

## **Cirriculum Vitae**

### **Personal information :**

Name: Murat

Surname: ERDEM

Date of Birth: 29.10.1979

Date of Place: Istanbul, TURKEY

Marital Status : Married

Adress: Marmara University ,Science-and Letter Faculty, Physics Dept. C-123 Goztepe Campus, Kadıkoy, 34777, Istanbul, TURKEY

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### **Graduation :**

1. *Phd. Physics, Institute of Science Marmara University (2005-2011)*
2. *M.S. Physics, Institute of Science, Marmara University (2001-2004)*
3. *B.S. Physics, Science and Letter Faculty, Marmara University (1996-2001)*  
( *top first student 80,85/100* )

### **Personal interest:**

*Software: Fortran,Basic, Visual Basic, Visual C, IEEE-488 Interfaces Language for Data Acquisition Card Programming, Multisim, Proteus, Origin,Mathematica,Ms.Office*

*Hardware: Serial port, Paralel port, IEEE - 488 Interfaces, Microcontroller Programming ( pic 16f87 and intel 8051)*

### **Academic experience:**

1. Research Asisstant of Physics Department at Marmara University (Since 2001)
2. Postdoctoral Position in Physics Dept. at Boston College (2014- 2015)

### **Research interest:**

*Solid state physics, Microsensors, Organic semiconductor (Phthalociyanines) thin films, Impedance Spectroscopy, Interdigital transducer, Photolithography, Sol-gel, Thin film preparing technics (Smearing,Air brush, Dip Coating, Spin Coating, Thermal evaporation, Chemical bath and Chemical vapour deposition), Electrical and optical measurement depending on temperature under the high vacuum, Magnetic properties, Optical Microscope, Luminescence Spectroscopy*

### **Working interest:**

1. *Basis Physics Laboratuary I, Basis Physics Laboratuary II*
2. *Modern Physics Laboratuary I, Modern Physics Laboratuary II*
3. *Electronics Laboratuary I, Electronics Laboratuary II and Digital Electronics Laboratuary*
4. *Digital Electronics*
5. *Microcontroller*

### **Thesis:**

1. *M.ERDEM, " Optical and Structural properties Yttrium Silicates doped with Nd<sup>3+</sup>" 2011*  
Advisor: Prof Dr. Gönül ÖZEN ana Dr.Cumali TAV (**Phd. Thesis**)
2. *M.ERDEM " Electrical and Structural characterization of Lutetium Phtalocyanines" 2004*  
Advisor: Prof.Dr.Z.Ziya ÖZTÜRK Dr. Ahmet ALTINDAL (**M.S. Thesis**)
3. *M.ERDEM. Data Acqusition card programming for Keithley 617 Electrometer and LCZ meter, 2001* Advisor: Prof.Dr.Z.Ziya ÖZTÜRK (**B.S. finishing Project**)

### **Summer School:**

1. *Nato Advanced Study Institute On Nano-Structures For Optics And Photonics, July 04-19, 2013*  
Erice, Sicily /ITALY,
2. *Academical applications with Linux, Summer school , Istanbul Kültür University 21-26*  
August 2006 İstanbul, TURKEY
3. *Second Regional Instrmentation School on Particle Physics and Detector Applications,*  
August 31-September 10,2005 ICFA Instrumentation Center, ITU Istanbul, TURKEY

### **Project :**

1. *FEN-B-150513-0170, Synthesis, Structural and Spectroscopic Properties of RE<sup>3+</sup>:Yittrium Silicate (2013 - Continues - Project Manager)*
2. *FEN-D-100413-0132, Structural and Spectroscopic Properties of ER<sup>3+</sup>:CdNb<sub>2</sub>O<sub>6</sub> phosphors. (2013-2014 - Project Manager) (2013-2014)*
3. *FEN-C-DRP-090409-0079, Doktora Projesi Marmara Üniv. BAPKO - Bilimsel Araştırma ve Geliştirme Projesi.(Phd Project: Optical and Structural properties Yttrium Silicates doped with Nd<sup>3+</sup>) (2008-2011 )*
4. *TÜBİTAK(The Scientific and Technological Research council of Turkey) resarch project TBAG-105T458 "Magnetik Yarıiletken Filmlerin CBD Metoduyla Hazırlanması ve Karakterizasyonu" (Magnetic properties of Chemically Deposited Thin films ) 2006-2008*
5. *FEN-KPSS Y.Lisans Projesi Marmara Üniv. BAPKO - Bilimsel Araştırma ve Geliştirme Projesi."Lutesyum Fitolasıyaninlerin Yapısal ve Elektriksel Karakterizasyonu"(2002-2005) (Master Project: Electric al and Structural characterization of Lutetium Phtalocyanines)*

