



## Europass Curriculum Vitae

### Personal information

First name(s) / Surname(s) (English: Eriks Klotins)  
Address(es)  
Telephone(s) **+371 67187866** Mobile:  
Fax(es) **+371 67132778**  
E-mail **klotins@cfi.lu.lv**  
Nationality **Latvian**  
Date of birth **22.02.1932 – 12.07.2020**

### Work experience

Dates	2006 – present
Occupation or position held	Senior researcher
Main activities and responsibilities	Characterization of application grade properties of complex oxide based multifunctional materials in terms of the effect of chemical composition, atomic structure, intrinsic dynamics, and temperature.  Analytical and computing approaches to the emergence of polar domains and ergodicity breaking ( 2008), energy-entropy balance (2009) , modulation instability(2010) and the nature of polar nanoregions in ferroelectric relaxors (2011).
Name and address of employer	Institute of Solid State Physics, University of Latvia 8 Kengaraga str., Riga LV-1063
Type of business or sector	Research laboratory
Dates	1979 - 2006
Occupation or position held	Head of department/laboratory
Main activities and responsibilities	Prototypical models of complex oxides, especially perovskites, and mathematical techniques reproducing dielectric hysteresis and polarization switching (2005 ).
Name and address of employer	Institute of Solid State Physics, University of Latvia 8 Kengaraga str., Riga LV-1063
Type of business or sector	Research laboratory
Dates	1972 – 1978
Occupation or position held	Senior Scientist
Main activities and responsibilities	Developments in theory, technology, design and implementation of voltage controlled optical switches
Name and address of employer	Laboratory of Ferro- and Piezoelectric Research, University of Latvia 19 Raina Blvd., Riga, LV- 1586, Latvia
Type of business or sector	Research laboratory
Dates	1966 - 1972
Occupation or position held	Junior Scientist, Senior designing engineer, Senior Scientist
Main activities and responsibilities	Design of electromagnetic, acoustic and ultrasonic instrumentation for the control of polymer materials
Name and address of employer	Institute of Polymer mechanics, Latvian Academy of Science Aizkraukles iela 23, LV-1006 Rīga, Latvija
Type of business or sector	Research laboratory and experimental design office

### Education and training

Dates	1992
Title of qualification awarded	Dr. phys
Principal subjects/occupational skills covered	Mathematical techniques addressed to symplectic integration of Fokker-Planck equations, Klein-Gordon – discrete nonlinear Schrödinger equation approach and discrete variable representation of problems going beyond translational invariance.
Name and type of organisation providing education and training	University of Latvia
Dates	1984
Title of qualification awarded	Senior Scientist
Principal subjects/occupational skills covered	Theory, technology, design and implementation of voltage controlled optical switches
Name and type of organisation providing education and training	University of Latvia
Dates	1971
Title of qualification awarded	Dr. ing. from Riga Technical university
Principal subjects/occupational skills covered	Thesis Title: Research of contact-type capacitive sensors for non-destructive control of polymers.
Name and type of organisation providing education and training	Riga Technical university
Dates	1957 - 1964
Title of qualification awarded	Engineer in Radioengineering
Principal subjects/occupational skills covered	Experimental design work in methods and apparatus for electromagnetic control
Name and type of organisation providing education and training	Riga Technical University

### Personal skills and competences

Mother tongue(s) **Latvian**

Other language(s)

Self-assessment  
*European level (\*)*

**Russian**

**English**

Understanding		Speaking		Writing	
Listening	Reading	Spoken interaction	Spoken production		
Excellent	Excellent	Excellent	Excellent	Excellent	
Good	Good	Good	Good	Good	

(\*) [Common European Framework of Reference for Languages](#)

Social skills and competences **Twenty-year active open-sea yachting in the capacity of captain**

Organisational skills and competences **Management of pilot projects in advanced scientific instrumentation: fundamentals, design, technology, implementation.**

Computer skills and competences **Computer codes/scripts for materials simulations in physics: (Imaginary Time Nonlinear Schrödinger Treatment , Symplectic integration approach for metastable systems)  
Mathematical packages: Mathematica 5**

PUBLICATIONS	Number of papers in refereed journals: 30 (1978-2011) Number of communications to scientific meetings: 80 Number of invited talks at International Conferences: 2 Citation index: (1990-2008) – 23, Citation H-index: 4.
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Title	Polar nanoregions in Pb(Mg <sub>1/3</sub> Nb <sub>2/3</sub> )O <sub>3</sub> (PMN): insights from a supercell approach
Author(s)	E. Klotins, A.I. Popov, V. Pankratov, L. Shirmane, D. Engers
Source:	Cent. Eur. J. Phys. • 9(2) • 2011 • 438-445
DOI	10.1080/10584587.2011.570600

