Europass Curriculum Vitae

Personal information and address	
First name(s) / Surname(s)	Teodor Ivanov Milenov
Address(es)	12/25 “St.st. Cyril and Methodius” Str., Pernik 2300, Bulgaria
Telephone(s)	
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Affiliation address(es)	Institute of Electronics, Bulgarian Academy of Sciences
	72 Tsarigradsko Chaussee blvd. 1784 Sofia Bulgaria
E-mail	teddymilenov@abv.bg ; tmilenov@ie.bas.bg ; teddy@issp.bas.bg
Nationality	Bulgarian
Date of birth	03.10.1960
Gender	male
Desired employment / Occupational field	R&D
Work experience	31 years
Dates	2013- present - Assoc. Prof. Institute of Electronics- Bulgarian Academy of Sciences, Laboratory “Physical problems of ion technologies” 2016- 2017 Head of the Laboratory “Physical problems of ion technologies” 2012-2013- Physicist Inst. of Electronics- Bulg. Acad. Sci. Laboratory “Physical problems of ion technologies” 2010 – 2012 - Assoc. Prof. European Polytechnical University, Pernik, Department of Physics and Chemistry, Center of Scientific Research 1987- May 2012: Laboratory of Crystal Growth, Institute of Solid State Physics, Bulgarian Academy of Sciences, Sofia, Bulgaria: 1987- 1989 Research Associate III degr.; 1989- 1997 Research Associate II degr., 1997-2000 Research Associate I degr.; 2000- May 2012 Assoc. Professor 2000-2012 Assoc. Professor 1985-1987 Technology engineer, „Microelectonica“ Corp. , Botevgrad, Bulgaria

Type of business or sector	scientific organization
Education and training	
Dates	1997
Title of qualification awarded	PhD in Solid State Physics
Principal subjects/occupational skills covered	
Name and type of organisation providing education and training	Institute of Solid State Physics, Bulgarian Academy of Sciences, Sofia, Bulgaria
Dates	1985
Title of qualification awarded	Dipl. Eng. in Chemistry University of Chemical Technology and Metallurgy- Sofia, Department of Chemical Technology of Semiconductors and Microelectronics, Bulgaria
Principal subjects/occupational skills covered	
Name and type of organisation providing education and training	University of Chemical Technology and Metallurgy- Sofia, Department of Chemical Technology of Semiconductors and Microelectronics, Bulgaria

Personal skills and competences

Mother tongue(s): Bulgarian

Other language(s)

Self-assessment	Understanding				Speaking				Writing	
European level (*)	Listening		Reading		Spoken interaction		Spoken production			
Language English	B1		B2		B1		B1		B2	
Language Russian	B1		B2		B2		B2		B1	

(*) Common European Framework of Reference for Languages

Social skills and competences	Work in team
Organisational skills and competences	Project management, Member of the Scientific Council of the Institute of Solid State Physics- Bulgarian Academy of Sciences: 2008- 2011; 2011 – 2014 present (see: http://www.issp.bas.bg/index-eng.html)

Technical skills and competences	
Computer skills and competences	MS Office, ORIGIN, TEMSLICE etc.
Artistic skills and competences	
Other skills and competences	
Driving licence	Driver class B

Additional information

Research interests	Thin film deposition & crystal growth (Carbon Phases & Semiconductors). Structural Defects in crystals/ layers. Characterization of condensed matter: X-ray diffraction, SEM/EDAX, TEM, Raman- , IR- and XP- spectroscopy.
Awards	**Best scientific achievement in applied physics** of the Institute of Solid State Physics (2008): **T.I.Milenov**, "Chemical-Vapour-Deposition-Initiated Growth and Characterization of Diamond and Diamond-like Micro-Crystals", **Journal of Crystal Growth 310** (2008) 5447. **Best scientific achievement in applied physics** of the Institute of Electronics (for 2014): **T.I.Milenov** for a cycle of three studies published in **Optical & Quantum Electronics, 47 (2015) 851-863, 901-912 and 923-935**. **Golden medal of the National Chiao-Tung University (2012), Hsin- Chu, Taiwan, Republic of China, AUGUST 2012.**
Projects	**2012 - 2016 -** COST Action MP 1204 "TERA-MIR Radiation: Materials, Generation, Detection and Applications" Management Committee member (Bulgarian representative)- see: http://www.cost.eu/domains_actions/mpns/Actions/MP1204?management **1991 - 2007** - Team leader and principal investigator of 3 Projects, funded by the Bulgarian National Scientific Research Fund. **2001 - 2010** - Team leader of 3 joint projects, in the framework of Russian Academy of Sciences - Bulgarian Academy of Sciences Interacademical Partnership. **1987 - 2012 -** Participation in more than 15 other projects.
Teaching experience	✓ Two lecture courses (one in Bulgarian and one in English) in General Physics. ✓ Two special lecture courses (in Bulgarian as well as in English) in Building Physics. ✓ Three MD students (1990- 1995) and one MD (2015) student. ✓ February- March 2012 - visiting professor in the Electrophysics Department, National Chiao Tung University, Hsin-Chu, Taiwan (ROC).

