

# UMIT DEMIRBAS

## PERSONAL

Name and surname: Ümit Demirbaş  
Date and place of birth: December, 1979; Egirdir, Isparta, Turkey  
Marital Status: Married with a son and a daughter  
Languages: Turkish (native), English (fluent)  
Research aim: Improving our societies life standards by advancing optics, photonics and bio-photonics technology  
Fields of expertise: Solid-state and fiber lasers, ultra-short pulse lasers and amplifiers, multi-color lasers, saturable absorbers, laser material spectroscopy, laser noise, laser frequency metrology, biomedical imaging, multiphoton microscopy.  
Current address: International Antalya University, 07070 Dosemealti, Antalya, Turkey  
Contact: Tel: +90-553-239-0300, e-mail: [umit79@alum.mit.edu](mailto:umit79@alum.mit.edu), web: <http://alum.mit.edu/www/umit79>

## MAIN ACADEMIC AND RESEARCH APOINTEMENTS

3/2015-Present **Associate Professor of Electrical & Electronics Engineering**, International Antalya University, Antalya, Turkey  
1/2012-3/2015 **Assistant Professor of Electrical & Electronics Engineering**, International Antalya University, Antalya, Turkey  
1/2012-1/2014 **Part-time Visiting Scientist**, Chair of Modern Optics and Quantum Electronics, Konstanz University, Germany  
9/2010-12/2011 **Postdoctoral Research Fellow**, Chair of Modern Optics and Quantum Electronics, Konstanz University, Germany  
Research Advisor: Prof. Alfred Leitenstorfer  
7/2006-8/2010 **Research Assistant**, Optics and Quantum Electronics Group, Massachusetts Institute of Technology, Cambridge, USA  
Research Advisors: Prof. Franz X. Kärtner and Prof. James G. Fujimoto  
9/2000-7/2006 **Research Assistant**, Laser Research Laboratory, Koç University, Istanbul, Turkey  
Research Advisors: Prof. Alphan Sennaroglu and Adnan Kurt

## EDUCATION

7/2006-6/2010 **PhD in Electrical Engineering**, Massachusetts Institute of Technology, Cambridge, MA, USA  
Topic: "Low-cost, highly efficient, and tunable ultrafast laser technology based on directly diode-pumped Cr:Colquiriites"  
Research Advisors: Prof. Franz X. Kärtner and Prof. James G. Fujimoto, GPA: 5/5  
7/2004-6/2006 **M.S. in Materials Science & Engineering**, Koç University, Istanbul, Turkey  
Topic: "Preparation, Spectroscopy, and Lasing Performance of Cr:ZnSe"  
Research Advisor: Prof. Alphan Sennaroglu, GPA: 3.94/4, Department Rank: 1/7  
6/2000-6/2004 **B.S. in Physics and B.S. in Electrical & Electronics Engineering** (EEE, double major), Koç University, Istanbul, Turkey  
Physics Dept. Rank: 1/10

## AWARDS

2015 Antalya International University College of Engineering Faculty Achievement Award  
2012 Return Fellowship of the Alexander von Humboldt Foundation  
2012 European Union Marie Curie Career Integration Grant  
2010 Postdoctoral Fellowship of the Alexander von Humboldt Foundation (full 2-year Fellowship)  
2009 IEEE Photonics Society Graduate Student Fellowship Award  
2009 IEEE Photonics Society Annual Meeting Best Student Paper Award Finalist  
2008 OSA New Focus/Bookham Student Award Finalist  
2006 SPIE Travel Grant for Photonics Europe 2006 Meeting  
2005 EU Young Scientist Travel Grant for the Advanced Solid-State Photonics 2005 Topical Meeting  
2005 TUBITAK, Directorate of Human Resources Development Scholarship (full 2-year Fellowship for MS)  
2004 Vehbi Koç Scholarship (full 2-year Scholarship for MS)  
2004 Top Ranking Student in Physics Graduating Class  
1999 Vehbi Koç Scholarship (full 5-year Scholarship for BS)

## PROFESSIONAL ACTIVITIES

Reviewer for Journals (Optics Letters, Optics Express, JOSA B, Applied Optics, Journal of Applied Physics, Optics Communications, Laser Physics Letters, IEEE Photonics Technology Letters, IEEE Photonics, IEEE Journal of Quantum Electronics, Chinese Optics Letters, Optical & Quantum Electronics, Turkish Journal of Electrical Engineering & Computer Sciences and Materials Characterization) and Funding Agencies (Scientific and Technological Research Council of Turkey, West Mediterranean Development Agency of Turkey).  
Member, Institute of Electrical and Electronics Engineers (IEEE), Photonics Society, 2001-Present.  
Member, The International Society for Optical Engineering (SPIE), 2003-Present.

Member, Optical Society of America (OSA), 2003-Present.  
Member, Optical Committee of Turkey (OCT), 2004-Present.

## **RESEARCH PROJECT INVOLVEMENT**

### **Ongoing Projects:**

1. "Development of Efficient High Power Cr:LiSAF Laser Systems Pumped by Multimode Diodes", 2014-2017, Antalya International University, TUBİTAK 1001 Project, Position: Principal investigator (PI), Amount: 396,000 TL.

