

# Curriculum Vitae

## PERSONAL

*Name* Mostafa Abdelshafy Ibrahim ELLABBAN  
*Date of Birth* Nov. 7, 1968  
*Marital Status* Married, 2 sons  
*Languages* Arabic (native), English and German  
*Nationality* Egyptian

## ADDRESSES

*Egypt* Physics Department, Faculty of Science, Tanta University, Tanta,  
Egypt  
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## EDUCATION

*1974-1980* Primary school  
*1980-1983* Prep school  
*1983-1986* Secondary school in Kafr El-Zayyat, Gharbia, Egypt.  
*1986-1990* Study of Physics at the Physics Department, Faculty of Science, Tanta University,  
Egypt.  
*1990* Granted the Degree of Bachelor of Science.  
*1990-1991* Advanced postgraduate courses in Physics in partial fulfillment of the requirements  
of the master degree.  
*Dec. 1994* Master Degree, M.Sc., in Laser Physics from Tanta University, Egypt.  
**Supervision:** Prof. Dr. G. Hassan, Ass. Prof. Dr. H. El-Kashef and Ass. Prof. Dr.  
B. Y. El-Baradie  
**Thesis:** *Laser Interferometric Measurements for the Physical Properties of  
Materials*  
*1998-2002* Ph.D. student at the Institute of Experimental Physics, Vienna University, Vienna,  
Austria.  
*Oct. 2002* Granted Ph.D. degree (hon.) from Vienna University, Austria.  
**Supervisor:** Prof. Dr. R.A. Rupp  
**Thesis:** *Holographic Scattering in Electro-optic Crystals*

## POSITIONS

*1990-1994* Demonstrator at Physics Department, Faculty of Science, Tanta University, Egypt.  
*1994-2002* Assistant lecturer at Physics Department, Faculty of Science, Tanta University,  
Egypt.  
*Since 2002* Lecturer at Physics Department, Faculty of Science, Tanta University, Egypt.  
*Since May 2003* Postdoc with Prof. Dr. M. Fally at the institute of Experimental Physics, Vienna  
University, Vienna, Austria.

## RESEARCH EXPERIENCE

Interferometry  
Mach-Zehnder interferometer  
Michelson interferometer  
Physical properties of laser dye solvents  
Holography  
Holographic scattering  
Physical properties of photorefractive materials  
Photorefraction in centro-symmetric crystals

Photorefractive materials [Terbium gallium garnets (TGG) and Gadolinium gallium garnets (GGG)]  
Holographic methods  
Holographic scattering  
Two-wave mixing  
Optical data storage and thermal fixing  
Holographic polymer-dispersed liquid crystals  
Preparation, characterization and applications

## DISTINCTION

May 1999 International juror at the IYPT99 (The 12th International Young Physicists Tournament 1999).  
Oct. 1999-Oct. 2000 General secretary of the Egyptian students union in Austria.  
Oct. 2000-Oct. 2001 President of the Egyptian students union in Austria.  
Oct. 1998-Dec. 2001 A scholarship holder from Austrian Academic Exchange Service (OEAD) and the Egyptian Ministry of High Education.  
Jan. 2002-Oct. 2002 A scholarship holder from the Egyptian Ministry of High Education.  
2002 A member of the American Physical Society  
Since 2001 A member of the Austrian Physical Society

## AWARDS

*Loschmidt-Prize 2003* of the Austrian Physical and Chemical Society.

## LIST OF PUBLICATIONS

### Book contributions

- 1.M. Imlau, Th. Woike, M. Fally, M.A. Ellabban, R.A. Rupp, and M. Goukov, Non-linear light scattering in polar oxides at the example of strontium-barium-niobate, Proc. of POLECER conf. book, ed. R. Wasser, U. Bottger and S. Tiedke, chapter VII (2003).
- 2.M.A. Ellabban, M. Fally, R.A. Rupp, T. Woike, and M. Imlau, Holographic scattering and its applications, Recent Research Development in Applied Physics Vol. 4, Transworld publishing, India, ed. S. Pandalai, pp. 241–275 (2001).