LIST OF PUBLICATIONS OF
Dr. Teodor Ivanov Milenov, Assoc. Professor

1.Z. Boncheva- Mladenova, V.Vasilev, T.I. Milenov and S. Aleksandrova
Investigation of Phase- Diagram of the CdTe- Ag_2Te System
Thermochimica Acta 92 (1985) 591
2.M. Gospodinov, N.Petkov, T.I. Milenov, P.Svestarov, S.Dobreva, A.Nikolov V.Tasev
$Pb_5(GeO_4)(VO_4)_2$ Crystals Grown by the Czochralski Method
Comptes Rendus l'Acad. Bulg. Sci. 42 (1989) 49
3.M. Gospodinov, P.Svestarov, N.Petkov, T.I. Milenov
Growth of Large Crystals of $Bi_{12}GeO_{20}$ and Study of Some Physical Properties
Bulgarian J. of Physics 16 (1989) 520
4.E. Anachkova, M. Gospodinov, P. Svestarov, T.I. Milenov, A. Nikolov, V. Tassev, Y.Markov, M.Limonov and G.Bruchman
Raman Study of $Pb_5(GeO_4)(VO_4)_2$ Crystals
J. of Molecular Structure, 219 (1990) 31
5.I.V. Sabinina, A.K. Gutakovski, T.I. Milenov, Y.G. Sidorov and M.M. Gospodinov
Observation of the Grain Boundaries in CdTe Crystals by the TEM
Comptes Rendus l'Acad.Bulg.Sci. 44 (1991) 21 (No.5)
6.T.I. Milenov and M.M. Gospodinov
Growth of CdTe Crystals by the Bridgman Method from Nearly Stoichiometric Melts
Comptes Rendus l'Acad.Bulg.Sci. 44 (1991) 33 (No.8)
7.I.V. Sabinina, A.K. Gutakovski, T.I. Milenov, N.V. Lyakh, Y.G. Sidorov and M.M.Gospodinov
Melt Growth of CdTe Crystals and Transmission Electron Microscopy Investigation of Their Grain Boundaries.
Crystal Research and Technology Vol.26 (1991) 967
8.T.I. Milenov and M.M. Gospodinov
Melt Growth of CdTe Crystals and Investigation of Their Boundaries
Nuclear Instruments and Methods in Physical Research (A) A322 (1992) 363
9.T.I. Milenov and M.M. Gospodinov
Growth of Large CdTe Crystals by the Bridgman Method
Nuclear Instruments and Methods in Physical Research (A) A322 (1992) 368
10. T.I. Milenov and V.I. Dimov
TEM Observations of Antiphase Boundaries in CdTe Crystals
Journal of Materials Science 31 (1996) 4693
11.G. Beshkov, N. Velchev, N. Tzenov, T.I. Milenov and V. Lazarova
Effect of Rapid Thermal Annealing on the Properties of Thin Carbon Films
Materials Science and Engineering B38 (1996) 25
12.T.I. Milenov, P.A. Botev, E.B. Dinolova, S.G. Dobreva and M.M. Gospodinov
Growth and Characterization of Large $La_{1-x}Pb_xMnO_{3-\delta}$ Crystals
Materials Science and Engineering B 75 (2000) 1
13. T.I. Milenov , V.I. Dimov, N.G. Khaltakova and M.M. Gospodinov
HRTEM Observations of Σ=3 and Σ=9 Tilt about <011> Axis Grain Boundaries in Bulk CdTe Crystal
Crystal Research and Technology, 35 (2000) 1331
14.T.I. Milenov and M.M. Gospodinov