### **Past Projects:**

2. "Route to Low-cost, High-energy, and Tunable Femtosecond Laser Technology Based on Diode-Pumped Cr:Colquiriites", 2012-2016, Antalya International University, European Union Marie Curie Career Integration Grant (FP7-PEOPLE-2012-CIG), Position: Principal investigator (PI), Amount: 100,000 Euro.
  - o Also supported with 20,000 Euro from the equipment subsidy program of Alexander von Humboldt Foundation, Germany.
3. "Development of diode-pumped, low-cost and low-noise femtosecond Cr:Colquiriite lasers at GHz repetition rates for optical frequency comb applications", 2013-2015, Antalya International University, TUBİTAK 1001 Project, Position: Principal investigator (PI), Researchers: Alphan Sennaroglu and Adnan Kurt from Koç University, Amount: 304,500 TL.
  - o Under the framework of Information and Communication Technologies (ICT) European Cooperation in Science and Technology (COST) Action IC1101: Optical Wireless Communications - An Emerging Technology.
4. "Diode-pumped, low-cost and efficient optical sources broadly-tunable in the blue (375-425 nm) and near-to-mid-infrared (750-850 nm & 1100-3000 nm)", 2012-2015, Antalya International University, TUBİTAK Career Award, Position: PI, Amount: 264,500 TL.
  - o Under the framework of Biomedicine and Molecular Biosciences (BMBS) European Cooperation in Science and Technology (COST) Action BM1205: European Network for Skin Cancer Detection using Laser Imaging.
5. "Development of Continuous-Wave Alexandrite Lasers Pumped by Tapered Diodes", 2013-2014, Antalya International University, TUBİTAK 1002 Project, Position: Principal investigator (PI), Amount: 30,000 TL.
6. "Development of novel low-cost ultrashort pulse laser sources for real world applications", 2010-2012, Konstanz University, Humboldt Foundation Fellowship for postdoctoral research, Position: PI, Host: Prof. Alfred Leitenstorfer, Amount: ~80,000 Euro.
  - o Also supported with 50,000 Euro from Konstanz University Center of Applied Photonics.
7. "Quantum limits to timing jitter in femtosecond lasers", 2010-2012, MIT, National Science Foundation (NSF), P.I. Franz Kärtner, Co P.I. James G. Fujimoto, Position: Researcher, Amount: ~400,000 Dollars.
8. "Ultrafast Optics: Advanced Devices and Ultrafast Phenomena", 2006-2009, MIT, Air Force Office of Scientific Research (AFOSR), P.I. Erich Ippen, Co P.I. Franz Kärtner, Co P.I. James G. Fujimoto, Position: Researcher, Amount: ~1,010,000 Dollars.
9. "Novel approaches for ultrashort pulse generation", 2005-2008, MIT, NSF ECS-0501478, P.I. Franz Kärtner, Co P.I. James G. Fujimoto, Position: Researcher, Amount: ~240,000 Dollars.
10. "Design and development of compact high energy femtosecond oscillators", 2005-2008, Koc University and MIT, TUBİTAK and NSF, MAG 104T247, P.I. James G. Fujimoto, Co P.I. Alphan Sennaroglu, Position: Researcher, Amount: ~24,000 Dollars.
11. "Development of a room-temperature mid-infrared Fe:ZnSe laser", 2005-2006, Koc University, TUBİTAK, TBAG 105T280, P.I. Alphan Sennaroglu, Position: Researcher, Amount: 14,050 TL.
12. "Development of tunable Cr:ZnSe lasers", 2004-2006, Koc University and Vrije University, European 6th Framework Program, P.I. Alphan Sennaroglu, Position: Researcher.
13. "Synthesis and spectroscopic investigation of mid-infrared solid-state laser materials", 2001-2004, Koc University, TUBİTAK, TBAG 101T051, P.I. Alphan Sennaroglu, Position: Researcher, Amount: 35,000 TL.

## **LIST of PAST & CURRENT COLLABORATORS**

- Prof. Alfred Leitenstorfer, **Konstanz University**, Germany
- Prof. Alphan Sennaroglu, Adnan Kurt, Prof. Mehmet Somer and Prof. Iskender Yilgor, **Koç University**, Turkey
- Prof. Franz Kärtner, **University of Hamburg**, Germany
- Dr. Götz Erbert and Dr. Bernd Sumpf, **Ferdinand Braun Institute**, Germany
- Dr. Reinhard Uecker and Dr. Detlef Klimm, **Leibniz Institute for Crystal Growth**, Germany
- Prof. Fabian Rotermund, **Ajou University**, Korea
- Prof. James G. Fujimoto, Prof. Leslie A. Kolodziejski and Dr. Gale Petrich, **Massachusetts Institute of Technology**, USA
- Dr. Sava Sakadzic, Dr. David Boas, **Harvard Medical School**, USA

- Dr. Alex Cable and Dr. Peter Fendel, **Thorlabs Inc.**, USA
- Prof. Gonul Ozen, **Istanbul Technical University**, Turkey
- Asst. Prof. Idris Kabalci, **Harran University**, Turkey

### TEACHING EXPERIENCE

- Fall 2016      **Instructor**, Antalya International University  
Sci 103: How stuff works? (4 students)
- Spring 2016      **Instructor**, Antalya International University  
Phys 102: Electricity and Magnetism (130 students)  
EE 413: Advanced Optics and Photonics (8 students)
- Fall 2015      **Instructor**, Antalya International University  
EE 211: Electricity and Magnetism I (24 students)
- Spring 2015      **Instructor**, Antalya International University  
Phys 102: Electricity and Magnetism (90 students)
- Fall 2014      **Instructor**, Antalya International University  
EE 211: Electricity and Magnetism I (8 students)  
Phys 101: Mechanics (70 students)
- Spring 2014      **Instructor**, Antalya International University  
Phys 102: Electricity and Magnetism (54 students)
- 1/2008-5/2009      **Teaching Assistant**, Massachusetts Institute of Technology, Cambridge, MA, USA  
Assisted Prof. James G. Fujimoto in Nonlinear Optics class (6.634), for two semesters
- Conducted problem sessions, maintained office hours and prepared/graded homework and quizzes
- 7/2004-6/2006      **Teaching Assistant**, Koç University, Istanbul, Turkey  
Assisted Adnan Kurt, Prof. Refik Kortan, Prof. Tekin Dereli, Prof. Nihat Berker, Prof. Ali Serpenguzel, Prof. Alper Kiraz, Prof. Alkan Kabakcioglu and Prof. Ozgur Mustecaplioglu in General Physics I & II classes (Phys 101 & Phys 102, 12 sections in 5 semesters)
- Conducted problem sessions, maintained office hours and prepared/graded homework and quizzes
- 10/2005-4/2006      **Voluntary Physics Teacher**, Koç University Volunteers Group, Istanbul, Turkey
- Held weekly classes for high school students preparing for the nationwide university entrance exam

### OTHER EXPERIENCE

- 10/2003-2/2004      **Research Assistant**, Optical Microsystems Laboratory, Koç University, Istanbul, Turkey  
Research Advisor: Prof. Hakan Urey
- Designed an Evaluation Circuit for a 2-Dimensional Position Sensitive Detector
- 8/2003-9/2003      **Summer Intern**, Optics Laboratory, National Metrology Institute, TUBITAK, Istanbul, Turkey  
Research Advisor: Dr. Farhad Samedov
- Performed reflectance, color, irradiance and spectral responsivity measurements
  - Prepared a report about high accuracy optical power measurements
- 7/2002-8/2002      **Summer Intern**, Time & Frequency Laboratory, National Metrology Institute, TUBITAK, Istanbul, Turkey  
Research Advisor: Dr. Ramiz Hamid
- Worked on the project of obtaining 532 nm optic frequency standard
  - Performed laser calibrations and stability measurements
- 9/1999-9/2000      **Student Trainee**, Work & Study Program, Suna Kirac Library, Koç University, Istanbul
- Assisted with organization of science and engineering collections
- 1990-1999      **Summer Work**, Egirdir, Isparta
- Tended irrigation, fertilization, disinfection and harvesting of apple and peach gardens
  - Worked on beehive management and harvesting processes of beekeeping
  - Worked as a carpenter by building beehives and wooden fruit cases

## SUMMARY OF ACADEMIC PUBLICATIONS

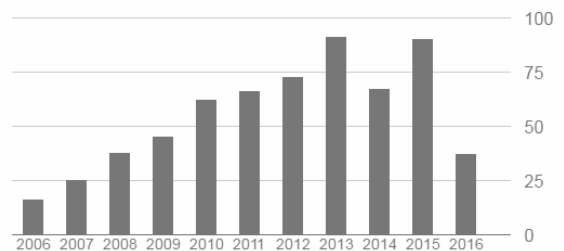
One published book chapter, 34 published journal articles, 36 international and 15 national conference presentations.

