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Research Group: <http://mems.ku.edu.tr>

**Professional Experience**

**Koç University, Istanbul, TURKEY**

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| *Professor of Electrical Engineering* | *2010*-present |
| *Associate Professor of Electrical Engineering* | *2007*-2010 |
| *Assistant Professor of Electrical Engineering* | *2001-2007* |

**RESEARCH**

* Established the **O**ptical **M**icrosystems **L**aboratory (OML) <http://mems.ku.edu.tr> specialized in design, testing, and characterization of micro-optics and MEMS. Currently OML is one of the largest groups within the Engineering faculty. OML has more than 300m2 space including 3 separate rooms for special projects and a clean room for MEMS testing.
* Established a **Class 1000 Clean Room** for micro-optics and MEMS micro-fabrication (jointly with Prof. E. Alaca)
* Research Areas and Funding:

Research and development projects focus on: MEMS scanners for display and imaging systems, MEMS Thermal Infrared Imaging Camera development, MEMS Spectrometers, Electrostatic and Electromagnetic actuators, Biological and chemical sensors, 3D and Augmented Realıty displays.

* Research Sponsors: ERC-AdG (European Research Council) Advanced Grant Recipient in 2013 (2014-2019), EC FP7 and FP6 Projects (partner and WP leader in 6 projects, since 2006), Microvision Inc.-USA (since 2001, 7 grants), ASELSAN A.S. (TR) (since 2006, 3 grants), Fraunhofer Institute-IPMS-Germany (1 grant), NSF (USA) (1 grant, 2005), TÜBİTAK (7 projects since 2003, 3 ongoing), OPET A.Ş. (TR) (since 2012, 2 grants), Fotoniks A.Ş. (TR) (1 grant, 2013).

**TEACHING**

* Recently taught undergraduate electrical engineering courses:
* ELEC202: Electric Circuits
* ELEC429: Introduction to Optics
* ELEC491-492: Electrical & Electronic Engineering Design
* Graduate level regular courses
* ELEC522: Introduction to MEMS (micro-electro-mechanical systems)
* ELEC523: Optical Information Processing.

ELEC550: Optical Systems Design and Analysis

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| **Cambridge University,** **UK,** Cavendish Laboratory,*Visiting Professor* | 2013 |
| **Boğaziçi University, TURKEY,** Electrical Engineering,*Visiting Professor* | 2013 |
| **Microvision Inc., Seattle, Washington, USA** |  |
| *Job Titles:*  *Research Engineer; Sr. Research Engineer; Staff Engineer; Principal Engineer and Group Lead* | 1998-2001 |
| *Principal Consultant* | 2002-2014 |
| **Georgia Institute of Technology, Atlanta, Georgia, USA** |  |
| *TUBITAK- NATO Science Program Graduate Student Fellow* | 1993-1994 |
| *Graduate Research Assistant, Center for Optical Science and Engineering* | 1995-1997 |
| **Call / Recall Inc., San Diego, California, USA** |  |
| *Co-Op exchange student and Consultant* | 1996-1997  part time |
| **Georgia Tech Research Institute, Atlanta, Georgia, USA** |  |
| *Graduate Research Asst, GTRI-Electro-Optics Laboratory (EOEML)* | 1996 |
| **Bilkent University, Ankara, Turkey** |  |
| *Graduate Research and Teaching Assistant, Electrical and Electronics Engineering* | 1993 |

**Education**

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| **Georgia Institute of Technology** |  |
| School of Electrical and Computer Engineering, Atlanta, Georgia, USA  Ph.D. in Electrical Engineering | 1997 |
| *Advisor: Dr. William T. Rhodes*  *Thesis Title: “Image Acquisition and Processing with AC-Coupled Cameras”* |  |
| *Graduate Cooperative Degree certificate (for industry work during PhD)* | 1997 |
| *MS in Electrical Engineering* | 1996 |
| **Bilkent University** | 10/1992-9/1993 |
| *Electrical and Electronics Engineering Department, Ankara, Turkey*  *Graduate Course work in Optics, Communications, and Electronics* |  |
| **Middle East Technical University** | 1988-1992 |
| *Electrical Engineering Department, Ankara, Turkey*  *BS in Electrical Engineering* |  |

**Academic Service:**

* General Chair, IEEE Optical MEMS and Nanophotonics Conference, Istanbul, Turkey, Aug 2011.
* IEEE Optical MEMS and Nanophotonics Conference. TPC Member since 2006, Steering Committee Member since 2009;
* IEEE MEMS Conference, TPC Member, Cancun, Mexico (2011) and Paris, France (2012)
* IEEE Photonics Annual meeting, Local Chair, Antalya, Turkey, Oct 2009.
* Local Chair, International Conference on Opto-mechatronics (ISOT), Istanbul, Turkey, Sep. 2009
* Co-chair, NSF Workshop on Nanophotonics, Koc University, Istanbul, Turkey, 2006
* Organized Micro-Nano Systems Summer Workshop, Koc University, Istanbul, Turkey, 2005
* Chair (3 times) for SPIE Photonics Europe Conf. titled “MEMS, MOEMS, and Micromachining”, in Strasbourg, France, in 2004, 2006, 2008
* Initiated and Chaired (4 times) the SPIE Photonics West Conf titled “MOEMS Display and Imaging Systems”, in San Jose, California, 2003, 2004, 2005, and 2006

**Awards and Achievements:**

* **Science Academy of Turkey,** Elected member, 2014
* **ERC-AdG** European Research Council, Advanced Grant (2.5 Million***€***). Only recipient from Turkey in 2013.
* Koç University, Outstanding Faculty Award, 2013
* **TÜBİTAK-Encouragement** Award from the Scientific and Technical Research Council of Turkey (2009).
* **TÜBA-GEBİP** Distinguished Young Scientist Award from Turkish Academy of Sciences (2007)
* Special award from Microvision Inc. for Outstanding contributions to “*Advancement of Scanner Technologies*.” (2008)
* Werner Von Siemens Faculty Excellence Award for outstanding research performance at Koç University (2006)
* IEEE Senior Member (Dec 2009)
* Ten Outstanding Young Person (TOYP) Award in *Science and Technology* category, Junior Chamber International (JCI)-Turkey (2008).
* New Focus Student Award at the Optical Society of America Annual Meeting (1995)
* Co-operative program certificate, Georgia Institute of Technology, Atlanta, USA (1997)
* Among the 3 recipients of TUBITAK-NATO Science Program Graduate Fellowship (1992)
* Recipient of Haci Omer SABANCI Foundation scholarship for 4 years (1988-1992)

**Publications**

***Citations:*** [***http://scholar.google.com/citations?user=4z4L9HMAAAAJ***](http://scholar.google.com/citations?user=4z4L9HMAAAAJ)

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| Source - Google Scholar (GS) | Total | Citations | H-Index | Journals | Patents (issued, pending) | Edited Books | Book Chapter | Conferences |
| All Publications | 180+ | >3,000,  (>2,000 in last 5 years) | 32 | 60 | 30+ | 7 | 4 | 130+ |