Deformational Twinning in CdTe Crystals Grown by the Bridgman Method
Materials Science and Engineering B84 (2001) 189

15. T.Milenov, V.Dimov, N. Khaltakova and M. Gospodinov
HRTEM Observation of Microcrystals in CdTe Melt Grown Crystal.
Comptes Rendus l'Acad. Bulg. Sci. 54 (2001) 41

16. T. I. Milenov, P. M. Rafailov, M. M. Gospodinov and P.A.Botev
X-ray Diffraction Topography Investigation of the Core in $Bi_{12}SiO_{20}$ Crystals
Materials Research Bulletin 37 (2002) 1651

17. M. Veleva, T. Milenov, D. Petrova, L. Yankova, M. Gospodinov
Dielectric Behaviour of Doped $Bi_{12}SiO_{20}$ Single Crystals
Comptes Rendus l'Acad. Bulg. Sci. 55 (2002) 17

18. T. I. Milenov, P. M. Rafailov, M. M. Gospodinov and P.A.Botev
X-ray Diffraction Topography Observations of the Core in $Bi_{12}SiO_{20}$ Crystals Doped with Mn
Materials Science and Engineering B106 (2004) 148

19. T. I. Milenov, M.N. Veleva, D.P. Petrova, M.M. Gospodinov, A. Egorisheva, A.S. Kargin, V.M. Skorikov and A.Ya. Vasil'ev
AC- Conductivity in $Bi_{12}SiO_{20}$ crystals doped with Os, Re, Rh и Ru,
Inorganic Materials 41, № 2 (2005) pp. 197 - 200

20. P. M. Rafailov, T. I. Milenov, M. I. Veleva, C. Thomsen and M. M. Gospodinov
A Raman Spectroscopic Study of Defects in $Bi_4Ge_3O_{12}$ Crystals
Journal of Optoelectronics and Advanced Materials, 7 (№1) (2005) pp. 473- 477

21. T.I.Milenov
First and Higher Order Twinning in Crystals with Diamond and Sphalerite Type Structure
Comptes Rendus l'Acad. Bulg. Sci. 58 (2005) 1251

22.P. M. Rafailov, T. I. Milenov, M. N. Veleva, C. Thomsen and M. M. Gospodinov
A Raman Spectroscopic Study of Ru, (Ru+Mn), Fe and (Al+Mn) Doped $Bi_4Ge_3O_{12}$ Crystals
Comptes Rendus l'Acad. Bulg. Sci. 59 (2006) 255

23.T. I. Milenov, P. M. Rafailov, A.V. Egorysheva, V. M. Skorikov, R. Petrova, M. N. Veleva, T.D. Dudkina, C. Thomsen, A.Ya. Vasil,ev and M.M. Gospodinov,
XRD and Raman spectroscopic study of Ru and Os doped $Bi_{12}SiO_{20}$ crystals
Journal of Optoelectronics and Advanced Materials 9 (2007) 293.

24.T. I. Milenov, V.I. Dimov, and M. M. Gospodinov
TEM observation of two- dimensional defects in CdTe crystals
Journal of Optoelectronics and Advanced Materials 9 (2007) 289.

25.T. I. Milenov, P. M. Rafailov, R. Petrova, Yu.F. Kargin and M. M. Gospodinov
X- Ray Diffraction Study of a $Bi_4Ge_3O_{12}$ Crystal
Materials Science and Engineering B- 138 (2007) 35.

26.V. M. Skorikov, T. I. Milenov, A.V. Egorysheva, P. M. Rafailov, T.D. Dudkina, M. N. Veleva, A.Ya. Vasil,ev and M.M. Gospodinov
An optical excitation study of Ru, Rh, Re and Os doped $Bi_{12}SiO_{20}$ crystals
Physica Status Solidi B244 (2007) 3292.