Journal	Impact Factor (2014)	Number of articles
Optics Express	3.488	5
Optics Letters	3.292	10
Polymer	3.562	1
Optical Materials Express	2.844	1
IEEE JSTQE	2.828	2
Journal of Luminescence	2.719	1
JOSA B	1.97	8
Optical Materials	1.981	3
Applied Optics	1.784	1
Optics Communications	1.449	3
Total	-	35

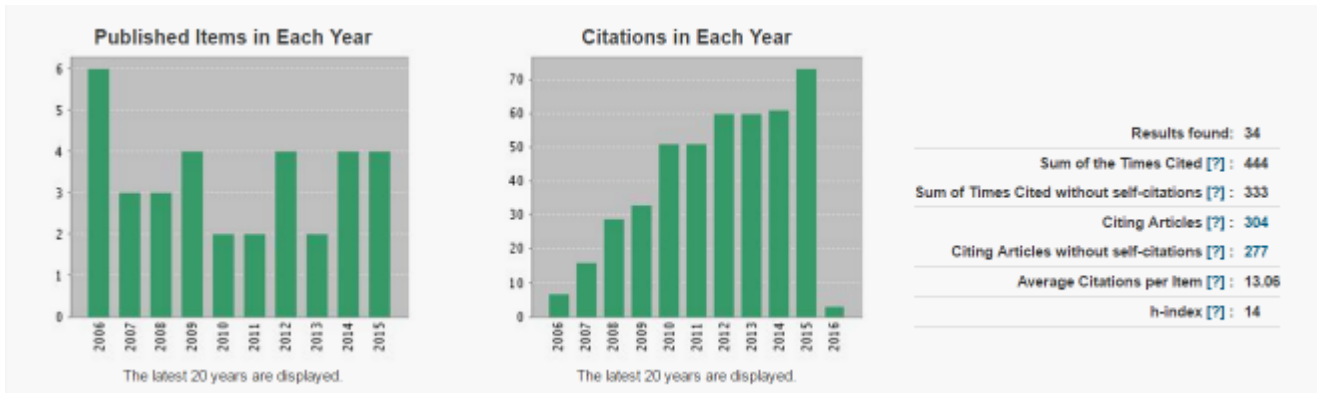
### Citation indices

	All	Since 2011
Citations	619	425
h-index	16	12
i10-index	22	17

Citations per year



Google scholar summary for published work (Last update: September 21, 2016): total citation count: 619, h-index=16, i10-index=22.



SCI summary for published journal papers (Last update: April 14, 2016): Total SCI citations to journal articles=444, total citation without self-citations=333, average citations per journal article= 13.06, h-index=14.

## BOOK CHAPTERS

1. Alphan Sennaroglu and **Umit Demirbas** "Tunable Cr<sup>2+</sup>:ZnSe Lasers in the Mid Infrared", Chapter in Handbook of Solid-State Lasers and Applications, by Marcel-Dekker, Editors: Alphan Sennaroglu, (2007).

## MANUSCRIPTS UNDER REVIEW OR IN PREPARATION

1. **Umit Demirbas**, Reinhard Uecker, James G. Fujimoto, and Alfred Leitenstorfer "Multicolor Lasers Using Birefringent Filters: Experimental Demonstration with Cr:Nd:GSGG and Cr:LiSAF", (Optics Express, in preparation).
2. **Umit Demirbas**, Talha Yerebakan, Stefan Eggert, Rainer Bertram, Peter Reiche, Reinhard Uecker, and Alfred Leitenstorfer "Red diode pumped Cr:Nd:GSGG laser: two-color mode-locked operation", (JOSA-B, in preparation).
3. **Umit Demirbas**, Gale S. Petrich, Sheila Nabanja, Jing Wang, Jonathan R. Birge, Leslie A. Kolodziejcki, Franz X. Kaertner, and James G. Fujimoto, "100-nm Tunable Femtosecond Cr:LiSAF Laser Mode-Locked with a Broadband Saturable Bragg-Reflector", (Applied Optics, in preparation).
4. Ferda Canbaz, Nurbek Kakenov, Coskun Kocabas, **Umit Demirbas** and Alphan Sennaroglu "Sub-20-fs pulses from a graphene saturable absorber mode-locked solid-state laser", (Optics Letters, in preparation).
5. **Umit Demirbas et al.**, "Diode-pumped GHz Cr:LiCAF laser", (in preparation).