***Edited Books:***

1. *MOEMS Display and Imaging Systems,* Hakan Urey, Editor, Proceedings of SPIE, Pages: 360, Volume: 4985, SPIE Press, Bellingham (2003)
2. *MOEMS Display and Imaging Systems II,* Hakan Urey and David Dickensheets, Editors, Proceedings of SPIE, Volume: 5348, SPIE Press, Bellingham (2004)
3. *MEMS, MOEMS, and Micromachining,* Hakan Urey and Ayman El-Fatatry, Editors, Proceedings of SPIE, Volume: 5455, SPIE Press, Bellingham (2004)
4. *MOEMS Display and Imaging Systems III,* Hakan Urey and David Dickensheets, Editors, Proceedings of SPIE, Volume: 5721, SPIE Press, Bellingham (2005)
5. *MOEMS Display and Imaging Systems IV,* Hakan Urey, David Dickensheets, Bishnu Gogoi, Editors, Proceedings of SPIE, Volume: 6114, SPIE Press, Bellingham (2006)
6. *MEMS, MOEMS, and Micromachining II,* Hakan Urey and Ayman El-Fatatry, Editors, Proceedings of SPIE, Volume: 6186, SPIE Press, Bellingham (2006)
7. *MEMS, MOEMS, and Micromachining III,* Hakan Urey, Editor, Proceedings of SPIE, Volume: 6993, SPIE Press, Bellingham (2008)

***Book Chapters:***

1. **Hakan Urey**, *Retinal Scanning Displays*, in Encyclopedia of Optical Engineering, R. Driggers, Editor, Marcel-Dekker, 2003
2. **Hakan Urey** and David Dickensheets, *Display and Imaging Systems*, Ch. 8 in MOEMS and Applications, E. Motamedi, Editor, SPIE Press, Bellingham, 2004
3. **Hakan Urey**, Sid Madhavan, Margaret Brown, Chapter: 10.2.4*“MEMS Displays,”* Handbook of Visual Display Technology, 2011.
4. Jannick P. Rolland, Kevin P. Thompson, **Hakan Urey**, and Mason Thomas, Chapter: 10.4.1*“See-Through Head Worn Display (HWD) Architectures,”* Handbook of Visual Display Technology, 2011.

