

Curriculum vitae (CV)

Personal information	<u>Māris Kļaviņš</u>	
Birth data	<u>12 March 1956</u>	
Education		
	1994	Dr. habil. chem. University of Latvia
	1992	Dr. chem. University of Latvia
	1985	Cand. Chem. Sciences- Moscow State University
	1979-1982	Doctoral studies at University of Latvia
	1974-1979	University of Latvia Studies
Current employment		
2007-present Head of Department of environmental science University of Latvia		
Previous employment		
1996-2007	Dean of Faculty	University of Latvia
1995-present	Professor	University of Latvia
1993-1995	Docent	University of Latvia
1989-1993	Head of hydrochemistry group, professor	Institute of Biology
1986-1989	Head of sorbent laboratory	Institute of Applied Biochemistry
1984-1986	Senior researcher	Institute of Applied Biochemistry
1982-1984	Engineer	Institute of Applied Biochemistry
1979-1982	Doctoral student	University of Latvia
1974-1979	Student	University of Latvia
Research experience		
<p>Major research fields are in environmental pollution and its chemical analysis, aquatic chemistry, sustainable management and quality of water. M.Klavins is supervisor of 5 Ph.D. students, author of numerous (168) scientific articles included in the SCOPUS and Web of Science. In last few years M.Klavins has been involved in development of legislative system of environmental protection in Latvia regarding monitoring system, chemical substances, chemical safety, toxic wastes and especially is doing with the problems of analysis of environmental pollution. $h_{=15}$.</p> <ol style="list-style-type: none"> 1. V.P.Grachev, M.A.Zavalnyij, A.E.Gūtmanis, A.X. Zitsmanis, M.Kļaviņš, L.L.Mironova, V.D.Popova "Cytolar" micocarriers for animal cell cultivation. <i>Voprosi Virusologii</i>, 1985, N 6, pp.721-725 (in Russ.) 2. A.Roska, M.Kļaviņš, A.Zicmanis Polymer bound crown-ethers. I. Synthesis and complexation of polybenzocrowns. <i>React. Polym.</i>, 1988, vol.9, pp.59-66. 3. A.Roska, M.Kļaviņš, A.Zicmanis Polymer bound crown ethers.II. Catalysis of Knoevenagel condensation. <i>React. Polym.</i>, 1988, vol. 9. pp.67-70 4. A.Zicmanis, M.Kļaviņš, A.Skujiņš, I.Jākobsone Polymer bound azoles and azines- prospective acylation catalysts. <i>React. Polym.</i> 1989, vol. 11, pp.227-236 5. A.Zicmanis, A.Roska, M.Kļaviņš, I.Baskhirova Polymer bound crown ethers. III. Effect of polymer matrix on the rate of crotonization. <i>React. Polym.</i>, 1990, vol. 12, pp.193-220 6. J. Hammar, P.Larsson, M.Klavins Persistent pollutants in normal and dwarf forms of an Arctic Charr population (<i>Salvelinus alpinus</i> L.) <i>Can. J. Fish. Aq. Sci.</i>, 1993, 12, 2574-2580 7. M.Kļaviņš, A.Briede, I.Kļaviņa, V.Rodinov Metals in sediments of lakes in Latvia. <i>Environ. Internat.</i>, 1995, vol. 21, N 4, 451-458 8. M.Kļaviņš, V.Rodinov, P.Cimdiņš, I.Kļaviņa, M.Purīte, I.Druvietis Well water quality in Latvia. <i>Internat. J. Environ. Studies</i>, 1995, vol. 23, N 1, 1-10 		

9. M.Kļaviņš, V.Rodinovs, G.Vereskūns Metals and organochlorine compounds in fish from Latvian lakes. *Bull. Environ. Contam. Toxicol.*, 1998, 60(4), 538-546
- 10.M.Kļaviņš, A.Briede, E.Parele, V.Rodinov, I.Kļaviņa. Metal accumulation in sediments and benthic invertebrates in lakes of Latvia. *Chemosphere*, 1998, 36(15), 3043-3053
- 11.I.Druvietis, G.Spriņģe, L.Urtāne, M.Kļaviņš. Evaluation of plankton communities in small highly humic bog lakes in Latvia. *Environ. Internat.*, 1998, 24 (5/6), 595-602
- 12.M.Kļaviņš, A.Roska, E.Apsīte Catalytic activity of humic substances in condensation reactions. *Environ. Internat.*, 1998, 24 (5/6), 645-651
