

1st Research group: Dielectric Relaxation Spectroscopy and Electric/Electronic Measurements, Technological Educational Institute (T.E.I.) of Lamia [MAT - TEILAM].

Web page: <http://www.eln.teilam.gr/labs/physics/>

The Dielectric Relaxation Spectroscopy and Electric/Electronic Measurements Group has been founded as a part of the Physics Laboratory of the Technological Education Institute of Lamia (T.E.I. of Lamia) in 2005. The research activity in the laboratory is performed in close collaboration with many other Institutes and Research Centers nationally and worldwide. Research is focused on the study of the structure-property relationships in new technological materials. Dielectric techniques are employed to study local dynamics and charge transport in various materials such as complex polymeric systems, polymer nanocomposites, ceramics, polymers electrolytes, electronic materials and devices and materials of micro – nano electronics. Research activities in the laboratory include conductivity measurements (I-V/C-V), while the main techniques used are broadband Dielectric Relaxation Spectroscopy (DRS, 10^{-4} - 10^{12} Hz), Thermally Stimulated Depolarization Currents Techniques (TSDC) and Differential Thermal/Thermogravimetry Analysis (DTA/TGA).

List of Research group's top 10 publications in journals	Citations
1. C.Tsonos, A.Kanapitsas, D.Triantis, C.Anastasiadis, I.Stavrakas, E.Neagu, P.Pissis,: <i>Interface states and MWS polarization contributions to the dielectric response of low voltage ZnO varistor</i> , <i>Ceramics International</i> , 37, 207-214 (2011).	-
2. C.Tsonos, I.Stavrakas, C.Anastasiadis, A.Kyriazopoulos, A.Kanapitsas, D.Triantis,: <i>Probing the microstructure of cement mortars through dielectric parameters' variation</i> , <i>Journal of Physics and Chemistry of Solids</i> , 70, 576–583, (2009).	2
3. C.Tsonos, L.Apekis, C.Zois, G.Tsonos,: <i>Microphase separation in ion- containing polyurethanes studied by dielectric measurements</i> , <i>Acta Materialia</i> , 52(8), 1319 – 1326, (2004).	9
4. C.Tsonos, L.Apekis, K.Viras, L.Stepanenko, L.Karabanova, L.Sergeeva,: <i>Electrical and dielectric behavior in ionomer blends based on segmented polyurethanes</i> , <i>Solid State Ionics</i> , 143(2), 229-249, (2001).	12
5. C.Tsonos, L.Apekis, P.Pissis,: <i>Water sorption and dielectric relaxation spectroscopy studies in hydrated Nafion-(SO₃K) membranes</i> , <i>Journal of Material Science</i> , 35(23), 5957-5965, (2000).	20
6. Franco, R., Schoneveld, O., Georgakilas, A.G., Panayiotidis, M.I.: <i>Oxidative stress, DNA methylation and carcinogenesis</i> , <i>Cancer Letters</i> , 266 (1), 6-11 (2008).	73
7. Sedelnikova, O.A., Redon, C.E., Dickey, J.S., Nakamura, A.J., Georgakilas, A.G., Bonner, W.M.: <i>Role of oxidatively induced DNA lesions in human pathogenesis</i> , <i>Mutation Research - Reviews in Mutation Research</i> 704 (1-3), 152-159 (2010).	11
8. Micusík, M., Omastova, M., Krupa, I., Prokes, J., Pissis, P., Logakis, E., Pandis, C., Potschke, P., Pionteck, J.: <i>A comparative study on the Electrical and mechanical behaviour of multi-walled carbon nanotube composites prepared by diluting a masterbatch with various types of polypropylenes</i> , <i>Journal of Applied Polymer Science</i> , 113(4), 2536-2551 (2009).	13
9. Pandis, C., Logakis, E., Peoglos, V., Pissis, P., Omastová, M., Mravčáková, M., Janke, A., Pionteck, J., Peneva, Y., Minkova, L.: <i>Morphology, microhardness, and electrical properties of composites based on polypropylene, montmorillonite, and polypyrrole</i> , <i>Journal of Polymer Science, Part B: Polymer Physics</i> , 47(4), 407-423 (2009).	14
10. Logakis, E., Pollatos, E., Pandis, Ch., Peoglos, V., Zuburtikudis, I., Delides, C.G., Vatalis, A., (...), Pissis, P.: <i>Structure-property relationships in isotactic polypropylene/multi-walled carbon nanotubes nanocomposites</i> , <i>Composites Science and Technology</i> , 70 (2), 328-335 (2010).	5