Title	Numerical Evidences of Polarization Switching in PMN Type Relaxor Ferroelectrics
Author(s)	E. Klotins, A. I. Popov, V. Pankratov, L. Shirmane & D. Engers
Source:	Integrated Ferroelectrics Volume 123, Issue 1, January 2011, pages 32-39
DOI	10.1080/10584587.2011.570600

Title	Intrinsic localized excitations in nonlinear lattices: Heuristic explanation for the nature of polar nanoregions?
Author(s)	E. Klotins,
Source:	Physica E 42 (2010) 614-617
DOI	10.1016/j.physe.2009.06.053

Title	Polarization Response Explored by Joint Hamiltonian and Stochastic Approach
Author(s)	E. Klotins, A. Kuznetsov, A. Bely
Source:	Applied Physics A , (2009) 96: 549-555
DOI	10.1140/epjb/e2006-00127-8

Title	Mesoscopic scale structural instability in ferroelectrics
Author(s)	E. Klotins, A. Kuznetsov
Source:	Ferroelectrics ,378: 111120, 2009
DOI	10.1080/00150190902848073

Title	STRUCTURAL INSTABILITY IN FERROELECTRICS: SUPERIMPOSING HAMILTONIAN AND STOCHASTIC DYNAMICS
Author(s)	E. KLOTINS & A. KUZNETSOV
Source:	Integrated Ferroelectrics Volume 102, Issue 1, December 2008, pages 1-17
DOI	10.1080/10584580802557938

Title	Notes on the Electroelastic Interaction in Joint Hamiltonian and Stochastic Treatment of Polarization Response
Author(s)	A. Kuznetsov, A. Bely & E. Klotins
Source:	Ferroelectrics Volume 373, Issue 1, November 2008, pages 37-43
DOI	10.1080/00150190802408622

Title	Stochastic Dynamics of Ferroelectric Polarization
Author(s)	Eriks Klotins
Source:	Ferroelectrics Volume 370, Issue 1, October 2008, pages 184-195
DOI	10.1080/00150190802381548

Title	Nonadiabatic Polarization Response in Finite Bodies: Symplectic Integration and Application to Domain Switching
Author(s)	E. Klotins
Source:	Ferroelectrics Volume 333, Issue 1, May 2006, pages 11-20
DOI	10.1080/00150190600678616

Title	Symplectic integration approach for metastable systems
Author(s)	E. Klotins,

Source:	Eur. Phys. J. B 50, 315 – 320 (2006)
DOI	10.1140/epjb/e2006-00127-8

Title	Symplectic integration approach to nonadiabatic polarization response in ferroelectrics: Scalar theory
Author(s)	E. Klotins
Source:	Physica E 29 (2005) 237-242
DOI	10.1016/j.physe.2005.05.020

Title	Relaxation dynamics of metastable systems: application to polar medium
Author(s)	E. Klotins
Source:	Physica A, 340 (2004) 196-200
DOI	10.016/j.physa.2004.04.007

Title	Semiadiabatic High-Field Polarization Response in Ferroelectrics I: Hysteresis and Nonlinear Susceptibility
Author(s)	E. KLOTINS, J. HLINKA , J. KAUPUŽS
Source:	FerroelectricsVolume 301, Issue 1, January 2004, pages 79-84
DOI	10.1080/00150190490455124

Title	Free-Energy Functional Technique for Finite Ferroelectric Bodies
Author(s)	E. Klotins , A. Sternberg
Source:	FerroelectricsVolume 299, Issue 1, January 2004, pages 35-41
DOI	10.1080/00150190490428674

Title	Imaginary Time Schrödinger Treatment for Microstructure Modeling in Ferroelectrics
Author(s)	E. KLOTINS, V. SHVARTSMAN, I. BDIKIN & A. KHOLKIN
Source:	Integrated FerroelectricsVolume 64, Issue 1, January 2004, pages 51-59
DOI	10.1080/10584580490893583

Title	Application of Elastostatic Green Function Tensor Technique to Electrostriction in Cubic, Hexagonal and Orthorhombic Crystals
Author(s)	J. Hlinka, E. Klotins,
Source:	J. Phys.: Condens. Matter 15 (2003) 5755-5764
DOI	10.1088/0953-8984/15/33/309