- 13.E.Apsite, M.Klavins Assessment of the changes of COD and color in rivers of Latvia during the last twenty years. *Environ. Internat.*, 1998, 24 (5/6), 637-643
- 14.M.Kļaviņš, J.Seržāne, L.Eglīte. Methods for analysis of aquatic humic substances. *Crit. Rev. Analyt. Chem.*, 1999, (29), 187-203
- 15.M.Kļaviņš, A.Briede, V.Rodinov, I.Kokorīte, E.Parele, I.Kļaviņa (2000) Heavy metals in rivers of Latvia. *Sci. Total., Environ.*, 262, 175-183
- 16.M.Kļaviņš, V.Rodinov, I.Kokorīte, I.Kļaviņa, E.Apsīte (2001) Long-term and seasonal changes in chemical composition of surface waters in Latvia. *Environ. Monitoring and Assessment.*, 66, 233-251
- 17.M.Klavins, J.Dipane, K.Babre (2001) Humic substances as catalysts in condensation reactions, *Chemosphere* 44(4),
- 18.M.Klavins, K.Babre (2001) Humic substances for remediation of oil contaminated soils. *Contaminated Soil, Sediment & Water*, 32 (2), 128-136
- 19.T.Juhna, M.Kļaviņš (2001) Water quality changes in Latvia and Riga 1980-2000:possibilities and problems. *Ambio*, 30(4-5), 306-314
- 20.Agrell C., Larsson P., Okla L., Bremle G., Johansson N., Klavins M., Roots O., Zelechowska A. 2001. Atmospheric and river input of PCBs, DDTs and HCHs to the Baltic Sea. *Ecol. Stud.*, 148, 149-175
- 21.M.Klavins, M.Vircavs (2001) metals in sediments of inland waters of Latvia. *Boreal Environ. Res.*, 6/4, 297-306
- 22.Rozenbaha I., Odham G., Jarnberg U., Alsberg T., Klavins M. (2002) Characterisation of humic substances by acid catalysed transesterification. *Anal.Chim.Acta*, 452, 105-114
- 23.M.Klavins, L.Eglite (2002) Immobilisation of humic substances. *Colloids and Surfaces A: Physicochem., Eng. Aspects*, 203, 47 - 54
- 24.T.Juhna, M.Klavins, L.Eglite (2003) Sorption of humic substances on aquifer material at artificial recharge of groundwater. *Chemosphere*, 51(9), 861-868
- 25.M.Klavins, V.Rodinov, I.Druvietis (2003) Aquatic chemistry and humic substances in bog lakes in Latvia. *Boreal Environ. Res.*, 8, 113-123
- 26.Zenkevics H., Klavins M., Vose V., Bucena A. (2005) Humic acid reduces gonadotropin activity and hormonal sensitivity of frog oocytes *Aquatic Toxicology*, 75(4), 380 – 383,
https://apps.webofknowledge.com/full_record.do?product=UA&search_mode=GeneralSearch&qid=9&SID=Z1qOhHvQw3phnB1DioO&page=1&doc=1
- 27.M.Klavins, L.Eglite, A.Zicmanis (2006) Immobilized humic substances as sorbents. *Chemosphere*, 62(9), 1500-1506
- 28.M.Klavins, V.Rodinov (2008) Long-term changes of river discharge regime in Latvia. *Hydrol. Res.*, 39(2), 133-141
- 29.M.Klavins, O.Purmalis (2010) Humic substances as surfactants, *Environ. Chem. Lett*, 8, 349-354 DOI 10.1007/s10311-009-0232-z
- 30.L.Lizuma, A.Briede, M.Kļaviņš (2010) Long-term changes of precipitation in Latvia. *Hydrol. Res.*, 241-252
- 31.I.Kokorite, M.Klavins, V.Rodinovs (2010) Impact of catchment properties on aquatic chemistry in the rivers of Latvia. *Hydrol. Res.*, 320-329
- 32.I.Silamikele, M.Klavins, O.Nikodemus (2011) Major and trace element distribution in the peat from ombrotrophic bogs in Latvia. *J.Environ. Sci Health, Pt. A.*, 46(7), 805-812
- 33.M.Klavins, I.Kokorite, L.Ansone, L.Eglite, V.Rodinov, G.Springe (2012) Spectrofluorimetric study of dissolved organic matter in River Salaca (Latvia) *Knowl. Manag. Aq. Ecosyst*, 404, doi <http://dx.doi.org/10.105/kmae/20111086>

34. I. Kokorite, M. Klavins, V. Rodinov, G. Springe (2012) Trends of natural organic matter concentrations in river waters of Latvia. *Environ. Monit. Asses.* 184 (8), 4999-5008