### Journal articles

- 1.M.A. Ellabban, I. Drevenšek-Olenik and R.A. Rupp, Huge retardation of gratings formation in holographic polymer-dispersed liquid crystals, App. Phys. B, accepted for publication (2008).
- 2.M.A. Ellabban, I. Drevenšek-Olenik, M. Fally and H. Uršič, Effect of electric field and temperature on holographic scattering from holographic polymer-dispersed liquid crystals, *Opt. Mat.*, **29**, 1416 (2007).
- 3.G. Mandula, M.A. Ellabban, M. Fally, A method to determine  $H^+$  concentration in dehydrated iron doped lithium niobate using photorefractive beam fanning effect, *Ferroelectrics*, **352**, 118-124.(2007).
- 4.M.A. Ellabban, M. Bichler, M. Fally, I. Drevenšek-Olenik, Role of optical extinction in holographic polymer-dispersed liquid crystals, *Proc. SPIE*, **6587**, 65871J (2007).
- 5.I. Drevenšek-Olenik, M.A. Ellabban, M. Fally, K.P. Pranzas, J. Vollbrandt, Neutron diffraction from holographic polymer-dispersed liquid crystals, *Proc. SPIE*, **6587**, 65870F (2007).
- 6.M. Fally, I. Drevenšek-Olenik, M.A. Ellabban, K.P. Pranzas and J. Vollbrandt, Colossal light-induced refractive-index modulation of neutrons in holographic polymer-dispersed liquid crystals, *Phys. Rev. Lett.*, **97**, 167803 (2006).
- 7.H. Dachraoui, R.A. Rupp, K. Lengyel, M.A. Ellabban, M. Fally, G. Corradi, L. Kovács and L. Ackermann, Photochromism of doped terbium gallium garnet, *Phys. Rev. B*, **74**, 144104 (2006).
- 8.I. Drevenšek-Olenik, M. Fally and M.A. Ellabban, Temperature dependence of optical anisotropy of holographic polymer-dispersed liquid crystals transmission grating, *Phys. Rev. E*, **73**, 021707 (2006).
- 9.M.A. Ellabban, M. Fally, R.A. Rupp and L. Kovács, Light-induced phase and amplitude gratings in centrosymmetric gadolinium gallium garnet doped with cerium, *Opt. Express*, **14**, 593-602 (2006).
- 10.M.A. Ellabban, M. Fally, H. Uršič, I. Drevenšek-Olenik, Holographic scattering in photopolymer-dispersed liquid crystals, *Appl. Phys. Lett.*, **87** (15), 151101 (2005).