27. T. I. Milenov, V.I. Dimov, P.M. Rafailov and M.M. Gospodinov
Electronic Diffraction Study of Variuos Lattice Defects in a $Bi_4Ge_3O_{12}$ Crystal
Applied Physics A 92 (2008) 643.

28. T.I. Milenov
Chemical-Vapour-Deposition-Initiated Growth and Characterization of Diamond and Diamond-like Micro-Crystals

Journal of Crystal Growth 310 (2008) 5447.

29. T .I. Milenov, P. M. Rafailov, G. V. Avdeev, C. Thomsen

Chemical vapor deposition of carbon layers on Si {001} substrates

Journal of Optoelectronics and Advanced Materials, 11 (2009) 1273.

30. P.M. Rafailov, T.I. Milenov, M. Monev, G.V. Avdeev, C. Thomsen, U. Dettlaff-Weglikowska and S. Roth

Spectroscopic studies on electrochemically doped and functionalized single-walled carbon nanotubes

Journal of Optoelectronics and Advanced Materials 11 (2009) 1339.

31. A.V. Egorysheva, T.I. Milenov, P.M. Rafailov, C. Thomsen, R.Petrova, V.M. Skorikov and M.M. Gospodinov

Lattice Distortion in a $Bi_{12}SiO_{20}$ Crystal Caused by Doping with Copper

Solid State Communications 149 (2009) 1616- 1618

32. S. Dobreva, T. Milenov, P. Rafailov and R. Nikolova

Growth, Structure and Electrical Properties of La_2CoMnO_6 Crystals

Comptes Rendus l'Acad. Bulg. Sci. 62 (2009) 565.

33. T. I. Milenov, P. M. Rafailov, M. V. Abrashev, R. P. Nikolova, R. Titorenkova and M. M. Gospodinov

Growth and Characterization of Large $La_{(1-x)}Pb_xMnO_{3+\delta}$ (x=0.32÷ 0.35) Crystals

Cryst. Res. Technol., 44 (2009) 1192

34. T.I. Milenov, P.M. Rafailov, M.V. Abrashev, R.P. Nikolova, A. Nakatsuka, G.V. Avdeev, M.N. Veleva, S. Dobreva, L. Yankova and M.M. Gospodinov

Growth and Characterization of La_2CoMnO_6 Crystals Doped with Pb

Mater. Sci. Eng. B 172 (2010) 80

35. P.M. Rafailov, A.V. Egorysheva, T.I. Milenov, V.D. Volodin, G.V. Avdeev, R.Titorenkova, V.M. Skorikov, R.Petrova and M.M. Gospodinov

Synthesis, Growth and Optical Spectroscopy Studies of $BaBiBO_4$ and $CaBi_2B_2O_7$ Crystals

Applied Physics B 101 (2010) 185

36. Егорышева А.В., Володин В.Д., Миленов Т., Рафаилов П.,Скориков В.М., Дудкина Т.Д.

Glass- formation in the $CaO-Bi_2O_3-B_2O_3$ and $SrO-Bi_2O_3-B_2O_3$ systems

Russ. J. Inorg. Chem., 55 (2010) 1810

37. T I Milenov, P M Rafailov, V Tomov, R P Nikolova, V H Skumryev, J M Igartua, G Madariaga, G A López, E Iturbe-Zabalo and M M Gospodinov

Growth and Characterization of $Pb_3Ni_{1.5}Mn_{5.5}O_{15}$ Single Crystal

Journal of Physics: Condensed Matter. 23 (2011) 156001.

38. G. V. Avdeev, T. I. Milenov, A. V. Egorysheva, K. P. Petrov, V. M. Skorikov, R. Kh. Titorenkova and P. M. Rafailov

Crystal Structure of $Bi_{36}MgP_2O_{60-\delta}$

Russ. J. of Inorg. Chem., 56 (2011) 913.

39. T.I. Milenov, P.M. Rafailov, C. Thomsen, A. Egorysheva, R. Titorenkova, B. Kostova, V. Skorikov

Raman and optical spectroscopy characteristics of Se-doped $Bi_{12}SiO_{20}$ crystals

Optical Materials 33 (2011) 1573.