***Issued Patents:***

1. United States Patent,[9,855,426](https://patentscope.wipo.int/search/en/detail.jsf?docId=US161880055&recNum=1&maxRec=&office=&prevFilter=&sortOption=&queryString=&tab=NationalBiblio),Y.O. Cakmak, **H. Urey**, S. Olcer, K. Aksit, Electro-stimulation device, Jan 2, 2018.
2. United States Patent, [9,846,115](https://patentscope.wipo.int/search/en/detail.jsf?docId=US175566679&redirectedID=true) , **H. Urey**, G. Yaralioglu, Miniaturized integrated micro electo-mechanical systems (MEMS) optical sensor array for viscosity and mass detection, Dec 19, 2017.
3. United States Patent, [9,810,632](https://patentscope.wipo.int/search/en/detail.jsf?docId=US200948403&redirectedID=true), H. Urey, O.V. Akgun, E. Heves, F. Civitci, B. Can, Fluorescent substance detection system, Nov 7, 2017.
4. United States Patent, [9,791,407](https://patentscope.wipo.int/search/en/detail.jsf?docId=US152778605&redirectedID=true), H. Urey, H. Y. Acar, C. Elbuken, B. Can, O. V. Akgun, F. K. Uygurmen, Method and an apparatus for the detection of a tagging material in fluids, Oct 17, 2017
5. United States Patent, [9442294](https://patentscope.wipo.int/search/en/detail.jsf?docId=US175364380&redirectedID=true) B2, **H.Urey,** ‘Image display device in the of a pair of eye glasses comprising micro reflectors’’ September, 13, 2016
6. United States Patent, [9,267,923](https://patentscope.wipo.int/search/en/detail.jsf?docId=US97630833&redirectedID=true), **H. Urey**, E. Alaca, E. Timurdogan, “Miniaturized integrated micro electro-mechanical systems (MEMS) optical sensor array,” Feb, 23, 2016
7. United States Patent, [9,105,834](http://patft.uspto.gov/netacgi/nph-Parser?Sect1=PTO2&Sect2=HITOFF&p=1&u=%2Fnetahtml%2FPTO%2Fsearch-bool.html&r=1&f=G&l=50&co1=AND&d=PTXT&s1=urey.INNM.&OS=IN/urey&RS=IN/urey), W.O. Davis, U. Baran, D.R. Dean, **H. Urey**, “Piezoelectric actuated device, method and system,” Aug 2015, TPO: TR 2013 05137 B , Aug, 21 ,2015
8. United States Patent, [8,624,187](http://patft.uspto.gov/netacgi/nph-Parser?Sect1=PTO2&Sect2=HITOFF&p=1&u=%2Fnetahtml%2FPTO%2Fsearch-bool.html&r=1&f=G&l=50&co1=AND&d=PTXT&s1=urey.INNM.&OS=IN/urey&RS=IN/urey), **H. Urey**, H. Torun, “Imaging detector array with optical readout,” Jan 2014
9. European Patent, EP[1,677,086](http://worldwide.espacenet.com/publicationDetails/biblio?FT=D&date=20060705&DB=worldwide.espacenet.com&locale=en_EP&CC=EP&NR=1677086A1&KC=A1&ND=5) (B1), **H. Urey**, C. Ataman, “Fourier transform spectrometer,” Issued Aug. 2013.
10. United States Patent, 6795221 **H. Urey**, “Scanned display with switched feeds and distortion correction”
11. United States Patent, [7,999,244](http://patft.uspto.gov/netacgi/nph-Parser?Sect1=PTO2&Sect2=HITOFF&p=1&u=%2Fnetahtml%2FPTO%2Fsearch-bool.html&r=1&f=G&l=50&co1=AND&d=PTXT&s1=urey.INNM.&OS=IN/urey&RS=IN/urey), W. O. Davis, G. T. Gibson, **H. Urey**, T. W. Montague, B. Xue, J. Lewis, “MEMS devices and related scanned beam devices,” Issued Aug. 16, 2011
12. United States Patent, [7,986,449](http://patft.uspto.gov/netacgi/nph-Parser?Sect1=PTO2&Sect2=HITOFF&p=1&u=%2Fnetahtml%2FPTO%2Fsearch-bool.html&r=2&f=G&l=50&co1=AND&d=PTXT&s1=urey.INNM.&OS=IN/urey&RS=IN/urey), W. O. Davis, **H. Urey**, “Induced resonance comb drive scanner ” Issued Jul. 26, 2011
13. United States Patent, [7,826,141](http://patft.uspto.gov/netacgi/nph-Parser?Sect1=PTO2&Sect2=HITOFF&p=1&u=%2Fnetahtml%2FPTO%2Fsearch-bool.html&r=1&f=G&l=50&co1=AND&d=PTXT&s1=urey.INNM.&OS=IN/urey&RS=IN/urey), K. P. Powell, **H. Urey**, A. Malik, R. J. Hennigan, “Scanned-beam heads-up display and related systems and methods ” Issued Nov. 2, 2010
14. United States Patent, [7,733,493](http://patft.uspto.gov/netacgi/nph-Parser?Sect1=PTO2&Sect2=HITOFF&p=1&u=%2Fnetahtml%2FPTO%2Fsearch-bool.html&r=1&f=G&l=50&co1=AND&d=PTXT&s1=urey.INNM.&OS=IN/urey&RS=IN/urey), **H. Urey**, C. Ataman, “Fourier transform spectrometer” Issued June 8, 2010
15. United States Patent, [7,724,210](http://patft.uspto.gov/netacgi/nph-Parser?Sect1=PTO2&Sect2=HITOFF&p=1&u=%2Fnetahtml%2FPTO%2Fsearch-adv.htm&r=2&f=G&l=50&d=PTXT&S1=(%22urey%22.INNM.)&OS=IN/%22urey%22&RS=IN/%22urey%22), R. B. Sprague, **H. Urey**, D R Wyatt, M K Brown, J R Lewis, M D Watson, T W Montague, S R Willey, “Scanned light display system using large numerical aperture light source, method of using same, and method of making scanning mirror assemblies” Issued May 25, 2010
16. United States Patent, [7,639,209](http://patft.uspto.gov/netacgi/nph-Parser?Sect1=PTO2&Sect2=HITOFF&p=1&u=%2Fnetahtml%2FPTO%2Fsearch-bool.html&r=1&f=G&l=50&co1=AND&d=PTXT&s1=urey.INNM.&OS=IN/urey&RS=IN/urey), R. B. Sprague, **H. Urey**, D R Brown, M K Brown, J R Lewis, M D Watson, T W Montague, S R Willey, “Scanned light display system using large numerical aperture light source, method of using same, and method of making scanning mirror assemblies” Issued Dec 29, 2009
17. United States Patent, [7,612,737](http://patft.uspto.gov/netacgi/nph-Parser?Sect1=PTO2&Sect2=HITOFF&p=1&u=/netahtml/PTO/search-bool.html&r=1&f=G&l=50&co1=AND&d=PTXT&s1=7,612,737.PN.&OS=PN/7,612,737&RS=PN/7,612,737), G. S. Bright, S. W. Straka, P. C. Black, J. G. Moore, J. R. Lewis, **H. Urey**, C. T., Tegreene, “Scanned light beam display with brightness compensation,” Issued Nov 3, 2009.
18. United States Patent, [7,580,189](http://patft.uspto.gov/netacgi/nph-Parser?Sect1=PTO2&Sect2=HITOFF&p=1&u=/netahtml/PTO/search-bool.html&r=1&f=G&l=50&co1=AND&d=PTXT&s1=7,580,189.PN.&OS=PN/7,580,189&RS=PN/7,580,189), H. Urey and K. D. Powell, “Optical element that includes a microlens array and related method,” Issued Aug 25, 2009.
19. United States Patent [7,489,433](http://patft.uspto.gov/netacgi/nph-Parser?Sect1=PTO2&Sect2=HITOFF&p=1&u=/netahtml/PTO/search-bool.html&r=1&f=G&l=50&co1=AND&d=PTXT&s1=7,489,433.PN.&OS=PN/7,489,433&RS=PN/7,489,433), H. Urey and O. Ergeneman, “Method and apparatus for making and using 1D and 2D magnetic actuators,” Issued Feb 10, 2009.
20. United States Patent [7,460,305](http://patft.uspto.gov/netacgi/nph-Parser?Sect1=PTO2&Sect2=HITOFF&p=1&u=/netahtml/PTO/search-bool.html&r=1&f=G&l=50&co1=AND&d=PTXT&s1=7,460,305.PN.&OS=PN/7,460,305&RS=PN/7,460,305)  K. D. Powell, H. Urey, A. Malik, R. J. Hannigan, “Scanned-beam heads-up display and related systems and methods,” Issued Dec 2, 2008
21. United States Patent [7,339,737](http://patft.uspto.gov/netacgi/nph-Parser?Sect1=PTO2&Sect2=HITOFF&p=1&u=/netahtml/PTO/search-bool.html&r=1&f=G&l=50&co1=AND&d=PTXT&s1=7,339,737.PN.&OS=PN/7,339,737&RS=PN/7,339,737), H. Urey and C. T. Tegreene, “Beam multiplier that can be used as an exit-pupil expander and related system and method,” Issued March 4, 2008
22. United States Patent [7,209,271](http://patft.uspto.gov/netacgi/nph-Parser?Sect1=PTO2&Sect2=HITOFF&p=1&u=/netahtml/PTO/search-bool.html&r=1&f=G&l=50&co1=AND&d=PTXT&s1=7,209,271.PN.&OS=PN/7,209,271&RS=PN/7,209,271), J. R. Lewis, H. Urey, B. G. Murray, “Multiple beam scanning imager,” Issued April 24, 2007
23. United States Patent [7,133,204](http://patft.uspto.gov/netacgi/nph-Parser?Sect1=PTO2&Sect2=HITOFF&p=1&u=/netahtml/PTO/search-bool.html&r=1&f=G&l=50&co1=AND&d=PTXT&s1=7,133,204.PN.&OS=PN/7,133,204&RS=PN/7,133,204), H. Urey, “Apparatus and methods for generating multiple exit-pupil images in an expanded exit pupil,” Issued Nov 7, 2006
24. United States Patent [7,071,594](http://patft.uspto.gov/netacgi/nph-Parser?Sect1=PTO2&Sect2=HITOFF&p=1&u=/netahtml/PTO/search-bool.html&r=1&f=G&l=50&co1=AND&d=PTXT&s1=7,071,594.PN.&OS=PN/7,071,594&RS=PN/7,071,594), J. Yan, V. Casasanta, S. H. Luanava, H. Urey, F. A. DeWitt, C. T. Tagreene, C. A. Christopher, “MEMS scanner with dual magnetic and capacitive drive,” Issued July 4, 2006
25. United States Patent [7,061,450](http://patft.uspto.gov/netacgi/nph-Parser?Sect1=PTO2&Sect2=HITOFF&p=1&u=/netahtml/PTO/search-bool.html&r=1&f=G&l=50&co1=AND&d=PTXT&s1=7,061,450.PN.&OS=PN/7,061,450&RS=PN/7,061,450), G. S. Bright, S. W. Straka, P. C. Black, J. G. Moore, J. R. Lewis, H. Urey, C. T. Tegreene, “Electronically scanned beam display,” Issued: June 13 2006
26. United States Patent [6,954,308](http://patft.uspto.gov/netacgi/nph-Parser?Sect1=PTO2&Sect2=HITOFF&p=1&u=/netahtml/PTO/search-bool.html&r=1&f=G&l=50&co1=AND&d=PTXT&s1=6,954,308.PN.&OS=PN/6,954,308&RS=PN/6,954,308), H. Urey, “Apparatus and methods for generating multiple exit-pupil images in an expanded exit pupil,” Issued: Oct 11, 2005
27. United States Patent [6,795,221](http://patft.uspto.gov/netacgi/nph-Parser?Sect1=PTO2&Sect2=HITOFF&p=1&u=/netahtml/PTO/search-bool.html&r=1&f=G&l=50&co1=AND&d=PTXT&s1=6,795,221.PN.&OS=PN/6,795,221&RS=PN/6,795,221), H. Urey, “Scanned display with switched feeds and distortion correction,” Issued: Sep 21, 2004
28. United States Patent [6,768,588](http://patft.uspto.gov/netacgi/nph-Parser?Sect1=PTO2&Sect2=HITOFF&p=1&u=/netahtml/PTO/search-bool.html&r=1&f=G&l=50&co1=AND&d=PTXT&s1=6,768,588.PN.&OS=PN/6,768,588&RS=PN/6,768,588), H. Urey, “Apparatus and methods for generating multiple exit-pupil images in an expanded exit pupil,” Issued: July 27, 2004
29. United States Patent [6,755,536,](http://patft.uspto.gov/netacgi/nph-Parser?Sect1=PTO2&Sect2=HITOFF&p=1&u=/netahtml/PTO/search-bool.html&r=1&f=G&l=50&co1=AND&d=PTXT&s1=6,755,536,.PN.&OS=PN/6,755,536,&RS=PN/6,755,536,) C. T. Tegreene, J. R. Lewis, H. Urey, “System and method for displaying/projecting a color image,” Issued: June 29, 2004
30. United States Patent [6,714,331](http://patft.uspto.gov/netacgi/nph-Parser?Sect1=PTO2&Sect2=HITOFF&p=1&u=/netahtml/PTO/search-bool.html&r=1&f=G&l=50&co1=AND&d=PTXT&s1=6,714,331.PN.&OS=PN/6,714,331&RS=PN/6,714,331), J. R. Lewis, H. Urey, B. G. Murray, “Scanned imaging apparatus with switched feeds,” Issued: March 30, 2004
31. United States Patent [6,639,719](http://patft.uspto.gov/netacgi/nph-Parser?Sect1=PTO2&Sect2=HITOFF&p=1&u=/netahtml/PTO/search-bool.html&r=1&f=G&l=50&co1=AND&d=PTXT&s1=6,639,719.PN.&OS=PN/6,639,719&RS=PN/6,639,719), C. T. Tegreene, J. R. Lewis, H. Urey, “System and method for using multiple beams to respectively scan multiple regions of an image,” Issued: Oct 28, 2003
32. United States Patent [6,515,781](http://patft.uspto.gov/netacgi/nph-Parser?Sect1=PTO2&Sect2=HITOFF&p=1&u=/netahtml/PTO/search-bool.html&r=1&f=G&l=50&co1=AND&d=PTXT&s1=6,515,781.PN.&OS=PN/6,515,781&RS=PN/6,515,781), J. R. Lewis, H. Urey, B. G. Murray, “Scanned imaging apparatus with switched feeds,” Issued: Feb 4, 2003
33. United States Patent [6,362,912](http://patft.uspto.gov/netacgi/nph-Parser?Sect1=PTO2&Sect2=HITOFF&p=1&u=/netahtml/PTO/search-bool.html&r=1&f=G&l=50&co1=AND&d=PTXT&s1=6,362,912.PN.&OS=PN/6,362,912&RS=PN/6,362,912), J. R. Lewis, H. Urey, B. G. Murray, “Scanned imaging apparatus with switched feeds,” Issued: March 26, 2002