35. J. Burlakovs, M. Klavins (2012) Stabilization and solidification technology implementation in Latvia: first studies. *Int. J. Environ. Pollut. Remed.*, 1(1), DOI: 10.11159/ijep.2012.001
36. M. Klavins, D. Porsnovs (2013) Development of a new peat based oil sorbent using peat pyrolysis. *Environ. Technol.*, DOI:10.1080/09593330.2012.758668
37. D. Dudare, M. Klavins (2013) Complex-forming properties of peat humic acids from a raised bog profiles. *J. Geochem. Explor.*, 129, 18-22
38. Ansonė L., Klavins M., Viksna A. (2013) Arsenic removal using natural biomaterial-based sorbents. *Environmental Geochemistry and Health*. DOI 10.1007/s10653-013-9546-7, <https://www.scopus.com/record/display.uri?eid=2-s2.0-84883053896&origin=resultslist&sort=plf-f&src=s&st1=Arsenic+removal+using+natural+biomaterial-based+sorbents&st2=&sid=C0677DDF2F78BFDB7E8EB327FEAEC6BE.I0QkgljGqqLQ4Nw7dqZ4A%3a20&sot=b&sdt=b&sl=71&s=TITLE-ABS-KEY%28Arsenic+removal+using+natural+biomaterial-based+sorbents%29&relpos=1&citeCnt=5&searchTerm=>
39. M. Klavins, O. Purmalis (2013) Properties and structure of raised bog peat humic acids. *Journal of Molecular Structure* 1050, 103-113 <http://dx.doi.org/10.1016/j.molstruc.2013.07.021>, https://apps.webofknowledge.com/full_record.do?product=UA&search_mode=GeneralSearch&qid=4&SID=Z1qOhHvQw3phnB1DioO&page=1&doc=1
40. Z. Avotniece, M. Klavins, L. Lizuma (2014) Fog climatology in Latvia. *Theoretical and Applied Climatology*, DOI 10.1007/s00704-014-1270-4
41. K. Stankeviča, L. Kalnina, M. Klavins, A. Cerina, E. Kaup (2015) Reconstruction of the Holocene palaeoenvironmental conditions accordingly to the multiproxy sedimentary records from Lake Pilvelis, Latvia, *Quaternary International*, 72, 1-14
42. J. Burlakovs, F. Kaczala, K. Orupold, A. Bhatnagar, Z. Vincevica-Gaile, V. Rudovica, M. Kriipsalu, M. Hogland, M. Stapkeviča, W. Hogland, M. Klavins (2015) Field-portable X-ray fluorescence spectrometry as rapid measurement tool for landfill mining operations: comparison of field data vs. Laboratory analysis. *International Journal of Environmental Analytical Chemistry*, DOI: 10.1080/03067319.2015.1036865
43. W. L. Filho, J. Platje, W. Gerstberger, R. Ciegis, J. Kaaria, M. Klavins, L. Kliucininkas (2015) The role of governance in realising the transition towards sustainable societies. *Journal of Cleaner Production*, DOI: 10.1016/j.jclepro.2015.11.060, https://apps.webofknowledge.com/full_record.do?product=UA&search_mode=GeneralSearch&qid=2&SID=Z1qOhHvQw3phnB1DioO&page=1&doc=1
44. L. Klavins, L. Klavina, A. Huna, M. Klavins (2015) Polyphenols, carbohydrates and lipids in berries of *Vaccinium* species. *Environmental and Experimental Biology*, 13, 147-158
45. L. Klavins, J. Kviesis, I. Steinberga, L. Klavina, M. Klavins (2016) Gas chromatography–mass spectrometry study of lipids in northern berries. *Agronomy Research*, 14 (2), 1328-1347, <http://agronomy.emu.ee/indexing/>
46. S. Brica, M. Klavins, A. Zicmanis (2016) A route to simple nonionic surfactants *Cogent Chemistry* 2, 1178830
47. J. Burlakovs, F. Kaczala, Z. Vincevica-Gaile, V. Rudovica, K. Orupöld, M. Stapkeviča, A. Bhatnagar, M. Kriipsalu, M. Hogland, M. Klavins, W. Hogland (2016) Mobility of Metals and Valorization of Sorted Fine Fraction of Waste After Landfill Excavation. *Waste and Biomass Valorization*, 7 (6), 593-602
- Books*
1. Bilaletdin A., Frisk T., Kaipainen H., Paananen A., Perttula H., Kļaviņš M., Apsīte E., Ziverts A. (2004) Water protection project of Lake Burtnieks. The Finnish Environment, Tampere: Pirkanmaa Regional Environment Centre