## **PUBLISHED JOURNAL ARTICLES**

1. **Umit Demirbas**, and Durmus Alp Emre Acar, "Continuous-wave, quasi-continuous-wave, gain-switched, and femtosecond burst-mode operation of multi-mode diode-pumped Cr:LiSAF lasers", *JOSA-B*, 33, 2105-2113 (2016).
2. **Umit Demirbas**, and Ilyas Baali, "Power and efficiency scaling of diode pumped Cr:LiSAF lasers: 770-1110 nm tuning range and frequency doubling to 387-463 nm", *Optics Letters*, 40, 4615-4618 (2015).
3. Ferda Canbaz, Nurbek Kakenov, Coskun Kocabas, **Umit Demirbas**, and Alphan Sennaroglu, "Graphene mode-locked Cr:LiSAF laser at 850 nm", *Optics Letters*, 40, 4110-4113, (2015).
4. **Umit Demirbas**, Ilyas Baali, Alp Emre Acar and Alfred Leitenstorfer, "Diode-pumped continuous-wave and femtosecond Cr: LiCAF lasers with high average power in the near infrared, visible and near ultraviolet" *Optics Express*, Vol. 23, Issue 7, pp. 8901-8909 (2015).
5. Can Cihan, Ersen Beyatli, Ferda Canbaz, Li-Jin Chen, Bernd Sumpf, Gotz Erbert, Alfred Leitenstorfer, Franz X. Kärtner, Alphan Sennaroglu and **Umit Demirbas**, "Gain-Matched Output Couplers for Efficient Kerr-Lens Mode-Locking of Low-Cost Cr:LiSAF Lasers", *IEEE JSTQE*, Vol. 21, Issue 1, pp. 1100712 (2015).
6. Ismail Yorulmaz, Ersen Beyatli, Adnan Kurt, Alphan Sennaroglu and **Umit Demirbas**, "Efficient and low-threshold Alexandrite laser pumped by a single-mode diode", *Optical Materials Express*, 4, 776-789, (2014).
7. **Umit Demirbas**, Reinhard Uecker, Dettel Klimm, Bernd Sumpf, and Götz Erbert, "Intra-cavity Frequency-Doubled Cr:LiCAF Laser with 265 mW Continuous-Wave Blue (395-405 nm) Output", *Optics Communications*, 320, 38-42 (2014).
8. Ferda Canbaz, Ersen Beyatli, Li-Jin Chen, Alphan Sennaroglu, Franz X. Kärtner, and **Umit Demirbas**, "Highly efficient and robust operation of Kerr-lens mode-locked Cr:LiSAF lasers using gain-matched output couplers", *Optics Letters*, 39, 327-330 (2014).
9. Ersen Bayatli, Ilyas Baali, Alphan Sennaroglu, Bernd Sumpf, Götz Erbert, Alfred Leitenstorfer and **Umit Demirbas**, "Tapered diode-pumped continuous-wave alexandrite laser", *JOSA-B*, 30, 3184-3192 (2013).
10. **Umit Demirbas**, "Modelling and optimization of tapered diode pumped Cr:Colquirrite regenerative amplifiers", *Optics Communications*, 311, 90-99 (2013).
11. Ersen Bayatli, Alphan Sennaroglu, and **Umit Demirbas**, "Self-Q-switched Cr:LiCAF laser", *JOSAB*, 30, 914-921, (2013).
12. **Umit Demirbas**, Reinhard Uecker, Dettel Klimm and Jing Wang, "Low-cost, broadly-tunable (375-433 nm & 746-887 nm) Cr:LiCAF laser pumped by one single-spatial-mode diode", *Applied Optics*, 51, 8441-8448, (2012).
13. Duo Li, **Umit Demirbas**, Andrew Benedick, Alphan Sennaroglu, James G. Fujimoto, and Franz X. Kärtner, "Attosecond timing jitter pulse train from semiconductor saturable absorber mode-locked Cr:LiSAF lasers", *Optics Express*, 20, 23422-23435, (2012).
14. **Umit Demirbas**, Stefan Eggert and Alfred Leitenstorfer, "Compact and efficient Cr:LiSAF lasers pumped by one single-spatial-mode diode: a minimal cost approach", *JOSA-B*, 29, 1894-1903, (2012).
15. Sören Kumkar, Günther Krauss, Marcel Wunram, David Fehrenbacher, **Umit Demirbas**, Daniele Brida, and Alfred Leitenstorfer, "Femtosecond coherent seeding of a broadband Tm: fiber amplifier by a compact Er: fiber system", *Optics Letters*, 37, 554-556 (2012).
16. **Umit Demirbas**, Michael Schmalz, Bernd Sumpf, Götz Erbert, Gale S. Petrich, Leslie A. Kolodziejski, James G. Fujimoto, and Franz X. Kärtner, and Alfred Leitenstorfer, "Femtosecond Cr:LiSAF and Cr:LiCAF lasers pumped by tapered diode lasers", *Optics Express*, 19, 20444-20461, (2011).
17. **Umit Demirbas**, Gale S. Petrich, Duo Li, Alphan Sennaroglu, Leslie A. Kolodziejski, Franz X. Kärtner, and James G. Fujimoto, "Femtosecond tuning of Cr:Colquirrite lasers with AlAs/AlGaAs based saturable Bragg reflectors", *JOSAB*, 28, 986-993 (2011).
18. Duo Li, **Umit Demirbas**, Jonathan R. Birge, Gale S. Petrich, Leslie A. Kolodziejski, Alphan Sennaroglu, Franz X. Kärtner, and James G. Fujimoto, "Diode-pumped passively mode-locked GHz femtosecond Cr:LiSAF laser with kW peak power", *Optics Letters*, 9, 1446-1448 (2010).
19. **Umit Demirbas**, Kyung-Han Hong, James G. Fujimoto, Alphan Sennaroglu and Franz X. Kärtner, "Low-cost cavity-dumped femtosecond Cr<sup>3+</sup>:LiSAF laser producing >100 nJ pulses", *Optics Letters*, 35, 607-609, (2010).
20. **Umit Demirbas**, Duo Li, Alphan Sennaroglu, Gale S. Petrich, Leslie A. Kolodziejski, Franz X. Kärtner, and James G. Fujimoto, "Low-cost, single-mode diode-pumped Cr:Colquirrite lasers", *Optics Express*, 24, 14374-14388 (2009).
  - o Highlighted in *BioPhotonics*, "Multiphoton Microscopy: Ready for Prime Time?", January 2010.
21. **Umit Demirbas**, Alphan Sennaroglu, Franz X. Kärtner, James G. Fujimoto, "Generation of 15-nJ pulses from a highly efficient, low-threshold, multipass-cavity Cr<sup>3+</sup>:LiCAF laser", *Optics Letters*, 34, 497-499 (2009).
22. Alphan Sennaroglu, Ahmet F. Coskun, **Umit Demirbas**, "Analysis of solid-state saturable absorbers with temperature-dependent absorption cross sections", *Optical Materials*, 31, 598-603 (2009).
23. **Umit Demirbas**, Alphan Sennaroglu, Franz X. Kaertner, James G. Fujimoto, "Comparative investigation of diode pumping for continuous-wave and mode-locked Cr:LiCAF lasers", *JOSA B*, 26, 64-79 (2009).

24. Sava Sakadzic<sup>†</sup>, **Umit Demirbas**<sup>†</sup>, Svetlana Ruvinskaya, Thorsten R. Mempel, Anna Moore, David Boas, Alphan Sennaroglu, Franz X. Kärtner, and James G. Fujimoto, "Multiphoton microscopy with a compact, low-cost and highly-efficient Cr:LiCAF laser", *Optics Express*, 16, 20848-20863 (2008).
  - o <sup>†</sup>Contributed equally to this work
  - o Figure (6-b) appeared as the cover image in *Optics Express* Volume 16, Issue 25
  - o Figure (6-a) appeared as the cover image in *Virtual Journal of Optics*, Volume 4, Issue 2
  - o Figure (3) was chosen as the image of the week in *Optics InfoBase* (December 8, 2008)
  - o Was number 4 in top downloads of the month list of *Optics Express* (December, 2008)
  - o Selected to appear in *Virtual Journal for Biomedical Optics*, Volume 4, Issue 2
25. Huseyin Cankaya, **Umit Demirbas**, Ahmet K. Erdamar, Alphan Sennaroglu "Absorption Saturation analysis of Cr:ZnSe and Fe:ZnSe", *JOSA B*, 25, 794-800 (2008).
26. **Umit Demirbas**, Alphan Sennaroglu, Franz X. Kärtner, James G. Fujimoto, "Highly efficient, low-cost femtosecond Cr<sup>3+</sup>:LiCAF laser pumped by single-mode diodes", *Optics Letters*, 33, 590-592 (2008).
27. **Umit Demirbas**, Alphan Sennaroglu, Andrew Benedick, Aleem Siddiqui, Franz X. Kärtner, James G. Fujimoto, "Diode-pumped, high-average power femtosecond Cr<sup>3+</sup>:LiCAF laser", *Optics Letters*, 32, 3309-3311 (2007). SCI Citations:14,
  - o Highlighted in *Photonics Spectra*, "A viable commercial alternative to the Ti:Sapphire laser?", February 2008.
28. Alphan Sennaroglu, **Umit Demirbas**, Adnan Kurt & Mehmet Somer, "Direct experimental determination of the optimum chromium concentration in continuous-wave Cr:ZnSe Lasers", *IEEE Journal of Selected Topics in Quantum Electronics*, 13, 823-830, (2007).
29. Alphan Sennaroglu, **Umit Demirbas**, Adnan Kurt & Mehmet Somer, "Concentration dependence of fluorescence and lasing efficiency in Cr:ZnSe Lasers", *Optical Materials*, 29, 703-708 (2007).
30. Alphan Sennaroglu, **Umit Demirbas**, Nathalie Vermeulen, Heidi Ottevaere & Hugo Thienpont, "Continuous-wave broadly tunable Cr<sup>2+</sup>:ZnSe laser pumped by a thulium fiber laser", *Optics Communications*, 268, 115-120 (2006).
31. **Umit Demirbas** and Alphan Sennaroglu "Intracavity-pumped Cr<sup>2+</sup>:ZnSe laser with ultrabroad tuning range between 1880 and 3100 nm", *Optics Letters*, 31, 2293-2295 (2006).
32. **Umit Demirbas**, Adnan Kurt, Alphan Sennaroglu, Emel Yilgor & Iskender Yilgor "Luminescent Nd<sup>3+</sup> doped silicone-urea copolymers", *Polymer*, 47, 982-990 (2006).
33. **Umit Demirbas**, Alphan Sennaroglu & Mehmet Somer, "Synthesis and characterization of diffusion-doped Cr<sup>2+</sup>:ZnSe and Fe<sup>2+</sup>:ZnSe", *Optical Materials*, 28, 231-240 (2006).
34. Alphan Sennaroglu, **Umit Demirbas**, Sarper Ozharar & Fatih Yaman, "Accurate determination of saturation parameters for Cr<sup>4+</sup>:Doped solid-state saturable absorbers", *JOSA B*, 23, 241-249 (2006).
35. Alphan Sennaroglu, Idris Kabalci, Adnan Kurt, **Umit Demirbas** & Gonul Ozen, "Spectroscopic properties of Tm<sup>3+</sup>:TeO<sub>2</sub>-PbF<sub>2</sub> glasses", *Journal of Luminescence*, 116, 79-86 (2006).