**Pending Patent Applications**:

1. Erdem Ulusoy, Deniz Mengu, Hakan Urey, “System and method for high-quality speckle-free phase-only computer-generated holographic image projection,” PCT/TR2016/050247, July 2016
2. Hakan Urey, Goksenin Yaralioglu, Erdem Ulusoy, “Near-to- Eye Image Display Device Delivering Enhanced Viewing Experince,” PCT/TR2016/050083, March 2016
3. Hakan Urey, Shoaib Soomro, Physical object reconstruction through a projection display system, PCT/TR2015/050227, December 2015
4. Hakan Urey, Shoaib Soomro, Muhsin Eralp, A dual-function display and multi-view imaging system, PCT/TR2015/050231, December 2015
5. Hakan Urey, Multi-view occlusion-preventive optical system in the form of a screen combined with an image capturing device, PCT/TR2015/050226, December 2015
6. YO Cakmak, H. Urey, B. Ozsoy, electro-stimulation device effective in muscle location identification and therapeutic response enhancement
7. H. Urey, G. Yaralioglu, Miniaturized integrated micro electo-mechanical systems (mems) optical sensor array for viscosity and mass detection, PCT/IB2013/058407, September 2015
8. H. Urey, G. G. Yaralioglu, F. Civitci, Y. S. Yaras, G. Saglam, A sensing device using fiber based cantilevers embedded in a cartridge, PCT/TR2015/050117, September 2015
9. H. Urey, E. Ulusoy, Near-to-eye display device, PCT/TR2014/00512, December 2014
10. H. Urey, E. Ulusoy, Near-to-eye display device with variable resolution, PCT/TR2014/00516, Dec. 2014
11. H. Urey, F. Civitci, Y.S.Yaras, H. Er, Apparatus for generating a coherent beam illumination, PCT/TR2014/00515, December 2014
12. H. Urey, S. Holmstrom, Near-to-eye display device with moving light sources, PCT/TR2014/00514, December 2014
13. H. Urey, Near-to-eye display device with spatial light modulator and pupil tracker, PCT/TR2014/00513, December 2014
14. H.Urey, E. Heves, F.Civitçi, B.Can, O.V.Akgun,"A fluorescent substance detection system", October 22 ,2014 European Patent Application, PCT/TR2014/000301, October 2014
15. H Urey, K. Aksit, A. Ghanbari Niaki, Bir Görüntüleme Sistemi, TPE, 2014
16. H. Urey, Apparatus for a wearable 3D display, WIPO PCT application, 2014
17. H. Urey, Contact lens for 3D display, TPE 2013
18. H. Urey, G. Yaralioglu, Method and apparatus for mass and viscosity sensing using MEMS cantilevers, WIPO PCT application, 2013
19. Y. O. Cakmak, H. Urey, S. Olcer, K. Aksit, Method and Apparatus for external electrostimulation of Parkinson’s Disease symptoms, WIPO PCT application 2013
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**PhD Thesis:**

1. Çağlar Ataman, “Comb Actuated MEMS Platforms for Spectroscopy and Laser Scanning Systems,” Koç University, 2008.
2. Onur Ferhanoğlu, “Design, Fabrication and Characterization of a MOEMS based Thermal Imaging System,” Koç Üniversitesi, Dec. 2010.
3. Kaan Akşit, “Next generation 3D Display Applications using Laser Scanning Pico Projectors,” June 2014.
4. Onur Çakmak, “Microcantilever Based Lab-on-a-Chip Sensor for Real-Time Mass, Viscosity, Density and Coagulation Measurements,” April 2015.
5. Aref Mostafazadeh, “Development of Resonance Tracking and Optical Readout Methods for MEMS

Sensor Arrays,” Aug 2016

1. Ulaş Adıyan, Optical Readout Methods for MEMS Cantilever Based Sensors, Sep. 2016
2. Shoaib Rehman Soomro, Augmented Reality 3D Display and Light Field Imaging Systems Based on Passive Optical Surfaces, Feb 2018
3. Mehmet Kıvanç Hedili, Wearable Displays, joined Feb. 2014 ( on going )
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10. Soheila Kharratiankhameneh, Magneto Optical Spatial Light Modulatorsjoined, joined spring 2016 ( ongoing )

11. Burak Soner, Real-time Implementation for CGH Algorithms, joined Sep. 2016 ( on going )

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**MS Thesis:**

1. Çağlar Ataman, Design, modeling and characterization of electrostatically actuated microscanners. Master’s thesis, Koç University, December 2004.
2. Hamdi Torun, Design and fabrication of thermo-mechanical thermal detector arrays with optical readout. Master’s thesis, Koç University, 2005.
3. Olgaç Ergeneman, Design and fabrication of polymer magnetic actuators for scanning. Master’s thesis, Koç University, 2005.
4. Cihan Kan, Vibration mode fomulae for MEMS Scanners. Master’s thesis, Istanbul Technical University, 2005.
5. Ahmet Ata Akatay. Beam steering using microlens arrays. Master’s thesis, Koç University, 2006.
6. Murat Sayınta, 3D display system using scanning led array modules. Master’s thesis, Koç University, 2008.
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17. M. Kivanc Hedili, HUD screen design, Koc University, July 2013
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***Invited and Plenary Presentations at International Conferences***