Title	EFFECT OF THERMAL FLUCTUATIONS ON FERROELECTRIC RESPONSE: DYNAMIC HYSTERESIS
Author(s)	I. Aulika, E. Klotins
Source:	Journal of Optoelectronics and Advanced Materials Vol. 5, No. 3, September 2003, p. 747 - 753
DOI	

Title	Spatio-Temporal Correlations of Local Polarization in Ferroelectrics
Author(s)	J. Kaupužs, E. Klotins
Source:	FERROELECTRICS, 295: 607-616,2003
DOI	

Title	Modelling of the anisotropic nonlocal elastic field in polarized ferroelectrics
Author(s)	E. Klotins
Source:	Ferroelectrics,2002,Vol. 270, pp. 33 – 338
DOI	

Title	Free energy functional technique for finite ferroelectric bodies
Author(s)	E. Klotins
Source:	Journal of Non-Crystalline Solids, Volume 305, Issue 1, July 2002, page 368
DOI	10.1016/S0022-3093(02)01116-X,

Title	Study on the phonon spectra of lanthanum modified lead zirconate titanate ceramics
Author(s)	V. Efimov, A. Kalmikov, E. Klotins, V. Minashkin, A. Sternberg and S. Tiutiunnikov
Source:	Ferroelectrics Volume 257, Issue 1, January 2001, pages 39-50
DOI	10.1080/00150190108016279
Title	Analytic solutions for the partial coherence of electromagnetic radiation propagating through electrooptic ceramics: the chaotic phase screen model
Author(s)	E. Klotins
Source:	Ferroelectrics, 2000, Vol. 238, pp. 253 - 261
DOI	10.1080/00150190008008791
Title	Mesosopic scale polarization inhomogeneities in electrooptic ceramics: the chaotic phase screen model
Author(s)	E. Klotins
Source:	G. Borstel et al (eds), Defects and Surface-Induced Effects in Advanced Perovskites, 411-418, Netherlands, Kluwer Academic Publishers, Netherlands (2000)
DOI	
Title	Macroscopic elastic and electric fields in ferroelectrics: Phenomenology and simulations
Author(s)	E. Klotins, A. Sternberg & K. Kundzins
Source:	Ferroelectrics Volume 235, Issue 1, December 1999, pages 97-110
DOI	10.1080/00150199908214870
Title	Phase transitions and properties of perovskite ferroelectric ceramics and films for certain applications
Author(s)	A. Sternberg, E. Birks, L. Shebanovs, E. Klotins, M. Ozolinsh, M. Tyunina, V. Zauls & M. Kundzinsh
Source:	Ferroelectrics Volume 226, Issue 1, April 1999, pages 217-241
DOI	10.1080/00150199908230301
Title	The strain response of piezoelectric multilayer actuators under combined action of electric field and in-plane uniform load
Author(s)	Eriks Klotins, Karlis Kundzins, Bjorn Andersen & Andrew James
Source:	Ferroelectrics, Volume 199, Issue 1, July 1997, pages 261-270
DOI	10.1080/00150199708213448
Title	Local structure in uniaxial systems above the phase transition temperature: Experiments on BaTiO <sub>3</sub>
Author(s)	Inta Klotina, Eriks Klotins
Source:	Ferroelectrics, Volume 159, Issue 1, September 1994, pages 103-108
DOI	10.1080/00150199408007556
Title	High efficiency angular deflection of the laser beam: PLZT/intracavity array
Author(s)	V. Alekseev, V. Liber, A. Starikov, A. Anspoks, E. Auzins, E. Klotins & J. Kotleris
Source:	Ferroelectrics Volume 131, Issue 1, June 1992, pages 301-306
DOI	10.1080/00150199208223430
Title	PLZT based frequency shifter in a laser heterodyne interferometer
Author(s)	E. Klotins, P. Kreicbergs, J. Kotleris
Source:	Ferroelectrics Volume 128, Issue 1, April 1992, pages 85-88
DOI	10.1080/00150199208015071
Title	PLZT phase plate frequency shifter for heterodyne interferometry
Author(s)	E. Klotins, P. Kreicbergs
Source:	Ferroelectrics Volume 90, Issue 1, February 1989, pages 209-211
DOI	10.1080/00150198908211295
Title	Optically induced birefringence change in La-doped lead zirconate-titanate ferroelectric ceramics
Author(s)	A. E. Krumins, E. E. Klotins, V. I. Dimza, U. Yu. Ilyin & V. J. Fritsberg
Source:	Ferroelectrics Volume 18, Issue 1, January 1978, pages 21-26
DOI	10.1080/00150197808236789