2. Frisk T., Kļaviņš M., Bethers U., Kokorīte I., Seņņikovs J., Rodinov V., Bilaletdin A. (2005) Loading form Latvia and its impact on water quality. The Finnish Environment 793, Tampere: Pirkanmaa Regional

<p>Environment Centre, 92 pp.</p> <p>3. Acta Universitas Latviensis. 692, (2005) Ed. M.Kļaviņš, LU, Rīga, 174 pp</p> <p>4. Climate change in Latvia (Ed. M.Kļaviņš), Rīga :LU</p> <p>5. Hydrology : from reserach to water management. Nordic hydrological programme Report Np 51. Editors E.Apsīte, A.Briede, M.Kļaviņš, University of Latvia press : Riga</p> <p>6. Mires and peat (Ed. M.Kļaviņš) University of Latvia press : Riga, 2010</p> <p>7. Environment and sustainable development (Ed. M.Kļaviņš, J.Zaļoksnis, W.L.Fiho) University of Latvia press : Riga, 2011</p> <p>8. Climate change and adaptation to it. (Ed. M.Kļaviņš and A.Briede) 2012 University of Latvia press : Riga</p>	
Awards and scholarships	
<p>Full member of Latvia Academy of Sciences since 2002</p> <p>Three Stars Order of Latvia</p>	
Thesis work led	
<p>Judīte Dipāne Soil and aquatic humic substances from Latvia and their role in degradation processes of environmental pollutants 2007, Rīga</p> <p>Linda Eglīte Humic substances, their interaction with soil components and immobilisation of humic substances 2007, Rīga</p> <p>Ilga Kokorīte Chemical composition of surface waters in Latvia and the underlying factors 2007, Rīga</p> <p>Iveta Šteinberga Ensemble analysis and modelling of Quasistatic atmospheric pollution levels 2007, Rīga</p> <p>Sandra Poikāne EU-wide lake ecological classification based on phytoplankton 2009, Rīga</p> <p>Jānis Šīre Composition and properties of rised bog peat humic acids 2010, Rīga</p> <p>Inese Silamiķele The Character of Humification and Accumulation of Chemical Elements in Raised-Bog Peat Depending on Its Composition and Formation 2010, Rīga</p> <p>Ēriks Leitīsis Ecotourism in protected areas 2012, Rīga</p> <p>Diana Dudare Interaction of humic substances with metals, 2014 Rīga</p> <p>Juris Burlakovs Contamination remediationwith soil amendments by immobilisation of heavy metals, 2014 Rīga</p> <p>Oskars Purmalis Peat humic substances and their properties 2015 Rīga</p> <p>Artis Robalds Peat and its modification products for sorption of Tl(I), Cu(II), Cr (III) and phosphorus 2016 Rīga</p> <p>Jānis Krūmiņš Low moor peat properties 2016 Rīga</p>	
Pedagogical work	
<p>Environmental pollution BSc study course</p> <p>Environmental chemistry BSc study course</p> <p>Environmental Technologies BSc study course</p> <p>Scientific writing MSc study course</p> <p>Ecotoxicology MSc study course</p>	
Participation in scientific bodies	
<p>1996-present Editorial board, Proceedings of Latvian Academy of Sciences</p> <p>1992-1994 Editorial board, Reactive Polymers</p> <p>2006 – present. Editorial board, „World Applied Sciences Journal”</p> <p>2012 – present Editorial bord „Acta Zoologica Lithuanica”</p> <p>2010 – present Editorial board „Hydrological Reserach”</p> <p>2009 – Editorial board „Biosphaera”</p> <p>2010 – Editorial board „Journal of International Environmental Application and Science” 2012 – Editorial board „Environmental Research, Engineering and Management”</p>	
Institutional positions	

UNESCO Program "Man and Biosphere" (vicepresident of Latvian National Committee)
Society of Environmental Chemistry and Ecotoxicology (SECOTOX)
European Association of Environmental Chemistry (ACE)
1992- International Society of Humic Substances – National coordinator
Permanent Court of Arbitration, the Hague, scientific ekspert (accepted 25.09.01)