* ***Invited Paper,’’***Effect of Spatial Coherence of LED Sources on Image Resolution in HolographicDisplays’’ SPIE Photonic West OPTO, Vol:10126, Pages:101260A-1, California, 2017
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* ***Invited Paper,*** ‘’ Dual Purpose Passive Screen for Simultaneous Display and Imaging,SPIE Photonics West OPTO, Pages: 10126N-1, California, 2017
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* ***Plenary Paper*** “3D and Wearable Laser Displays” Laser Display and Lighting Conference, April 2015, Yokohama, Japan <https://ldc.iis.u-tokyo.ac.jp/index.html>
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* ***Invited Paper*** “3D Displays and micro-structured augmented reality screens” Photon 2014, London, UK
* ***Plenary Paper*** “Emerging Augmented Reality and 3D Displays,” 3DTV-Con, Budapest, Hungary, July 2014
* ***Invited Paper*** Augmented reality and 3D displays using pico-projectors, Eurodisplay 33rd International Display Research Conference, Sep, 2013, London, UK
* ***Invited Paper*** “MEMS Scanners and Emerging 3D and Interactive Display Applications” Transducers/Eurosensors, Barcelona, Spain, June 2013
* ***Invited Paper*** “3D displays using MEMS and Micro-optics,” OSA Photonics 2012 Conference, Chennai, India, Dec 2012
* ***Invited Paper*** “Novel 3D Displays,” 14th National Photonics Conference, Istanbul, Sep. 2012
* ***Invited Paper*** “Biosensors for Narcotics,” International Academy for Legalized Medicine Congress, Istanbul, July 2012
* “MEMS Biosensors for POC Diagnostics (Invited presentation).” International NanoMedicine Congress, Ankara, Turkey, June 2012
* “SOI Based MEMS Displays, Spectrometers (Invited presentation),” EPFL CMI Workshop. Lausanne, May 2012
* “MEMS biosensor for POC diagnostics (Invited presentation),” JRC Biotechnology Workshop, Ispra, Italy, Nov. 2011
* “3D Laser Scanning Displays (Invited paper), 3DMR 3D Displays and Materials Research Conference, Jeju-Korea, June 2011
* “Optical MEMS Devices and Applications (Invited presentation), 1. National MEMS Workshop, ODTÜ-Ankara, Dec. 2010
* “MEMS Stages and Scanners for Display, Imaging, and Spectroscopy and Their Dynamic Characterization (Invited Presentation),” Asian Conference on Experimental Mechanics, ICEM 2009, Singapore, Nov. 2009.
* “MEMS and FR4 Scanners for Microdisplay and Imaging Applications (Invited Presentation),” ICMEMS Conference, Chennai, India, Jan 2009
* “MEMS Fourier Spectrometers (Invited Presentation),” OASIS Conference, Tel-Aviv, Israel, Mar. 2007
* “Electromagnetic Actuators for Scanners (Keynote Paper),” Eurosensors XX Conference, Göteborg, Sweden, Sep. 2006
* “MEMS for biosensing and endoscopic imaging (Invited paper),” International Workshop on Bio-Nano Technology, İTÜ-Istanbul-Turkey, Nov. 2006.
* “Micro-optics and MEMS: A powerful combination with many applications (Invited Lecture),” SPIE Photonics Expert Lectures, Warsaw, Poland, 2005
* “Two-axis MEMS Scanner for Display and Imaging Applications (Invited Paper)”, IEEE Optical MEMS 2005 Conference, Aug, 2005, Oulu, Finland.
* “High performance resonant MEMS scanners for display and imaging applications (Invited Paper),” in Optomechatronic micro/nano components, devices, and systems conference, Philadelphia, USA, October 2004.
* “Mikro-Elektro-Mekanik Sistem (MEMS) Teknolojisi Kullanan Displayler (Invited presentation)”, 3. Ulusal Elektro-Optik Calisma Toplantisi, Aselsan, Ankara, November, 2001.

***Invited University Lectures and Seminars:***

* Next Generation Wearable AR Display Technologies’’, SCIEN, San Jose, November 2017
* MEMS Scanners and Wearable AR Displays’’ Nov 30, 2017, Place: Google Campus, Ca, US
* Next Generation Wearable Augmented Reality Displays’’, Technion City , Israel, October,2017,

<http://techmail.technion.ac.il/4b6808042562184506163f53fd3e3633cda1c039.pdf>

* “Akademik Bilgi Nasıl Ticarileşir?,” Global Girişimcilik Haftası, İzmir Ticaret Odası, November 2015, İzmir, Türkiye
* “Ar-Ge’den Sanayiye: Akademik Bilgi Nasıl Ticarileşir?,” Hitit University, June 2015, Çorum, Türkiye
* “Heads Up with Wearable Displays,” TEDxRESET Conference, Istanbul, Turkey, April 18, 2015
* “Özel sektörle nasıl iş yapılır?,” Erciyes University TTO May 28, 2014, Kayseri, Turkey
* “Ar-Ge’den Sanayiye: Akademik Bilgi Nasıl Ticarileşir?”, Istanbul Technical University TTO Office, April 2014
* “MEMS Laser Scanners and Emerging Display Applications” Imperial College, Elect. Eng., Dec 2013
* “MEMS Laser Scanners and Emerging Display Applications” University College London, Elect. Eng., Dec. 2013
* “MEMS Laser Scanners and Emerging Display Applications” University of Cambridge, CAPE, Nov. 2013
* “3D, Augmented Reality, and Future of Human Computer Interface” Univ. Cambridge, Computer Sci., Nov 2013
* “Optical MEMS Applications in Biosensing and Thermal Imaging” Univ. Cambridge, Nanoscience, Nov 2013
* “Optical MEMS Devices and Systems,” Univ. Cambridge, Cavendish Lab., UK, May 2013
* “Emerging display technologies for next generation human computer interface,” Bogazici University, Istanbul, Turkey, April 2013
* “Optics and MEMS: A powerful combination with many applications,” Bogazici University, Istanbul, Turkey, April 2013
* “MEMS Display and Imaging Devices,” National Photonics and Sensors Workshop, Tubitak-UME, Gebze, Sep 2012
* “Optical MEMS Devices and Systems,” Sabanci University, Turkey, Jan 2011
* “Optical MEMS sensors and actuators for Display, Spectroscopy and Imaging,” Kyoto University, Japan, Aug 13, 2010
* “Optical MEMS for biosensing,” EPFL, Neuchatel, Switzerland, July 19, 2010
* “Optical MEMS for biosensing,” EPFL, Lausanne, Switzerland, July 13, 2010
* “SOI based optical MEMS components and systems,” Bilkent University, International Workshop on Cleanroom Training, June 25, 2010
* “Optical MEMS sensors and actuators for Display, Spectroscopy and Imaging ,” Nanyang Technical University, Singapore, Nov 20, 2009
* “Optical MEMS sensors and actuators for Display, Spectroscopy and Imaging ,” National University of Singapore, Nov 19, 2009
* “MOEMS for Display, Spectroscopy and Imaging Applications,” TÜBİTAK-UME, Turkey, May 15, 2009
* “MOEMS for Display, Spectroscopy and Imaging Applications,” Sabanci University, Turkey, March 27, 2009
* “MOEMS for Display, Spectroscopy and Imaging Applications,” Bilkent University, Turkey, March 5, 2009
* “MOEMS for Display, Spectroscopy and Imaging Applications,” EPFL-Lausanne, Switzerland, Feb 6, 2009
* “MOEMS for Display, Spectroscopy and Imaging Applications,” EPFL-Neuchatel, Switzerland, Feb 5, 2009
* “Optical Micro and Nano Systems: Marriage of Photonics, Electrical Engineering, and Mechanical Engineering,” Science Seminar, Koç University, May 8, 2008
* “Optical MEMS Devices and Applications,” University of Twente, Netherlands, Feb 4, 2008
* “Devices and Applications in Optical MEMS,” Bosphorus University, Istanbul, Turkey, May 15, 2007
* “Electromagnetic actuated MEMS for Displays and Imaging,” Georgia Institute of Technology, Atlanta, USA, Jan 25, 2007
* “Devices and Applications in Optical MEMS,” Fraunhofer IPMS, Dresden, Germany, Nov 29, 2006
* “MEMS and Microscanners (Invited Lecture),” NSF International Workshop on Nanophotonics, June, 2005, Koc University, Istanbul.
* “Retinal Scanning Displays,” Stanford University, California, USA, January 2004
* “Optics and MEMS: A powerful combination for many applications,” Sabanci University, Istanbul, June, 2003
* “Optical Micromachines and Micro-electro-mechanical systems (MEMS),” Koç University, Engineering Seminar, May 7, 2002.
* “Novel Optical MEMS Display Technologies: Displays that combine microoptics, microelectronics, and micromechanics,” Koç University, Engineering Seminar, October 5, 2001
* “Micro-optics technologies for Retinal Scanning Displays”, The Boeing Company, Seattle, 1999.
* “Recent developments in Retinal Scanning Displays”, in Exploiting Emerging Display Applications and Technologies Workshop, Optoelectronics Industry Development Association (OIDA), San Jose, 2000.
* Mikro-Elektro-Mekanik Sistem (MEMS) Teknolojisi Kullanan Displayler, 3. Ulusal Elektro-Optik Calisma Toplantisi, Aselsan, Ankara, November, 2001.