#### **INTERNATIONAL CONFERENCE ARTICLES and PRESENTATIONS**

(\*) Presented by Umit Demirbas

1. Ferda Canbaz, Nurbek Kakenov, Coskun Kocabas, **Umit Demirbas** and Alphan Sennaroglu "Sub-20 Femtosecond Pulse Generation with a Graphene Mode-locked Solid-State Laser", Oral presentation at Advanced Solid State Lasers (ASSL) Congress, (Boston, 30 October – 3 November 2016).
2. (\*) **Umit Demirbas**, Ilyes Baali, Durmus Alp Emre Acar, and Alfred Leitenstorfer, "High-Power, Femtosecond Cr:LiCAF Lasers Pumped by Multimode Diodes", Oral Presentation at Lasers and Electro-Optics (CLEO) Europe, (Munich, Germany, June 21-25, 2015).
3. Ferda Canbaz, Nurbek Kakenov, Coskun Kocabas, **Umit Demirbas**, Alphan Sennaroglu, "Graphene mode-locked diode-pumped Cr:LiSAF laser at 857 nm", Oral Presentation at Lasers and Electro-Optics (CLEO) Europe, (Munich, Germany, June 21-25, 2015).
4. (\*) **Umit Demirbas**, "Prospects for Tapered-Diode Pumped Cr:LiCAF Regenerative Amplifiers", Poster Presentation at Lasers and Electro-Optics (CLEO) Europe, (Munich, Germany, June 21-25, 2015).
5. (\*) **Umit Demirbas**, Ilyes Baali, Durmus Alp Emre Acar, and Alfred Leitenstorfer, "High-Power, Continuous-Wave Cr:Colquiriite Lasers Pumped by Multi-Mode Diodes", Oral Presentation at Conference on Lasers and Electro-Optics (CLEO), (San Jose, CA, USA, June 8-13, 2014).
6. Can Cihan, Ersen Beyatli, Ferda Canbaz, Li-Jin Chen, Bernd Sumpf, Götz Erbert, Alfred Leitenstorfer, Franz Kärtner, Alphan Sennaroglu, and **Umit Demirbas**, "Gain-Matched Output Couplers (GMOCs) for Efficient and Robust Kerr-Lens Mode-Locking of Cr:LiSAF lasers", Oral Presentation at Lasers and Electro-Optics (CLEO), (San Jose, CA, USA, June 8-13, 2014).
7. Ferda Canbaz, Ersen Beyatli, Li-Jin Chen, Alphan Sennaroglu, Franz Kärtner, **Umit Demirbas**, "Efficient and Robust Kerr-Lens Mode-Locking of Cr:LiSAF Lasers Using Gain-Matched Output Couplers", AT3A, Oral presentation at Advanced Solid State Lasers (ASSL) Congress, (Paris, 27 October – 1 November 2013).