Short CVs for the main and external research team members

1. Christos Tsonos (team leader): received his Diploma in Physics from the Department of Physics of Aristotle University of Thessaloniki in 1989. The period 1991-1993, he completed the postgraduate courses in “Physics and Materials Science”, at the Institute of Material Science of the National Centre of Scientific Research “Demokritos”. Between 1993 and 1998 he was a Research Associate in the Department of Physics in the School of Applied Mathematics and Physical Sciences of National Technical University of Athens, where he completed his PhD. During the period 1998 -2000 he worked as a postdoctoral research associate at the Department of Physics and the Department of Education of Aristotle University of Thessaloniki, while later he served as a teacher in high schools for 3 years. In 2000 he joined the Department of Electronics of

the Technological Educational Institute of Lamia as a teaching associate, where later in 2005 he was appointed as an Assistant Professor in the same department, a position which is serving currently as well. Since 2006 up to date he is the Head of the Electronics Section of the same Department. He has published 19 peer-reviewed research papers in international journal and conference proceedings receiving more than 70 citations by other researchers, while has more than 35 announcements in national and international conferences.

2. Athanasios Kanapitsas: (main researcher) Dr Kanapitsas is the coordinator of the project as well and his curriculum vitae details can be found in the part of the proposal corresponding to coordinator.

3. Alexandros Georgakilas: (visiting researcher from abroad) is an Associate Professor of Biology in the Department of Biology at East Carolina University (ECU), NC, U.S.A.. He received his degree in Physics with Honors from the University of Athens in 1992 and he continued pursuing postgraduate studies in molecular and cellular biology at the Institute of Biology, NCSR "Demokritos" in 1993. In 1998 he received a Doctorate in Radiation Biology with Honors from the Biology Department of the University of Athens. The period (1999-2000) he was a post-doctoral research associate in the Institute of Biology, NCSR "Demokritos" and in Health and Medical Physics Group of the University of Athens as well as in "Aretaion" Oncological Hospital in Athens, Greece (2000-2001). Later, the period 2001-2003, he was a post-doctoral research associate in the Biology Department of the Brookhaven National Laboratory. His research activity has been supported by many fellowship awards. He has participated and presented to many international meetings, numerous national meetings of Greek and US Scientific Societies, while he has numerous publications in peer reviewed scientific journals, and many publications in books and conference proceedings. His main research interests are: DNA damage and repair, oxidative stress, cancer and biophysics.

4. Constantinos Delides: (external researcher) graduated from Physics Department of University of Thessaloniki in 1966, he obtained a Diploma for Advanced Studies in Science at the University of Manchester in 1976, while he received his PhD from the same University in 1978. In 1981 he received a Certificate in Educational Techniques from Bolton Technical College. He served in a variety of positions in the industry and later dedicated in education and research. His teaching experience accumulates more than 40 years of teaching at various Institutions and Universities. The period (1982-1989) served as Director, (1992-1998), while he was the President of the Technological Education Institution (T.E.I.) of West Macedonia. Other positions of responsibility include : (1994-1997) Vice President, Centre for Solid Fuels Technology and Applications (1995-2004). Director of the Research Center of Western Macedonia while the period (1998-2004) he was Executive Secretary in the Ministry of Education of Greece. His research activity consists of 35 papers in peer reviewed journal, 6 books and more than 80 presentations international and national conferences

5. Nicholas Petropoulos: (external researcher) is a teaching associate at the Department of Electronics of the Technical Educational Institute of Lamia. He studied Physics at the Physics Department of the University of Ioannina and he holds an MSc and a PhD in Theoretical High Energy Physics from the Physics Department of the University of Manchester. He was a postdoctoral research associate in the Theoretical Physics Groups of the University of Coimbra, Portugal (2001-2004) and the University of Valencia (2007-2008). He has 7 publications receiving more than 100 citations.

6. Christos Pandis: (external researcher) graduated from the Physics Department of University of Athens in 2003 and he received his MSc degree in Microsystems and Nanodevices from National Technical University of Athens in 2005. He received his PhD degree in Polymer Physics from the Physics Department of National Technical University of Athens in 2010. His research interests include morphology, electrical and thermal characterization of polymers and polymer nanocomposites using various techniques. He has 14 scientific papers in international journals, 4 publications in conference proceedings and more than 20 announcements in national and international conferences.

7. Despina Sakellari: (external researcher) graduated from Physics Department of University of Crete in 2001. She received her MSc Degree in "Physics of Materials" in 2003 from Physics Department of Aristotle University of Thessaloniki and her PhD Degree in 2009, from the same department, working on the research area of the correlation of microstructure and magnetic and electrical properties of ferrites. She has experience in the structural characterization with the techniques of TEM, SEM, XRD and electrical and magnetic characterization with impedance spectroscopy and VSM respectively. Recently, her research interests focus on synthesis of magnetic nanoparticles appropriate for use in Magnetically Mediated Hyperthermia.

8. Other members (external researchers) of the research group are: H. Zois (MSc) G. Tsonos (MSc), A. Karagounis (MSc), E. Patargia (MSc), H. Tsoutsikas, Laboratory Technician. Details about their degrees, work experience and research interests can be found at the web page of the hosting laboratory <http://www.eln.teilam.gr/labs/physics/research>.