11. **M.A. Ellabban**, Th. Woike, M. Fally, and R.A. Rupp, Holographic scattering in the ultraviolet spectral range in iron doped lithium niobate, *Europhys. Lett.*, **70**, 471 (2005).
12. M. Fally, M. Imlau, R.A. Rupp, **M.A. Ellabban** and Th. Woike, Specific recording kinetics as a general property of unconventional photorefractive media, *Phys. Rev. Lett.*, **93**(12), 243903(2004).
13. **M.A. Ellabban**, M. Fally, M. Imlau, Th. Woike, R.A. Rupp, T. Granzow, Angular and wavelength selectivity of parasitic holograms in cerium doped strontium-barium niobate, *J. Appl. Phys.*, **96** (12), 6987(2004).
14. G. Mandula, **M.A. Ellabban**, R.A. Rupp, M. Fally, E. Hartmann, L. Kovács, and K. Polg'ar, Activation energy of proton migration in Mn- and Fe-doped Lithium Niobate obtained by holographic methods, *Radiation Effects and Defects Solids*, **158**, 173-179 (2003).
15. **M.A. Ellabban**, G. Mandula, R.A. Rupp, M. Fally, E. Hartmann, L. Kovács, K. Polg'ar, Activation energy of thermal fixing in LiNbO<sub>3</sub>: a comparative study, *Proc. SPIE*, **4607**, 313-23 (2002).
16. G. Mandula, K. Lengyel, L. Kovács, **M.A. Ellabban**, R.A. Rupp, M. Fally, Thermal fixing of holographic gratings in nearly stoichiometric LiNbO<sub>3</sub>-crystals, *Proc. SPIE*, **4412**, 226-230(2001).
17. J. Wolfsberger, X.Z. Zhang, J.J. Xu, **M. Ellabban**, H. Huang, B.Q. Tang, Fanning noise suppression in dual-wavelength holographic storage, *J. of Infrared and Millimeter Waves*, **20**, 61-5 (2001).
18. **M.A. Ellabban**, G. Mandula, M. Fally, R.A. Rupp, L. Kovács, Holographic scattering as a technique to determine the activation energy for thermal fixing in photorefractive materials, *Appl. Phys. Lett.*, **78**, 844-6(2001).
19. **M.A. Ellabban**, R.A. Rupp, M. Fally, Reconstruction of parasitic holograms to characterize photorefractive materials, *Appl. Phys. B*, **72**, 635-40(2001).
20. M. Fally, **M.A. Ellabban**, R.A. Rupp, M. Fink, J. Wolfsberger, E. Tillmanns, Characterization of parasitic gratings in LiNbO<sub>3</sub>, *Phys. Rev. B*, **61**, 15778-84(2000).
21. G.E. Hassan, H. El-Kashef, B.Y. El-Baradie, **M. Ellabban**, Measurement of the physical properties of cyclohexane using a laser interferometric technique, *Opt. Mat.*, **5**, 327-32(1996).
22. G.E. Hassan, H. El-Kashef, B.Y. El-Baradie, **M. Ellabban**, Interferometric measurement of the physical constants of laser dye solvents, *Rev. of Sci. Inst.*, **66**, pt.1, 38-42(1995).

### Contribution to conferences

1. **M.A. Ellabban**, R.A. Rupp, I. Drevenšek-Olenik and M. Fally, Strong retardation of grating formation in holographic polymer-dispersed liquid crystals, **The first international conference on advanced materials and nanotechnology**, Cairo, Egypt (2007).
2. **M.A. Ellabban**, M. Fally, M. Bichler and I. Drevenšek-Olenik, Beam coupling in holographic polymer-dispersed liquid crystals, **57 Annual meeting of the Austrian Physical Society**, Krems, Austria (2007).
3. I. Drevenšek-Olenik, **M. A. Ellabban**, and M. Fally, Role of optical extinction in holographic polymer-dispersed liquid crystals, **Liquid crystals and their applications in optics**, Prague, Czech Republic (2007).
4. I. Drevenšek-Olenik, M. Fally, **M.A. Ellabban**, K. P. Pranzas and J. Vollbrandt, Neutron diffraction from holographic polymer-dispersed liquid crystals (*Invited Paper*), **Liquid crystals and their applications in optics**, Prague, Czech Republic (2007).
5. C. Zechmann, M. Fally, **M.A. Ellabban**, M. Imlau, D. Schaniel, T. Woike, Growth and characterization of centrosymmetric photorefractive crystals, **56 Annual meeting of the Austrian Physical Society**, Graz, Austria (2006).
6. M. Fally, I. Drevenšek-Olenik, **M. A. Ellabban**, and H. Uršic, Strongly overmodulated diffraction gratings in holographic polymer-dispersed liquid crystals, International workshop on liquid crystals for photonics, Gent, Belgium (2006).
7. G. Mandula, **M.A. Ellabban** and M. Fally, A method to determine H<sup>+</sup> concentration in dehydrated iron doped lithium niobate using photorefractive beam fanning effect, 8th European Conference on Applications of Polar Dielectrics, Metz, France (2006).
8. I. Drevenšek-Olenik, M. Copic, M. Fally and **M.A. Ellabban**, Temperature dependence of optical anisotropy of transmission gratings made from holographic polymer-dispersed liquid crystals, **21<sup>st</sup> International liquid crystal conference**, Keystone, Colorado, USA (2006).
9. I. Drevenšek-Olenik, H. Uršic, M. Fally, **M.A. Ellabban**, P. K. Pranzas, J. Vollbrandt and M. Copic, Photo-neutronrefractive effect in holographic polymer dispersed liquid crystals, **21<sup>st</sup> International liquid crystal conference**, Keystone, Colorado, USA (2006).
10. **M.A. Ellabban**, M. Fally, H. Uršic, I. Drevenšek-Olenik and M. Copic, Holographic scattering in H-PDLCs, **11<sup>th</sup> International Topical meeting on optics of liquid crystals**, Florida, USA (2005).