8. Ersen Beyatli, Ilyes Baali, Ismail Yorulmaz, Adnan Kurt, Bernd Sumpf, Götz Erbert, Alphan Sennaroglu, Alfred Leitenstorfer, and **Umit Demirbas**, "Efficient and Low-Threshold Alexandrite Lasers Pumped by High-Brightness Diodes", ATu3A.26, Poster presentation at Advanced Solid State Lasers (ASSL) Congress, (Paris, 27 October – 1 November 2013).
9. (\*) **Umit Demirbas**, Reinhard Uecker; Detlef Klimm; Bernd Sumpf; and Götz Erbert, "Efficient Tunable Blue Light Sources Based on Diode-Pumped Low-Cost Cr:LiCAF Lasers", ATu3A.54, Poster presentation at Advanced Solid State Lasers (ASSL) Congress, (Paris, 27 October – 1 November 2013).
10. Ersen Beyatli, Alphan Sennaroglu and **Umit Demirbas**, "Self-Q-switched Cr:LiCAF laser near 800 nm", Oral presentation at Solid State Lasers XXII: Technology and Devices, SPIE Photonics West, (San Francisco, California, 3-5 February 2013); (b) in Solid State Lasers XXII: Technology and Devices, W. Andrew Clarkson; Ramesh Shori, Editors, Proceedings of SPIE Vol. 8599 (SPIE, Bellingham, WA 2013), 85990S.
11. (\*) **Umit Demirbas**, Stefan Eggert, and Alfred Leitenstorfer, "Compact and efficient Cr:LiSAF laser pumped by one low-cost single-spatial-mode diode", Oral presentation at Laser Sources and Applications, Photonics Europe 2012, (Brussels, Belgium, 16-19 April 2012); (b) in Laser Sources and Applications, Thomas Graf; Jacob I. Mackenzie; Helena Jelínková; John Powell, Editors, Proceedings of SPIE Vol. 8433 (SPIE, Bellingham, WA 2012), 843308.
12. (\*) **Umit Demirbas**, Michael Schmalz, Bernd Sumpf, Götz Erbert, Gale S. Petrich, Leslie A. Kolodziejski, James G. Fujimoto, Franz X. Kärtner, and Alfred Leitenstorfer, "Femtosecond Cr:Colquiriite lasers pumped by a single tapered diode laser", Oral presentation at Laser Sources and Applications, Photonics Europe 2012, (Brussels, Belgium, 16-19 April 2012); (b) in Laser Sources and Applications, Thomas Graf; Jacob I. Mackenzie; Helena Jelínková; John Powell, Editors, Proceedings of SPIE Vol. 8433 (SPIE, Bellingham, WA 2012), 84330D.
13. Duo Li, Andrew Benedick, **Umit Demirbas**, Alphan Sennaroglu, James G. Fujimoto and Franz X. Kärtner, "Attosecond Timing Jitter Pulse Trains from Semiconductor Saturable Absorber Mode-locked Cr:LiSAF Lasers", Oral presentation at Conference on Lasers and Electro-Optics (CLEO), paper CTh4A.7, (San Jose, CA, USA, May 6-11, 2012).
14. Sören Kumkar, Günther Krauss, Marcel Wunram, David Fehrenbacher, **Umit Demirbas**, Daniele Brida, and Alfred Leitenstorfer, "Tm: fiber amplifier coherently seeded by femtosecond Er: fiber technology", Oral presentation at Conference on Lasers and Electro-Optics (CLEO), paper CM1B.6, (San Jose, CA, USA, May 6-11, 2012).
15. Andrew Benedick, **Umit Demirbas**, Duo Li, James G. Fujimoto and Franz X. Kärtner, "Attosecond Ti:Sapphire Pulse Train Phase Noise", Oral presentation at Conference on Lasers and Electro-Optics (CLEO), paper CFK4, (Baltimore, Maryland, USA, May 1-6, 2011). Google Scholar Citations: 1.
16. **Umit Demirbas**, Gale S. Petrich, Duo Li, Jing Wang, Sheila Nabanja, Jonathan R. Birge, Peter Fendel, Alphan Sennaroglu, Leslie A. Kolodziejski, Franz X. Kärtner, and James G. Fujimoto, "Mode-locked tuning of diode-pumped femtosecond Cr:LiSAF and Cr:LiCAF lasers using AlGaAs-based saturable Bragg reflectors", (a) Poster presentation at Advanced Solid-State Photonics Topical Meeting, (Optical Society of America, Istanbul, Turkey, 2011). (b) *Technical Digest of the 2011 Advanced Solid-State Photonics Topical Meeting*, Istanbul, Turkey, February 13-18, 2011 (Optical Society of America, Washington, D.C., 2011), paper AWA03.
17. James G. Fujimoto, **Umit Demirbas**, Duo Li, Andrew Benedick, Gale S. Petrich, Jonathan R. Birge, Jing Wang, Sheila Nabanja, Leslie A. Kolodziejski, Alphan Sennaroglu, Franz X. Kärtner, "Compact and low-cost fs diode-pumped Cr:Colquiriite laser technology", Oral presentation at XVII International Conference on Ultrafast Phenomena Topical Meeting and Tabletop Exhibit, paper WC2, (Colorado, USA, July 19-23, 2010); (b) Ultrafast Phenomena XVII, Proceedings of the 17th International Conference, The Silvertree Hotel and Snowmass Conference Center, Snowmass, Colorado, United States, July 18-23, 2010, Edited by Majed Chergui, Edited by David Jonas, Edited by Eberhard Riedle, Edited by Robert Schoenlein, and Edited by Antoinette Taylor.
18. (\*) **Umit Demirbas**<sup>†</sup>, Andrew Benedick<sup>†</sup>, Alphan Sennaroglu, Duo Li, Jungwon Kim, James G. Fujimoto and Franz X. Kärtner, "Attosecond resolution timing jitter characterization of diode pumped femtosecond Cr:LiSAF lasers", Oral presentation at Conference on Lasers and Electro-Optics (CLEO), paper CTuDD6, (San Jose, California, May 16-21, 2010). Google Scholar Citations: 4.
  - o †Contributed equally to this work
  - o This presentation stimulated a 10 minute chat with John L. Hall, who is one of the winners of Nobel Prize in 2005, for his work in development of laser-based precision spectroscopy, including the optical frequency comb technique.
19. (\*) **Umit Demirbas**, Gale S. Petrich, Sheila Nabanja, Jonathan R. Birge, Leslie A. Kolodziejski, Franz X. Kärtner, and James G. Fujimoto, "Widely-tunable femtosecond operation of Cr:LiSAF lasers using broadband saturable Bragg reflectors", Oral presentation at Conference on Lasers and Electro-Optics (CLEO), paper CThI3, (San Jose, California, May 16-21, 2010).
20. (\*) **Umit Demirbas**, Kyung-Han Hong, James G. Fujimoto, Alphan Sennaroglu and Franz X. Kärtner, "Generation of sub-150-fs, 100 nJ pulses from a low-cost cavity-dumped Cr:LiSAF laser", Oral presentation at Conference on Lasers and Electro-Optics (CLEO), paper CMNN2, (San Jose, California, May 16-21, 2010).
21. Duo Li, **Umit Demirbas**, Jonathan R. Birge, Gale S. Petrich, Leslie A. Kolodziejski, Alphan Sennaroglu, Franz X. Kärtner, and James G. Fujimoto, "Diode-pumped gigahertz repetition rate femtosecond Cr:LiSAF laser", Oral presentation at Conference on Lasers and Electro-Optics (CLEO), paper CTuK3, (San Jose, California, May 16-21, 2010).
22. (Invited) Alphan Sennaroglu, **Umit Demirbas**, Huseyin Cankaya, Natali Cizmeciyan, Adnan Kurt & Mehmet Somer, "Chromium-Doped Zinc Selenide Gain Media: From Synthesis to Pulsed Mid-Infrared Laser Operation", Oral presentation at SPIE Photonics West, paper 7598-46, (San Francisco, California, USA, 23 – 28 January 2010); (b) in Optical Components and Materials VII, Shibin

Jiang; Michel J. F. Digonnet; John W. Glesener; J. Christopher Dries, Editors, Proceedings of SPIE Vol. 7598 (SPIE, Bellingham, WA 2010), 75981B.