## **Presentations and Seminars:**

1. M. Erdem, G. Ozen, U. Yahşi, and B. Di Bartolo, "White Light Generation of Y<sub>2</sub>Si<sub>2</sub>O<sub>8</sub> Nanoparticles" presented at the "Nanophotonics Workshop and Multiprobe School," organized by Nanonics Imaging Ltd. at Boston College, July 21-22, **2014**
2. M. Erdem, G. Ozen and B. Di Bartolo, "Unexpected Broadband Visible Emission from Sol-Gel Derived Yttrium Silicate Nanopowders under 803.5 nm Laser Excitation," presented at the American Physical Society New England Section Fall 2014 Regional Meeting at the Wentworth Institute of Technology, Boston, MA, November 2-8, **2014**
3. Microstructure and Luminescence properties of Er<sup>3+</sup> doped CdNb<sub>2</sub>O<sub>6</sub> columbite oxides synthesized by Molten salt technique, S.Ghafouri, M.Erdem, M.K. Ekmekçi, A.Mergen, H.Gökçe, G.Özen, International Powder Porous Materials, Çeşme Izmir/TURKEY, September 03-06 **2013** p :95
4. Structural and Spectroscopic properties of TeO<sub>2</sub>-GeO<sub>2</sub> doped with Er<sup>3+</sup> ions, Y.Pepe, M.Erdem, G. Özen, International Powder Porous Materials, Çeşme Izmir/TURKEY, September 03-06 **2013** p :98
5. Spectroscopic Properties of Nd<sup>3+</sup> : CdNb<sub>2</sub>O<sub>6</sub> phosphors, M.Erdem, M.K.Ekmekçi, A.Mergen, G.Özen, B.Di Bartolo, International Powder Porous Materials, Çeşme Izmir/TURKEY, September 03-06 **2013** p :101
6. Microstructure of SiO<sub>2</sub> glasse doped with ZnSe quantum dots and Nd<sup>3+</sup> ions, T.Elboukhari, H.Kaygusuz, M.Erdem, G.Özen, International Powder Porous Materials, Çeşme Izmir/TURKEY, September 03-06 **2013** p :163
7. Structural And Luminescence Properties Of CdNb<sub>2</sub>O<sub>6</sub>:Er<sup>3+</sup>, M. Erdem, M. K. Ekmekçi, S.Ghafouri, A. Mergen and G. Özen, Nato Advanced Study Institute On Nano-Structures For Optics And Photonics, Erice, Sicily /Italy, July 04-19, **2013**
8. Murat ERDEM, Gönül ÖZEN, Cumali TAV, Structural and spectroscopic properties of sol-gel derived neodymium doped yttrium silicate, Nano TR-7 Sabancı Üniversitesi, s.119, **2011**
9. Murat ERDEM, Gönül ÖZEN, Cumali TAV, Crystallization Behaviour of Neodymium Doped Yttrium Silicate Nanophosphors, International Conference of Ceramics Processing Science, Zurich, SWITZERLAND, from 28<sup>st</sup>, August to 3<sup>rd</sup> September, **2010** p:144 (oral presentation)
10. Gökhan BİLİR, Murat ERDEM, Gönül ÖZEN, Synthesis and Characterization of Nanocrystalline Yttrium Silicate and Yttrium Oxide Materials doped with Neodymium, WORKSHOP ON LUMINESCENCE OF INORGANIC MATERIALS AND BIOIMAGING: Metal-to-Metal Energy and Electron Transfer, ERICE/ITALY - 28.06.2010
11. Murat ERDEM, Gönül ÖZEN, Cumali TAV, Synthesis and characterization of nanocrystalline yttrium silicate materials doped with neodymium, NanoTR-6 Izmir TURKEY, June 15-18, **2010** p:43
12. Murat ERDEM, Gönül ÖZEN, Cumali TAV Crystallization Behaviour Of Neodymium Doped Yttrium Silicate Nanophosphors, 12.National Optik, ElectroOptic, Photonic Meeting, Istanbul Technical University, 08 October **2010**, İstanbul -TURKEY (poster presentation) (Local Committee Member)