- 11.H. Uršic, I. Drevenšek-Olenik, **M.A. Ellabban** and M. Fally, Electrooptic properties of thick H-PDLC gratings, **8<sup>th</sup> European Conference on Liquid Crystals**, Sesto (BZ), Italy (2005).
- 12.**M.A. Ellabban**, H. Uršic, I. Drevenšek-Olenik and M. Fally, Holographic scattering from polymer-dispersed liquid crystals, **8<sup>th</sup> European Conference on Liquid Crystals**, Sesto (BZ), Italy (2005).
- 13.M. Fally, S. Hausfeld, T. Woike, M. Imlau, R.A. Rupp and **M.A. Ellabban**, Kinetics of holographic recording in optically bistable systems, **Meeting of the German Physical Society**, Regensburg, Germany (2004).
- 14.M. Imlau, Th. Woike, M. Fally, **M.A. Ellabban**, R.A. Rupp, and M. Goulkov, Non-linear light scattering in polar oxides at the example of strontium-barium-niobate, **EU-Polecer Symposium on Polar Oxides - Properties, Characterization and Imaging**, Capri, Italy (2003).
- 15.**M.A. Ellabban**, M. Fally, R.A. Rupp, G. Mandula and L. Kovács, Holographic scattering and thermal fixing of holograms in photorefractive materials, **53 Annual meeting of the Austrian Physical Society**, Salzburg, Austria (2003).
- 16.**M.A. Ellabban**, G. Mandula, M. Fally, R.A. Rupp and L. Kovács, Holographic scattering and a comparison of the activation energies of proton migration in Mn- and Fe-doped lithium niobate obtained by holographic methods, **EURODIM 2002**, Wroclaw, Poland (2002).
- 17.G. Mandula, **M.A. Ellabban**, R.A. Rupp, M. Fally, E. Hartmann, L. Kovács and K. Polg'ar: A comparison of the activation energies of proton migration in Mn- and Fe-doped lithium niobate obtained by holographic methods, **EURODIM 2002**, Wroclaw, Poland (2002).
- 18.E. Haussuehl, **M.A. Ellabban**, R.A. Rupp and E. Tillmanns, Holographic investigations on  $\text{NH}_4(\text{C}(\text{NH}_2)_3[\text{Zr}(\text{N}(\text{CH}_2\text{COO})_3)_2] \cdot 2\text{H}_2\text{O}$ , **Deutsche Gesellschaft fuer Kristallographie 2002 (DGK2002)**, Kiel, Germany (2002).
- 19.R.A. Rupp, L. Kovács, G. Mandula, K. Lengyel, **M.A. Ellabban**, M. Fally, Holographic Scattering and Thermal Fixing Experiments with  $\text{LiNbO}_3$ , **International Meeting on Parametric Optics (PAROPT2001)**, Lviv, Ukraine (2001).
- 20.R.A. Rupp, **M.A. Ellabban**, M. Fally, L. Kovács, G. Mandula, K. Lengyel, M. Imlau, Th. Woike, Holographic scattering: angular and spectral properties, **Workshop on Photorefractive Nonlinearities**, Osnabruck University, Germany (2001).
- 21.R.A. Rupp, M. Fally, **M.A. Ellabban**, M. Imlau, Th. Woike, E. Tillmanns, Holographic scattering under transformations in the reciprocal space, **Correlation optics**, Chernovtsi, Ukraine (2001).
- 22.**M.A. Ellabban**, G. Mandula, M. Fally, R.A. Rupp, L. Kovács, E. Hartmann, Activation energy determination from holographic scattering, diffraction, and conductivity in  $\text{LiNbO}_3$ , **Fourth Annual Meeting of the COST Action P2 "Applications of nonlinear optical phenomena and workshop on  $\text{LiNbO}_3$ "**, Budapest, Hungary (2001).
- 23.G. Mandula, K. Lengyel, L. Kovács, R.A., Rupp, **M.A. Ellabban**, Study of thermal fixing of holograms and of the absorption of OH-ions in quasistoichiometric  $\text{LiNbO}_3$  crystals, **Kvantumelektronika 2000, the 4<sup>th</sup> National Symposium on Quantum Electronics**, Budapest, Hungary (2000).
- 24.G. Mandula, K. Lengyel, L. Kovács, R.A. Rupp, M. Fally, **M.A. Ellabban**, Thermal fixing of holographic gratings in nearly stoichiometric  $\text{LiNbO}_3$  crystals, **International Conference on Solid State Crystals**, Zakopane, Poland (2000).
- 25.R.A. Rupp, M. Fally, **M.A. Ellabban**, J. Wolfsberger, E. Tillmanns, Characterization of holographic scattering in  $\text{LiNbO}_3$ , **"Optics of Crystals"**, Mozyr, Byelorussia (2000).
- 26.G.E. Hassan, H. El-Kashef, B.Y. El-Baradie, **M.A. Ellabban**, Measurements of the physical properties of cyclohexane using a laser interferometric technique, **"National Institute of Laser Enhanced Sciences International Conference (NILES'94)"**, Cairo, Egypt (1994).