40.T. Milenov, G. Avdeev, P. Rafailov, V. Tomov, S. Dobreva, L. Yankova, M. Veleva, D. Toncheva

Growth, Characterization and Dielectric Properties of $Bi_2Mn_4O_{10}$ Single Crystals

Comptes Rendus l'Acad. Bulg. Sci. 64 (2011) 931

41.A.V. Egorysheva, V.D. Volodin, T. Milenov, G. Avdeev, P. Rafailov, V.M. Skorikov

Influence of Eu_2O_3 on the Crystallization Process of Glasses in the System $BaO-Bi_2O_3-B_2O_3$

Inorg. Mater, 48 (2012) 948- 952 DOI: 10.1134/S0020168512090051

42.T.I. Milenov, P.M. Rafailov, I. Urcelay-Olabarria, E. Ressouche, J.L. García-Muñoz, V. Skumryev and M.M. Gospodinov

Magnetic Behaviour of $La_2CoMnO_{6-\delta}$ Crystal Doped with Pb and Pt

Materials Research Bulletin, 47 (2012) 4001-5

DOI: 10.1016/j.materresbull.2012.08.071

43. L. Yankova, T.I. Milenov, P.M. Rafailov, G.V. Avdeev, M.N. Veleva and M.M. Gosopodinov

Magnetic and electric field characterization of La_2CoMnO_6 crystals doped with Pb

Crystal Research and Technology, 48, (2013) 439–445

DOI 10.1002/crat.201300081

44. E.M. Kozbahteev, V.M. Skorikov, T.I.Milenov, , P. Rafailov and G. Avdeev

Synthesis of carbon allotropic forms by the hydrothermal method

Russ. J. Inorg. Chem. , 58 (2013) 1542-1546, DOI: 10.7868/S0044457X13120155

45. T.I. Milenov, T. Tenev, I. Miloushev, G.V. Avdeev, C.W. Luo and W.C. Chou,

Preliminary studies of the Raman spectra of Ag_2Te and Ag_5Te_3

Optical and Quantum Electronics- 46 (2013) 573- 580**, DOI** 10.1007/s11082-013-9810-1

46. Teodor I. Milenov and Ivalina Avramova,

Deposition of graphene by sublimation of pyrolytic carbon

Optical & Quantum Electronics, 47, 851–863 (2015), **DOI** 10.1007/s11082-014-0015-z

47. Teodor Milenov, Ivalina Avramova, Evgenia Valcheva and Savcho Tinchev,

Influence of the surface treatment with low-energy Ar^+ plasma on graphene and defected graphene layers

Optical & Quantum Electronics, 47, 901–912 (2015)**, DOI** 10.1007/s11082-014-0037-6

48. Teodor Milenov, Ivalina Avramova, Evgenia Valcheva, Savcho Tinchev and Georgi Avdeev,

Low energy Ar^+ -plasma thinning and thermal annealing of carbon films to few-layered graphene

Optical & Quantum Electronics, 47, 923–935 (2015), **DOI** 10.1007/s11082-014-0067-0

49. 4. A.V. Egorysheva, T.I. Milenov, O.G. Ellert, G.V. Avdeev, P.M. Rafailov,

N.N. Efimov, V.M. Novotortsev

Magnetic glasseceramics containing multiferroic $BiFeO_3$ crystals

Solid State Sciences 40, 31-35 (2015), **DOI** 10.1016/j.solidstatesciences.2014.12.011

50. Teodor Milenov, Ivalina Avramova, Evgenia Valcheva and Savcho Tinchev,

Deposition of graphene/ graphene-related phases on different substrates by thermal decomposition of acetone

Optical & Quantum Electronics 48, 1-12 (2016), **DOI 10.1007/s11082-016-0374-8**

51. E.M. Kozhbakhteev, V.M. Skorikov, T.I. Milenov, S.A. Kuznetsova.

Formation of Carbon Phases under Hydrothermal Conditions

Russian Journal of Inorganic Chemistry, 61, 11, (2016) 1374-1377**, DOI:10.1134/S0036023616110103,**

52. I. Balchev, K. Cvetkova, P Terziiska, A Szekeres, I Miloushev, T Tenev, K Antonova, R Peyeva, T Ivanova, I Avramova, M Tzvetkov, G Avdreev, E Valcheva,T. Milenov, S. Tinchev,

