, France 2003).