***International Conference Papers:***

**Conference Papers at Koc University (2002-present):**

**2018**

* Soomro, S.R., Eldes O., Aksit K., Urey H., “Mobile 3D Imaging using Handheld Lens Array Surface and Single Camera”, Electronic Imaging, San Francisco, CA, USA (2018) (28 January to 2 February)
* Soomro, S.R., Eldes O., Urey H., “Towards Mobile 3D Telepresence Using Head-worn Devices and Dual-purpose Screens”, IEEE VR Germany (2018) (March)

**2017**

* Seyedmahdi Kazempourradi, Seyfettin Onurhan Ozturk, Murat Berke Erdemli, Burak Gulerce, Mahmut Sami Yazici, Levent Ozmen, Can Hakan Dagidir, Sidem Isil Tuncer, Erdem Ulusoy, Hakan Urey, "Wireless Controller for Interactive Virtual Reality Games," in IEEE 3D TV Conference, May 2017, Copenhagen, Denmark.
* Urey H., Soomro S.R, Ulusoy E., “Wearable Augmented Reality Displays". In OSA Imaging and Applied Optics Congress, DM4F.2 (2017).
* Soomro S.R., Urey H., “Augmented reality 3D display using head-mounted projectors and transparent retro-reflective screen”. Proc. SPIE 10126E-1, In Advances in Display Technologies VII (2017).
* Soomro S.R., Ulusoy E., Eralp M., Urey H., “Dual purpose passive screen for simultaneous display and imaging”, Proc. SPIE 10126N-1, In Advances in Display Technologies VII, (2017).

**2016**

* Soomro S.R., Urey H., “Retro-reflective Characteristics of Transparent Screen for Head Mounted Projection Displays”. In Annual OSA meeting: Frontiers in Optics, pp FTu5A-2 (2016).
* Genç, Ç., Soomro, S.R., Duyan, Y., Ölçer, S., Balcı, F., Ürey, H. and Özcan, O., “Head Mounted Projection Display & Visual Attention: Visual Attentional Processing of Head Referenced Static and Dynamic Displays while in Motion and Standing”. In Proceedings of the CHI Conference on Human Factors in Computing Systems, pp. 1538-1547, ACM (2016).
* Seyedmahdi Kazempourradi, Seyfettin Onurhan Ozturk, Mahmut Sami Yazici, Levent Ozmen, Can Hakan Dagidir, Sidem Isil Tuncer, Erdem Ulusoy, Hakan Urey "Development of a Tiny, Low-cost and Wireless Motion Sensor for Interacting with Virtual Reality Games" the IEEE first International Workshop on Egocentric Perception, Interaction and Computing (EPIC) as a part of European Conference on Computer Vision, October, 2016, Amsterdam, Netherlands.
* Seyed Mahdi Kazempourradi, Erdem Ulusoy, Hakan Ürey, ‘’ Micromirror Array as an Off-Axis Lens," in Applied Photonics Graduate Summer School entitled Photonics Solutions for Sensing and Metrology, June-July 2016, St. Andrews, UK.
* S.R Soomro, H. Urey, Retro-reflective Characteristics of Transparent Screen for Head Mounted Projection Displays, Submitted to Frontier in Optics, 2016.
* Çağlar Genç, Shoaib Soomro, Yalçın Duyan, Selim Ölçer, Fuat Balcı, Hakan Ürey, and Oğuzhan Özcan. 2016. Head Mounted Projection Display & Visual Attention: Visual Attentional Processing of Head Referenced Static and Dynamic Displays while in Motion and Standing. In Proceedings of the 2016 CHI Conference on Human Factors in Computing Systems (CHI '16). ACM, New York, NY, USA, 1538-1547. DOI: http://dx.doi.org/10.1145/2858036.2858449
* U. Aygun, O. Avci, E.Ç. Seymour, D.D. Sevenler, H. Urey, M. S. Ünlü, A. Y. Ozkumur, "Low cost flatbed scanner label-free biosensor," Proc. SPIE 9699, Optics and Biophotonics in Low-Resource Settings II, 969906 (March 7, 2016); doi:10.1117/12.2214113
* H Urey, E Ulusoy, SMK Kazempourradi, D Mengu, S Olcer, ST Holmstrom, “Wearable and augmented reality displays using MEMS and SLMs,” Proc. SPIE Vol. 9760, MOEMS and Miniaturized Systems XV, 976004 (March 15, 2016); doi:10.1117/12.2216633

**2015**

* D Kade, R Lindell, H Urey, O Ozcan, “Acting 2.0: When Entertainment Technology Helps Actors to Perform” ACE'15, November 16-19, 2015, Iskandar, Malaysia, 2015
* S. Kazempourradi, E. Ulusoy, S. Holmstrom, and H. Urey, ‘’Wave Optics Analysis of Corner-Cube Retro-Reflectors in Near-to-Eye Displays Based on Scanning Laser Projectors” Proc. SPIE 9630, Optical Systems Design 2015: Computational Optics, 96300K (September 23, 2015); Jena, Germany doi:10.1117/12.2191355
* Ulas Adiyan, Fehmi Civitci, Onur Ferhanoglu, Hamdi Torun, Hakan Urey, “MEMS Bimaterial IR Sensor Array with AC-Coupled Optical Readout,” Optical MEMS and Nanophotonics (OMN), 2015 International Conference on, Jerusalem, Israel, 6–10 Aug., 2015.
* Sevil Zeynep Lulec, Ulas Adiyan, Goksenin Yaralioglu, Yusuf Leblebici, Hakan Urey, “Cantilever Array Oscillators with Nonlinear Optical Readout,” Optical MEMS and Nanophotonics (OMN), 2015 International Conference on, Jerusalem, Israel, 6–10 Aug., 2015.
* Mahdi Kazempour, Deniz Mengu, Mehmet Kivanc Hedili, Erdem Ulusoy, Hakan Urey, “Holographic Image Projection with Doubled Field of View by Half-Pixel Shift Alignment of Two Spatial Light Modulators,” 10th International Symposium on Display Holography, St. Peterbursg, Russia, June 28 - July 3, 2015.
* Deniz Mengu, Erdem Ulusoy, Hakan Urey, “Holographic Image Projection with Phase Only Spatial Light Modulators via Non-Iterative CGH Computation Method,” Digital Holography&3-D Imaging Meeting, Shangai, China, May 24-28 2015.