23. Alphan Sennaroglu, **Umit Demirbas**, Franz X. Kärtner, and James G. Fujimoto, "10-nJ Multipass-Cavity Femtosecond Cr<sup>3+</sup>:LiCAF Laser Pumped by Low-Power Single-Mode Diodes", Oral presentation at Advanced Solid-State Photonics Topical Meeting, paper WE4, (Optical Society of America, Denver, Colorado United States, February 1-4, 2009).
24. (\*) **Umit Demirbas**, Sava Sakadzic, Kyung-Han Hong, Jonathan R. Birge, Duo Li, Hyunil Byun, Peter Fendel, Gale S. Petrich, Leslie A. Kolodziejcki, David A. Boas, Alphan Sennaroglu, Franz Kärtner, and James G. Fujimoto, "Recent advances in Cr:Colquiriite laser technology", Oral presentation at IEEE 22<sup>th</sup> Annual Lasers and Electro Optics Society Meeting, (Antalya, Turkey, 4-8 October 2009); (b) LEOS Annual Meeting Conference Proceedings, p. 387 – 388.
  - o This presentation has been selected as one of the five IEEE Photonics Society Annual Meeting Best Student Paper Award Finalist
25. (Invited) Alphan Sennaroglu, **Umit Demirbas**, Franz X. Kärtner, and James G. Fujimoto, "Development of efficient, low-cost femtosecond solid-state lasers in the near infrared", Oral presentation at 17. International Laser Physics Workshop, Norwegian University of Science and Technology, Trondheim, Norway, June 30-July 4, 2008, paper 4.7.3.
26. (\*) **Umit Demirbas**, Alphan Sennaroglu, Franz Kärtner, and James G. Fujimoto, "Highly efficient, low cost, diode-pumped femtosecond Cr:LiCAF lasers", Poster presentation at XVI International Conference on Ultrafast Phenomena Topical Meeting and Tabletop Exhibit, paper MON51.2, (Stresa, Italy, June 9-13, 2008); (b) Ultrafast Phenomena XVII, Proceedings of the 17th International Conference, The Silvertree Hotel and Snowmass Conference Center, Snowmass, Colorado, United States, July 18-23, 2010, Edited by Majed Chergui, Edited by David Jonas, Edited by Eberhard Riedle, Edited by Robert Schoenlein, and Edited by Antoinette Taylor.
27. (\*) **Umit Demirbas**, Alphan Sennaroglu, Franz Kärtner, and James G. Fujimoto, "High power diode-pumped modelocked Cr:LiCAF laser", Oral presentation at Conference on Lasers and Electro-Optics (CLEO), paper CFI2, (San Jose, California, May 4-9, 2008).
  - o This presentation has been selected as one of the OSA New Focus/Bookham Student Award Finalist
28. **Umit Demirbas**, Alphan Sennaroglu, Andrew Benedick, Aleem Siddiqui, Franz Kärtner, and James G. Fujimoto, "High average-power diode-pumped femtosecond Cr:LiCAF laser", Oral presentation at Advanced Solid-State Photonics Topical Meeting, paper MC38, (Optical Society of America, Nara, Japan, January 27-30, 2008).
29. **Umit Demirbas** and Alphan Sennaroglu "Ultrabroad Tuning of an Intracavity-Pumped Cr:ZnSe Laser between 1880 and 3100 nm", Oral presentation at Advanced Solid-State Photonics Topical Meeting, paper WE6, (Optical Society of America, Vancouver, Canada, January 28-31, 2007).
30. Iskender Yilgor, Emel Yilgor, Ozgul Tezgel, **Umit Demirbas**, Alphan Sennaroglu, and Adnan Kurt, "Luminescent Nd doped Thermoplastic Silicone-urea Copolymers", Poster presentation at Polycondensation 2006, August 27-30, 2006, Koc University, Istanbul, Poster number 44.
31. Iskender Yilgor, Emel Yilgor, **Umit Demirbas**, Alphan Sennaroglu, Adnan Kurt and Ozgul Tezgel, "Photoluminescent Rare-earth Ion Containing Silicone Copolymers", Polymer Preprints, 47, 1039-1040 (ACS 2006 Fall Conference).
32. (\*) **Umit Demirbas**, Alphan Sennaroglu, Nathalie Vermeulen, Heidi Ottevaere & Hugo Thienpont, "Continuous-Wave Fiber-Pumped Cr:ZnSe Laser", Oral presentation at Conference on Solid-State Lasers and Amplifiers, Photonics Europe 2006, (Strasbourg, France, 3-7 April 2006); (b) in *Solid State Lasers and Amplifiers II*, edited by Alphan Sennaroglu, James G. Fujimoto, and Jonathan A. C. Terry, Proceedings of SPIE Vol. 6190, paper 6190-10.
33. Iskender Yilgor, **Umit Demirbas**, Alphan Sennaroglu, Adnan Kurt & Emel Yilgor, "Luminescent Nd<sup>3+</sup> Doped Thermoplastic Silicone-Urea Copolymers", Oral presentation at Division of Polymeric Materials: Science and Engineering for the 231<sup>st</sup> American Chemical Society National Meeting, Atlanta, March 26-30, 2006.
34. **Umit Demirbas**, Adnan Kurt, Alphan Sennaroglu, Emel Yilgor & Iskender Yilgor, "Luminescence Characteristics of Nd<sup>3+</sup> Doped Silicone-Urea Copolymers", Poster presentation at Advanced Solid-State Photonics Topical Meeting, paper MB22, (Optical Society of America, Nevada, USA, January 29-February 1, 2006).
35. (\*) **Umit Demirbas**, Alphan Sennaroglu, Adnan Kurt & Mehmet Somer, "Influence of Active Ion Concentration on Fluorescence Efficiency and Lasing Performance in Cr<sup>2+</sup>:ZnSe Lasers", Oral presentation at 18<sup>th</sup> Annual Lasers and Electro Optics Society Meeting, paper TuK2, (Sydney, Australia, 23 – 27 October 2005).
36. (\*) **Umit Demirbas**, Alphan Sennaroglu, Adnan Kurt & Mehmet Somer, "Preparation and Spectroscopic Investigation of Diffusion-Doped Fe<sup>2+</sup>:ZnSe and Cr<sup>2+</sup>:ZnSe", Poster presentation at Advanced Solid-State Photonics Topical Meeting, (Optical Society of America, Vienna, Austria, February 6-9, 2005). (a) Technical Digest of the Advanced Solid-State Photonics Topical Meeting, paper MF9. (b) OSA TOPS on Advanced Solid-State Photonics, vol. 98, Craig Denman and Irina Sorokina, Eds., (Optical Society of America, Washington, DC), 63-68 (2005).
37. Idris Kabalci, Gonul Ozen, Adnan Kurt, **Umit Demirbas**, Alphan Sennaroglu, 'Spectroscopic properties of Tm<sup>3+</sup>:TeO<sub>2</sub>-PbF<sub>2</sub> glasses in the near infrared,' (a) Poster presentation at Conference on Solid-State Lasers and Amplifiers, Photonics Europe 2004, paper 5460-25 (26-30 April, Strasbourg, France, 2004); (b) in *Solid State Lasers and Amplifiers*, edited by Alphan Sennaroglu, James G. Fujimoto, and Clifford R. Pollock, Proceedings of SPIE Vol. 5460 (SPIE, Bellingham, WA, 2004) 195-203.