13. Gökhan Bilir, Murat Erdem, Yasemin Serdar, Ayşegül Çelik, Demet Tatar, Hakan Kaygusuz, Filiz Tezcan, Gönül Özen, Rıza Demirbilek, F.Bedia Erim, M.Lütfi Öveçoğlu, *Y<sub>2</sub>O<sub>3</sub>:Nd<sup>3+</sup> and Y<sub>2</sub>O<sub>3</sub>:Tm<sup>3+</sup> nanophosphors synthesis and characterization using combustion and thermal decomposition method*, Istanbul Technical University – Nano science and nano technology workshop 12-13 February **2009**
14. Murat ERDEM, Hayriye KARACA ve Mustafa OZDEMİR ‘Magnetic characterization of chemically deposited ferromagnetic semi-conducting CuCr<sub>2</sub>S<sub>4</sub> thin films’ Nano TR3 Nanoscience and Nanotechnology 2007 Konferansı, p: 65 11-14 June, **2007** Bilkent University, Ankara, TURKEY (oral presentation)
15. M.ERDEM, A.C.BAŞARAN, S.KAZAN, H.YÜZER, M.ÖZDEMİR ‘Magnetic properties of Chemically Deposited Thin films of Ferromagnetic-Semi-Conducting CuCr<sub>2</sub>S<sub>4</sub> Compounds on Si(100) and YSZ(100) substrates’, Actual Problems of Magnetic Resonance and its applications, p:164 23–28 September **2007** Kazan RUSSIA
16. . M.ERDEM, H.KARACA, S.KAZAN, A.C.BAŞARAN, M.ÖZDEMİR ‘Magnetic properties of Chemically Deposited Thin films of Ferromagnetic-Semi-Conducting CdCr<sub>2</sub>S<sub>4</sub> Compounds’, Actual Problems of Magnetic Resonance and its applications, p:192 23–28 September **2007** Kazan RUSSIA
17. . Murat ERDEM, Hayriye KARACA, Bekir AKTAS, and Mustafa OZDEMİR ‘Unusual magnetic properties of chemically deposited thin films of ferromagnetic-semi-conducting CdCr<sub>2</sub>S<sub>4</sub> compounds’ International Conference on Nanoscale Magnetism ICNM 2007, p: 207, June 25-29,**2007** Istanbul, TURKEY (poster presentation )
18. M.ERDEM ‘Electrical and Structural Characterization of Lutetium Phthalocyanines’ (Seminar) Max-Planck Institut für biologische Kybernatik 21 March **2005** Tübingen, GERMANY
19. F. DUMLUDAĞ, M ERDEM, O.ŞAN, M.A. EBEOĞLU, Z.Z. ÖZTÜRK ‘Rutil-Mangan Kompozit Seramiğinin Elektriksel Karakterizasyonu ve Nem Algılama Özelliklerinin İncelenmesi’ (Electrical characterization and Humidity sensing properties of Ruthile Manganese composite ceramics ) YMF-p99 TFD-21.Fizik Kongresi 11-14 Eylül **2002** SDÜ. Isparta, TURKEY

## **Publications:**

## **SCI Index**

1. Murat Erdem, Gonul Eryurek, and Baldassare Di Bartolo, “ White Light Emission from Sol-gel Derived gamma-Y<sub>2</sub>Si<sub>2</sub>O<sub>7</sub> Nanoparticles” *Journal of Alloys and Compounds*. DOI: 10.1016/j.jallcom. **2015**.03.034
2. Mete K. Ekmekci, Murat Erdem, Ali S. Basak, "Molten Salt Synthesis, Visible and near-IR region Spectral Properties of Europium or Neodymium Doped CoNb<sub>2</sub>O<sub>6</sub> columbite niobate" to *Dalton Transactions*, **2015**, 44, 5379-5385

3. M. Erdem, G. Ozen, U. Yahşi, and B. Di Bartolo, "Thermal and Size Effect on the Positions and Widths of The R Lines Luminescence In YAG:Cr<sup>3+</sup> Nanocrystals," *Journal of Luminescence*, Volume 158, February **2015**, Pages 464–468
4. Murat Erdem, M.Kaan Ekmekçi, Humeyra Orucu, Gokhan Bilir, "Structural and Spectroscopic Properties of  $\delta$ -Y<sub>2</sub>Si<sub>2</sub>O<sub>7</sub> nanopowders activated with Nd<sup>3+</sup> ions" *International Journal of Applied Ceramic Technology* with DOI:10.1111/ijac.1231.2-**2014**
5. Sanaz Aian Ghafouri, Murat Erdem, M. Kaan Ekmekçi, Ayhan Mergen, Gönül Özen "Concentration effect of Er<sup>3+</sup> ions on structural and spectroscopic properties of CdNb<sub>2</sub>O<sub>6</sub> phosphors", *Materials Research Bulletin*, Volume 60, December **2014**, Pages 562–565
6. Mete Kaan EKMEKÇİ, Murat ERDEM, Ayhan MERGEN, Gönül ÖZEN, Baldassare di BARTOLO, "Molten Salt Synthesis and Spectral Properties of Nd<sup>3+</sup> doped CdNb<sub>2</sub>O<sub>6</sub> Columbite Phosphors", *Journal Of Alloys and Compounds*, Volume 591, 5 April **2014**, Pages 230–233
7. Gonul Ozen, Murat Erdem, John Collins , Marco Bettinelli, Baldassare Di Bartolo, F. Piccinelli and A. Speghini, "Effect of Spatial Confinement on Luminescence of Y<sub>3</sub>Al<sub>5</sub>O<sub>12</sub> Nano-Particles Doped with Chromium Ions", *Journal of Luminescence*, Volume 144, December **2013**, Pages 191-197
8. Murat ERDEM, Gönül ÖZEN, Cumali TAV, and Baldassare di Bartolo, "Structural and Spectroscopic Properties of Nd<sup>3+</sup>:Y<sub>2</sub>Si<sub>2</sub>O<sub>7</sub> Phosphors, *Ceramic International*", Volume 39, Issue 6, August **2013**, Pages 6029-6033
9. Murat ERDEM, Gönül ÖZEN, Cumali TAV , "Crystallization behaviour of neodymium doped yttrium silicate nanophosphors" *Original Research Article ,Journal of the European Ceramic Society*, Volume 31, Issue 14, November **2011**, Pages 2629-2631