Synthesis and characterization of thin amorphous carbon films doped with nitrogen on (001) Si substrates

Journal of Physics: Conference Series, 764, 012013 (2016)

53. Kolev S, Balchev I, Tinchev S, Milenov T.

Ab-Initio Molecular Dynamics Simulation of Graphene Sheet

Journal of Physics: Conference Series, 780, 012014 (2017)

54. H Naradikjan, M Petrov, B Katranchev, T Milenov, S Tinchev,

Surface characterization and orientation interaction between Diamond Like Carbon layer structure and dimeric LC
Journal of Physics: Conference Series 780, 012010 (2017)
55.T. I. Milenov, E. Valcheva and V. N. Popov,
Raman Spectroscopic Study of As-Deposited and Exfoliated Defected Graphene Grown on (001) Si Substrates by CVD
Journal of Spectroscopy, Volume 2017, Article ID 3495432-1-8, (2017)
DOI: 10.1155/2017/3495432
56. T.I. Milenov, I. Avramova, E. Valcheva, G.V. Avdeev, S. Rusev, S. Kolev, I. Balchev, I. Petrov, D. Pishinkov and V.N. Popov,
Deposition of defected graphene on (001) Si substrates by thermal decomposition of acetone,
Superlattices and Microstructures, 111, 45-56 (2017)
DOI: 10.1016/j.spmi.2017.04.042
57. Tien-Tien Yeh, Wen Hao Lin, Wen-Yen Tzeng, Phuoc Huu Le, Chih-Wei Luo, Teodor I. Milenov
The optical properties of Ag_2Te crystals from THz to UV
Journal of Alloys and Compounds, 725, 433- 440 (2017)
DOI: 10.1016/j.jallcom.2017.07.153
58. A.V. Egorysheva, T.I. Milenov, P.M. Rafailov, O.M. Gaytko, G.V. Avdeev, T.D. Dutkina
Optical and vibrational spectra of $Bi_{1.8}Fe_{1.2(1-x)}Ga_{1.2x}SbO_7$ solid solutions with pyrochlore-type structure
Russian Journal of Inorganic Chemistry, 62, 960-963 (2017)
DOI: 10.7868/S0044457X17070066

Conference presentations (recent 5 years):
1. T.I.Milenov, P.M. Rafailov, M.M. Gospodinov, R.P. Nikolova, B.L. Shivachev, G.V. Avdee and M.N. Iliev
Characterization of $Bi_{24}FeBiO_{39}$ and $Bi_{12}(Fe_{0.85}Bi_{0.15})O_{20}$ Crystals
Second International Scientific Conference "EDUCATION, SCIENCE, INNOVATIONS 2012" (ESI), 9-10 June 2012, European Polytechnical University, Pernik, Bulgaria
2. T.I.Milenov
Latest Results on Synthesis and Characterization of $La_2Co_xMn_{(1-x)}O_{(6-\delta)}$ Crystals
(Review presentation)
Second International Scientific Conference "EDUCATION, SCIENCE, INNOVATIONS 2012" (ESI), 9-10 June 2012, European Polytechnical University, Pernik, Bulgaria
3. Chih-Chang Hong, Chih-Wei Luo and Teodor I. Milenov,
Reflectance spectroscopy studies of Ag_2Te Crystals,
Annual Meeting of the Physical Society of Taiwan, Annual Meeting of the Physical Society of Taiwan, National Dong Hwa University, Hualien, Republic of China /JAN 29 - 31, 2013/
4. T.I. Milenov, E.P. Valcheva and S.S. Tinchev,
Influence of the low-energy Ar^+ on graphene phases
II-nd Congress of Physics, September 25-29, 2013, Sofia, Bulgaria
5. S.S. Tinchev, T.I. Milenov, R. Chervenkov, K. Mukov and G.V. Avdeev
Surface modification of DLC to graphene by low-energy ion irradiation
"PHOTONICS' 2013", Crotona 20-th- 24-th May 2013, Italy

6. Катя Вутова, Тимур Нургалиев, Татяна Куцарова, Савчо Тинчев, Теодор Миленов
Наноматериали и нанотехнологии за електрониката,
Списание на БАН , 5 (2015) 3 – 14