**2014**

* Kaan Akşit, Amir Hossein Ghanbari Niaki, and Hakan Urey. "P-187L: Late-News Poster: Improved 3D with Super Stereoscopy Technique." SID Symposium Digest of Technical Papers. Vol. 45. No. 1. 2014.
* K. Akşit, S. Olcer, and H. Urey, “56.6 L: Late News Paper: Modular Multi Projection Multi View Autostereoscopic Display using MEMS Laser Projectors,” SID Symposium Digest of Technical Papers, [Vol.45, Iss. 1,](http://onlinelibrary.wiley.com/doi/10.1002/sdtp.2014.45.issue-1/issuetoc) pp. 1067–1069, June 2014
* K. Aksit, A. H. G. Niaki, O. Eldes, & H. Urey, “Super stereoscopy 3D glasses for more realistic 3D vision,” Paper presented at the 3DTV-Conference: The True Vision-Capture, Transmission and Display of 3D Video (3DTV-CON), 2014.
* U. Baran, S. Holmstrom, D. Brown, W. Davis, O. Cakmak, H. Urey, “Resonant PZT MEMS sanners with integrated angle sensors,” IEEE/LEOS International Conference on Optical MEMS and Nanophotonics, Aug, 2014.
* O. Cakmak*,*N. Kilinc, E.Ermek, A. Mostafazadeh, C. Elbuken, G.G. Yaralioglu, H. Urey “LoC Sensor Array Platform for Real-Time Coagulation Measurements” IEEE MEMS*2014,*San Francisco, California, USA, January 2014.
* Aksit, Kaan, et al. "Super stereoscopy 3D glasses for more realistic 3D vision." 3DTV-Conference: The True Vision-Capture, Transmission and Display of 3D Video (3DTV-CON), 2014. IEEE, 2014.
* Kaan Akşit, Daniel Kade, Oğuzhan Özcan, and Hakan Ürey. 2014. Head-worn mixed reality projection display application. In Proceedings of the 11th Conference on Advances in Computer Entertainment Technology (ACE '14). ACM, New York, NY, USA, Article 11 , 9 pages. DOI=http://dx.doi.org/10.1145/2663806.2663826

**2013**

* O. Cakmak, N. Kilinc, E.Ermek, G.G. Yaralioglu, H. Urey “MEMS Based Blood Plasma Viscosity Sensor Without Electrical Connections” in IEEE Sensors 2013,  Baltimore, Maryland, USA, November 2013.
* N Kilinc, O Cakmak, A Kosemen, E Ermek, S Ozturk, Y Yerli, ZZ Ozturk, H Urey, “A Voc Sensor Based on Micromechanical Cantilever Functionalized with ZnO Nanorods,”  The 17th International Conference on Miniaturized Systems for Chemistry and Life Sciences (MicroTas 2013), Freiburg, Germany, October 2013.
* R. B. Erarslan, S. Z. Lulec, U. Adiyan, S. Olcer, Y. Temiz, Y. Leblebici, H. Torun, H. Urey, MEMS Sensor Array Platform Integrated With CMOS Based Optical Readout, Proceedings of 26th IEEE International Conference on Micro Electro Mechanical Systems, Taipei (2013), pp. 181-184.
* (Invited paper) H. Urey, S. Holmström, U. Baran, K. Aksit, M. K. Hedili, and O. Eldes, “MEMS scanners and emerging 3d and interactive augmented reality display applications”, in Proc. 17th Int. Conf. Solid-State Sensors, Actuat. Microsyst. Transducers Eurosensors, Barcelona, Spain, Jun. 2013, pp. 2485–2488.
* (Invited paper) K. Akşit, O. Eldes, M. K. Hedili and H. Urey, “Augmented reality and 3D displays using pico-projectors,” in EURODISPLAY2013: 33rd International Display Research Conference, Paper No 15.1, September, SID, 2013.
* O. Eldes, K. Akşit, and H. Urey, “3D Auto-stereoscopic display using pico-projectors and rotating screen,” in EURODISPLAY2013: 33rd International Display Research Conference, Paper No 17.4, September, SID, 2013.
* P. Surman, B. Day, B. Boby, H. Chen, K. Akşit, and H. Urey, “Head-Tracked Retroreflecting 3D Display,” in EURODISPLAY2013: 33rd International Display Research Conference, Paper No 15.2, September, SID, Vol. 44, Iss. S1, pp. 247-250, 2013.

**2012**

* U. Adiyan, R.B. Erarslan, O. Ferhanoglu, H. Torun, H. Urey, “Diffraction Grating Based Optical Readout for Thermal Imaging,” *in Optical System Design*, Proc. SPIE 8550, p. 855026, Barcelona, Spain, 2012. doi:10.1117/12.981443
* (Invited) H. Urey, K. Akşit, and O. Eldes, “Novel 3d displays using micro-optics and MEMS,” in *International Conference on Fibre Optics and Photonics*, Optical Society of America, 2012, Chennai, India, Dec. 2012
* U. Baran, D. Brown, S. Holmstrom, D. Balma, W. O. Davis, A. Mazzalai, P. Muralt, and H. Urey, “High frequency torsional MEMS scanner for displays,” in Proc. IEEE MEMS, Paris, France, Jan. 2012, pp. 636–639.
* S. Z. Lulec, C. Sagiroglu, A. Mostafazadeh, E. Ermek, E. Timurdogan, and Y. Leblebici, H. Urey, “Simultaneous self-sustained actuation and parallel readout with MEMS cantilever sensor array,” in Proc. IEEE MEMS, Paris, France, Jan. 2012, pp. 644-647.
* M. K. Hedili, M. O. Freeman, H. Urey, [Microstructured head-up display screen for automotive applications](http://spie.org/x648.html?product_id=923556), Proc. SPIE, 8428, p. 22, Brussels, Belgium, April 2012
* N.P. Ayerden, J. L. Stehle, S. Holmström, and H. Urey, “MEMS FTIR Spectrometer and Optical Results” in Optical Proc. IEEE/LEOS Int. Conf. Opt. MEMS Nanophoton., Banff, Alberta, Canada, pp. 6-9, Aug. 2012.
* O. Cakmak, C. Elbuken, E. Ermek, S. Bulut, T. Sandner, Y. Kilinc, I.Baris, H. Kavakli, E. Alaca, H. Urey, ”Mems Biosensor For Blood Plasma Viscosity Measurements”, European Congress on Biotechnology, Istanbul, Turkey, September 2012.
* K. Akşit, O. Eldeş, S. Viswanathan, M. Freeman and H. Urey, “Mixed Polarization 3D Technique for Scanned Laser Pico Projector Displays,” in Proc. IMID2012, 2012, SID/KIDS, Daegu, Korea, Aug. 2012.
* K. Akşit, O. Eldeş, and H. Urey, “Multiple Body Tracking for Interactive Mobile Projectors,” in IMID2012 conference, 2012, SID/KIDS, Daegu, Korea, Aug. 2012.

**2011**

* H. Urey, E. Timurdogan, E. Ermek, I.H. Kavakli,  B.E. Alaca, "MEMS Biosensor for Parallel and Highly Sensitive and Specific Detection of Hepatitis", IEEE MEMS 2011, Cancun, Mexico, pp. 920-923, January2011
* H. Baghsiahi, D. Selviah, E. Willman, A. Fernández, S. Day, K. Akşit, S. Ölçer, A. Mostafazadeh, E. Erden, V. Kishore “Beam Forming for a Laser Based Auto-stereoscopic Multi-Viewer Display,” SID Annual Meeting, paper no: 48.4, Seattle, USA, June 2011
* K. Akşit, S. Ölçer, E. Erden, V. Kishore, H. Urey, E. Willman, H. Baghsiahi, S. Day, D. Selviah, and F. Anibal Fernández, “Light engine and optics for HELIUM3D auto-stereoscopic laser scanning display,” in 3DTV Conference: The True Vision-Capture, Transmission and Display of 3D Video (3DTV-CON)", (IEEE), pp. 1–4, Antalya, Turkey, May 2011
* N. P. Ayerden,  S. Holmstrom, H. R. Seren, S. Olcer, J. Sharma, S. Luettjohann, T. Sandner, H. Urey, "MEMS Fourier Transform IR Spectrometer," IEEE Optical MEMS and Nanophotonics, Istanbul, Turkey, pp. 11-12, August 2011.
* S. K. Gokce, S. Holmstrom, D. Brown, W. O. Davis, H. Urey, "A High-Frequency Comb-Actuated Resonant MEMS Scanner for Microdisplays," IEEE Optical MEMS and Nanophotonics, Istanbul, Turkey, pp. 35-36, August 2011
* U. Baran, W. O. Davis, S. Holmström, D. Brown, J. Sharma, S. K. Gokce, H. Urey, "MEMS Rotary Stage with Linear Stiffness," IEEE Optical MEMS and Nanophotonics, Istanbul, IEEE Optical MEMS and Nanophotonics, Istanbul, Turkey, pp. 37-38, August 2011.
* H. R. Seren, N. P. Ayerden, S. Holmstrom, H. Urey, “MEMS Fourier Transform Spectrometer,” XXXth General Assembly and Scientific Symposium of the International Union of Radio Science, Istanbul, Turkey, August 2011.
* U. Baran, K. Hedili, S. Olcer, H. Urey, “FR4 Electromagnetic Scanner Based Fourier Transform Spectrometer”, Proceedings of the ASME 2011 International Design Engineering Technical Conferences & Computers and Information in Engineering Conference, Washington DC, USA, pp. 465-469, August 28-31
* U. Baran, D. Brown, S. Holmstrom, D. Balma, W. O. Davis, A. Mazzalai, P. Muralt, and H. Urey, “High frequency torsional MEMS scanner for displays,” in Proc. IEEE MEMS, Paris, France, Jan. 2012, pp. 636–639.