## **NATIONAL CONFERENCE PRESENTATIONS**



(\*) Presented by Umit Demirbas

1. F. Canbaz, N. Kakenov, C. Kocabas, **Umit Demirbas**, and Alphan Sennaroglu "Grafen Doyabilen Soğurucular İle 19 Femtosaniye Darbe Üretimi", Poster presentation at 17th Turkish Workshop on Photonics, Bilkent Üniversitesi, September 23, 2016.
2. Ilyes Baali, and **Umit Demirbas**, "Efficient and High Power Cr:LiSAF Lasers Pumped by Low-Cost Multi-Mode Diodes", Poster presentation at 17th Turkish Workshop on Photonics, Ankara Üniversitesi, September 18, 2015.
3. Talha Yerebakan, Sheikh Golam Kibria, Rainer Bertram, Peter Reiche, Reinhard Uecker, Alfred Leitenstorfer, and **Umit Demirbas**, "Multi-Wavelength Operation of Diode-Pumped Continuous-Wave and Mode-Locked Cr:Nd:GSGG Lasers", Poster presentation at 17th Turkish Workshop on Photonics, Ankara Üniversitesi, September 18, 2015.
4. Durmus Alp Emre Acar and **Umit Demirbas**, "Burst-Mode Operation of Cr:LiSAF Lasers", Poster presentation at 17th Turkish Workshop on Photonics, Ankara Üniversitesi, September 18, 2015.
5. F. Canbaz, N. Kakenov, C. Kocabas, **U. Demirbas**, and A. Sennaroglu, "Diyot Pompalı Cr:LiSAF Lazerinin Grafen ile Kip-kilitlenmesi", Poster presentation at 17th Turkish Workshop on Photonics, Ankara Üniversitesi, September 18, 2015.
6. (\*, Invited) **Umit Demirbas** "Femtosecond Cr:Colquiriite Lasers with Zepto-second Timing Jitter Noise", Workshop on Photonics : Fundamentals & Applications organized by Eurasian Centre for Advanced Research (ICTP-ECAR), Izmir Institute of Technology, Izmir, August 27-28, 2015.
7. Can Cihan, Ersen Beyatli, Ferda Canbaz, Li-Jin Chen, Bernd Sumpf, Götz Erbert, Alfred Leitenstorfer, Franz Kärtner, Alphan Sennaroglu, and **Umit Demirbas**, "Kazancı Eşleştirilmiş Çıkış Aynası (GMOC) İçeren Kararlı ve Verimli Kerr-odaklı Kip Kilitlemeli Cr:LiSAF Lazerleri", Poster presentation at 16th Turkish Workshop on Photonics, Kocaeli Üniversitesi, September 5, 2014.
8. Ferda Canbaz, Ersen Beyatli, Li-Jin Chen, Alphan Sennaroglu, Franz Kärtner and **Umit Demirbas**, "Cr:LiSAF lazerinden 15-fs altı stabil ve verimli darbe üretimi", Poster presentation at 15th Turkish Workshop on Photonics, Aselsan, Ankara, September 4, 2013.
9. Ersen Beyatli, Ilyes Baali, Ismail Yorulmaz, Adnan Kurt, Bernd Sumpf, Götz Erbert, Alphan Sennaroglu, Alfred Leitenstorfer and **Umit Demirbas**, "Yüksek Parlaklığa Sahip Diyetlerle Pompalanan Verimli ve Düşük Eşik Değerli Alexandrite Lazerleri", Poster presentation at 15th Turkish Workshop on Photonics, Aselsan, Ankara, September 4, 2013.
10. Can Cihan, Ersen Beyatli, Alphan Sennaroglu and **Umit Demirbas**, "Optik frekans tarağı uygulamaları için yüksek tekrarlamaya frekanslı femtosaniye Cr:LiCAF lazerlerinin geliştirilmesi", Poster presentation at 15th Turkish Workshop on Photonics, Aselsan, Ankara, September 4, 2013.
11. (\*, Invited) **Umit Demirbas** "Quantum limits to timing jitter noise in femtosecond Cr:Colquiriite lasers", Oral presentation at 20th İstatiksel Fizik Günleri, Erciyes University, Kayseri, June 27-29, 2013.
12. (\*, Invited) **Umit Demirbas** "Dalgaboyu ayarlanabilir, verimli, kompakt ve ekonomik Cr:Colquiriite lazerleri", Oral presentation at 14th Turkish Workshop on Electro-Optics and Photonics, Koç University, Istanbul, September 14, 2012.
13. Alphan Sennaroglu, **Umit Demirbas**, Mehmet Somer & Adnan Kurt, "Orta Kızılaltı Bölgesinde Çalışan Cr+2:ZnSe Lazerleri", Oral presentation at 7th Turkish Workshop on Electro-Optics and Photonics, Bilkent University, Istanbul, December 12, 2005.
14. (\*) **Umit Demirbas**, Alphan Sennaroglu & Mehmet Somer, "2.6 µm'de çalışan nanosaniye darbeleri Cr:ZnSe laseri", Poster presentation at 6th Turkish Workshop on Electro-Optics and Photonics, Sabancı University, Istanbul, December 10, 2004.
15. (\*) **Umit Demirbas**, Alphan Sennaroglu & Mehmet Somer, "Cr:ZnSe ve Fe:ZnSe kızılaltı laser malzemelerinin sentezi ve spektroskopik incelenmesi", Oral presentation given during 5th Turkish Workshop on Electro-Optics and Photonics, Middle East Technical University, Ankara, December 12, 2003.
16. Idris Kabalci, Gonul Ozen, Adnan Kurt, **Umit Demirbas** & Alphan Sennaroglu, "Tm+3 Katkılı (1-x) TeO2-(x)PbF2 camlarının yakın-kızılaltı bölgesindeki spektroskopik özellikleri", Poster presentation at 5th Turkish Workshop on Electro-Optics and Photonics, Middle East Technical University, Ankara, December 12, 2003).

#### **SEMINERS and COLLOQUIA**

1. "A Decade of Research with Cr:Colquiriite Lasers: A Summary of Results", The Deutsches Elektronen-Synchrotron (DESY), Hamburg, Germany, May 26, 2016.
2. "A viable, low-cost alternative to Ti:Sapphire", Koç University, Istanbul, Turkey, November 2013.
3. "A viable, low-cost alternative to Ti:Sapphire", UNAM, Bilkent University, Ankara, Turkey, May 2013.
4. "Cr:Colquiriite lasers for real world applications", Department of Electrical & Electronics Engineering Seminar, TOBB ETU, Ankara, Turkey, June 2011.
5. "Low-cost, highly efficient, and tunable ultrafast laser technology based on directly diode-pumped Cr:Colquiriites", Department of Physics Seminar, Fatih University, Istanbul, Turkey, December 2010.
6. "Low-cost, highly efficient, and tunable ultrafast laser technology based on directly diode-pumped Cr:Colquiriites", Center of Applied Photonics Seminar, Konstanz University, Konstanz, Germany, December 2010.
7. "Recent advances in low-cost Cr:Colquiriite laser technology", Optics and Quantum Electronics Group Seminar, RLE, MIT, October 2009.

8. "Diode-pumped, high-average power femtosecond Cr:LiCAF laser", Optics and Quantum Electronics Group Seminar, RLE, MIT, October 2007.

### **LIST of REFERENCES**

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- Prof. Alphan Sennaroglu, Dean of College of Sciences at Koc University, Rumelifeneri Yolu, Sariyer, Istanbul, Turkey. e-mail: asennar@ku.edu.tr
- Prof. Franz Kärtner, Adjunct Professor of Electrical Engineering, Department of Electrical Engineering and Computer Science, MIT, MA, USA. e-mail: kaertner@mit.edu
- Prof. Alfred Leitenstorfer, Professor of Physics, University of Konstanz, Department of Physics/LS Leitenstorfer, Konstanz, Germany. e-mail: alfred.leitenstorfer@uni-konstanz.de