### Invited talks

- 1.Holographic scattering, Josef Stefan Institute, Ljubljana, **Slovenia** (May 2005).
- 2.Holographic scattering in holographic polymer-dispersed liquid crystals, **WTZ-Meeting "Dynamics of complex systems"**, Vienna, **Austria** (October 2005).
- 3.Holographic Scattering in Electro-optic Crystals, (the ceremony of receiving the Loschmidt Prize 2003), Institute of Experimental Physics, Vienna University, **Austria** (January 2004).
- 4.Holographic scattering and thermal fixing of holograms in photorefractive crystals, 53 Annual Meeting Conference of the Austrian Physical Society (OPEG 2003), Salzburg University, Salzburg, **Austria** (October 2003).
- 5.Holographic Scattering in Electro-optic Crystals, Physics Department, Faculty of Science, Tanta

- University, *Egypt* (June 2003).
6. Holographic Scattering in Electro-optic Crystals, Institute of Experimental Physics, Vienna University, *Austria* (October 2002).
  7. Holographic scattering in LiNbO<sub>3</sub>, Elektrooptikseminar (Prof. Kratzig), Univ. Osnabrück, *Germany* (December 2001).
  8. Holography and its applications, Egyptian Cultural Office, Vienna, *Austria* (July 2001).
  9. Holographic scattering technique and the determination of the activation energy for thermal fixing, Hungarian Academy of Sciences, Budapest, *Hungary* (September 2000).
  10. Some holographic experiments on lithium niobate crystals doped either with Fe or Mn, stoichiometric and congruent. Hungarian Academy of Sciences, Budapest, *Hungary* (November 1999).

## References

1. **Prof. Martin Fally**, Institute of Experimental Physics, Faculty of Physics, Vienna University, Boltzmannngasse 5, A-1090 Vienna, Austria.  
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Tel.: +43-1-4277-51110.
2. **Prof. Romano Rupp**, Institute of Experimental Physics, Faculty of Physics, Vienna University, Boltzmannngasse 5, A-1090 Vienna, Austria.  
E-mail: romano.rupp@univie.ac.at  
Tel. : +43-1-4277-51105.
3. **Prof. Theo Woike**, Institute of Mineralogy, Cologne University, Zùlpicherstrasse 49b, D-50674 Cologne, Germany.  
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