**2010**

* E. Willman, H. Baghsiahi, F. A. Fernández, D. R. Selviah, S. E. Day, V. C. Kishore, E. Erden, H. Urey, and P. A. Surman, “The Optics of an Autostereoscopic Multiview Display,” Digest of SID Annual Meeting, Paper: 16.4, pp. 222-225, Seattle, USA, May 2010
* E. Timurdogan, S. Nargul, S. Yavuz, H. Urey, I. H. Kavakli, E. Alaca, “Detection of Hepatitis A antigen by micro-cantilever-array-based integrated optical system “, BIOSENSORS 2010, Glasgow, UK, May 2010
* E. Timurdogan, S. Yavuz, S. Nargul, H. Urey, I. H. Kavakli, E. Alaca, “Thin Film Magnetic Actuation of a Resonant MEMS Nano-Biosensor and its applications in Liquid”, SMA Workshop 2010, Istanbul, Turkey, June 2010
* H. Urey, E. Timurdogan, S. Yavuz, I. H. Kavakli, E. Alaca, “Resonant Nano-Biosensor for Multi-Analyte Screening using optical MEMS”, NANOTR6, Izmir / Turkey, June 2010
* E. Timurdogan, H. Urey, “Ferromagnetic Thin Film Cantilevers For Sensor Arrays”, EMSA 2010, Bodrum / Turkey, July 2010
* E. Timurdogan, S. Nargul, I. H. Kavakli, E. Alaca, H. Urey, “Magnetic Actuated MOEMS Resonant Biosensor Array,” IEEE Optical MEMS and Nanophotonics, Sapporo, Japan, August 2010
* H. R. Seren, N. P. Ayerden, J. Sharma, S. T. Holmström, T. Sandner, T. Grasshoff, H. Schenk, H. Urey, “Lamellar grating based Fourier transform spectrometer”, IEEE Optical MEMS and Nanophotonics, Sapporo, Japan, August 2010
* E. Uzunlar, M. S. Kilic, B. E. Alaca, H. Urey, and C. Erkey, “Frequency response of microcantilevers in supercritical CO2”, in 12th European Meeting on Supercritical Fluids, (Graz, Austria, May 9-12, 2010).

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* H. Urey, S. Isikman, S. Holmstrom, “MEMS and FR4 Scanners for Microdisplay and Imaging Applications (Invited Paper),” ICMEMS Conference, Chennai, India, Jan 2009
* Siva Konduri, Srijita Patra, Erdem Alaca, Hakan Urey, ”Micro Cantilever Sensing in Liquid Environment with Self-oscillation and Amplified Quality Factor,” ICMEMS Conference, Paper: OM-O1, Chennai, India, Jan 2009
* O. Ferhanoglu, M.F. Toy, H. Ürey, “Parylene based Uncooled Thermomechanical Array", Proc. SPIE, Vol. 7298, 72980H; DOI:10.1117/12.818951, Orlando, USA, April 2009
* Aslihan Arslan , Dean Brown, Wyatt O.Davis,Sven Holmstrom, Sertan Kutal Gokce, Hakan Urey, ‘Comb- Actuated Resonant Torsional Scanner for Microdisplays’, IEEE/LEOS International Conference on Optical MEMS and Nanophotonics,Page(s):139-140, Clearwater, FL,USA, 2009.
* Sertan Kutal Gokce, Sven Holmstrom, Caglar Ataman, Aslihan Arslan, Huseyin R. Seren, Hakan Urey, ‘2D Scanning MEMS Stage Integrated with Microlens Arrays for High-Resolution Beam Steering’, IEEE/LEOS International Conference on Optical MEMS and Nanophotonics,Page(s):43-44, Clearwater,FL,USA, 2009.
* Sertan Kutal Gokce, Sven Holmstrom, Cyrille Hibert, Caglar Ataman, Aslihan Arslan, Huseyin R. Seren, Hakan Urey, ‘MEMS Stage Integrated with Microlens Arrays for High-Resolution Beam Steering’, Procedia Chemistry, Volume 1, Issue 1 & Proceedings of the Eurosensors XXIII conference, Lausanne, Switzerland, August 2009, Pages 1319-1322
* G. Hatipoglu, H. Urey, ‘FR4-based electromagnetic energy harvester for wireless tyre sensor nodes’,Procedia Chemistry, Volume 1, Issue 1 & Proceedings of the Eurosensors XXIII conference, Lausanne, Switzerland, August 2009, Pages 1211-1214
* S. Isikman, E. Erden, S. Varghese, F. Abdullah, R. Augustine, R. Sprague, V. Andron, H. Urey, "Self-Oscillating FR4 Laser Scanner with Integrated Dynamic Focus and Extended Imaging Range", International Symposium on Optomechatronic Technologies, p. 295-298, Istanbul, Turkey, 2009
* H. R. Seren, O. Ferhanoglu, G. Hatipoglu, M. Boyman, S. Olcer, C. Ataman, H. Urey, "Miniaturized FR4 Spectrometers", International Symposium on Optomechatronic Technologies, p. 158-163, Istanbul, Turkey, 2009
* K. V. Chellappan, E. Erden, H. Ürey, H. Baghsiahi, E. Willman, S. E. Day, D. R. Selviah, F. A. Fernandez, P. Surman, "Laser Scanning 3D Display with Dynamic Exit Pupil", Eurodisplay 2009, Rome, Italy, pp. 492-495, September 2009
* O. Ferhanoglu, H.R. Seren, H. Urey, "Lamellar Grating Interferometer based compact FT Spectrometers", IEEE Leos Annual Meeting Proc. Vol. I and II, Antalya, Turkey, pp. 326-327, Oct 2009
* E. Erden, K. V. Chellappan, H. Ürey, H. Baghsiahi, E. Willman, S. E. Day, D. R. Selviah, F. A. Fernandez, P. Surman, "Laser Scanning Based Autostereoscopic 3D Display with Pupil Tracking", IEEE LEOS Annual Meeting Proc. Vol. I and II, Antalya, Turkey, pp. 10-11, Oct 2009
* (Invited Paper) H. Urey and H. Seren, “MEMS Stages and Scanners for Display, Imaging, and Spectroscopy and Their Dynamic Characterization,” Asian Conference on Experimental Mechanics, ICEM 2009, Singapore, Nov 2009

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