

**„Anexa nr. 18 - COMISIA INGINERIA MEDIULUI - STANDARDE MINIMALE NECESARE ȘI OBLIGATORII PENTRU CONFERIREA TITLURILOR DIDACTICE DIN ÎNVĂȚĂMÂNTUL SUPERIOR ȘI A GRADELOR PROFESIONALE DE CERCETARE – DEZVOLTARE**

Nr.crt.	Domeniul activităților	Tipul activităților	Categorii și restricții	Subcategoriile	Indicatori	Punctaj	
0	1	2	3	4	5	6	
1	Activitate didactică și profesională (A1)	1.1	Cărți/Capitole în cărți de specialitate/Monografii (cu ISBN)	Profesor: <i>minimum 4</i>	Internaționale	40 puncte/100pagini	0
					<b>Punctaj</b>	<b>0</b>	<b>0</b>
					Naționale	20 puncte/100pagini	
						1. Simona Bungau, Vasilica Merca, <b>Lucian Copolovici</b> , <i>Analiză Instrumentală și Metode de Separare</i> , Ed. Univ. Oradea, 228 p., <b>2004</b> , ISBN 973-613-489-X.	45,6
						2. Simona Bungau, <b>Lucian Copolovici</b> , <i>Chimie Analitică. Analiza Calitativă</i> , Ed. Univ. Oradea, 230 p., <b>2005</b> , ISBN 973-613-804-6.	46
						3. Felicia Drăgan, <b>Lucian Copolovici</b> , <i>Sinteza unor produși cu importanță farmaceutică</i> , Ed. Focus, 184 p., <b>2005</b> , ISBN 973-87104-5-6.	36,8
						4. Simona Bungau, <b>Lucian Copolovici</b> , <i>Teorie și aplicații practice în analiza cantitativă</i> , Ed. Didactica și Pedagogica, 213 p., <b>2006</b> , ISBN 973-30-1622-5.	42,6
			5. Simona Bungău, Delia Mirela Tiț, <b>Lucian Copolovici</b> , Eleonora Marian, <i>Teorie și aplicații practice în analiza cantitativă, Ediția a II-a</i> , Ed. Didactică și Pedagogică, 380 p., <b>2011</b> , ISBN 978-973-30-2910-6.	76			
			<b>Total punctaj A1.1</b>		<b>247</b>		
		1.2	Manuale/Suport didactic: lucrări didactice, îndrumare de laborator, proiectare etc. (în acord cu structura postului)	Inclusiv cele publicate pe plan intern, în formă tipărită, fără ISBN sau în format electronic, <i>on-line</i> , cu menționarea adresei WEB la care pot fi accesate		10 puncte/100pagini	0
<b>Total punctaj A1.2</b>					<b>0</b>		
<b>TOTAL A1</b>						<b>247</b>	

Nr.crt.	Domeniul activităților	Tipul activităților	Categoriile și restricții	Subcategoriile	Indicatori	Factor impact în anul publicării
0	1	2	3	4	5	6
2	Activitatea de cercetare (A2)	2.1 Articole <i>in extenso</i> în reviste cotate ISI Thomson Reuters		Profesor/CSI $40 \times \sum_1^n FI \geq 400$ cu $n \geq 11$	<ol style="list-style-type: none"> <li><b>Lucian Copolovici</b>, Ioan Bâldea, Kinetic Determination of Aromatic Amines at Millimolar Level, <i>Anal. &amp; Bioanal. Chem.</i>, <b>2002</b>, <u>374</u>, 13-16</li> <li>Simona Bungău, Ioan Bâldea, <b>Lucian Copolovici</b>, Determinarea acidului ascorbic din fructe folosind o metodă de tip Landolt (Ascorbic acid determination from fruits using Landolt type methods), (<i>in Romanian</i>), <i>Rev. Chim.</i>, <b>2002</b>, <u>54(3)</u>, 213-216</li> <li>Claudia Muresanu, <b>Lucian Copolovici</b>, Kinetic Method for Acetylsalicylic Acid Determination Based on its Inhibitory Effect Upon Catalytic Decomposition of H<sub>2</sub>O<sub>2</sub>, <i>Anal. &amp; Bioanal. Chem.</i>, <b>2004</b>, <u>318</u>, 1868-1872</li> <li>Simona Bungău, <b>Lucian Copolovici</b>, Ioan Bâldea, Ildiko Szabo, Determinarea metioninei printr-o metodă de oxidare cu permanganat din produse farmaceutice, (Methionine Determination Using an Oxidation Method from Drugs), (<i>in Romanian</i>), <i>Rev. Chim.</i>, <b>2004</b>, <u>55(11)</u>, 886-888</li> <li>Simona Bungău, <b>Lucian Copolovici</b>, Ioan Bâldea, Vasilica Merca, Determinarea piridoxinei din produse farmaceutice utilizând două metode cinetice, (Pyridoxine Determination Using Two Kinetic Methods from Drugs), (<i>in Romanian</i>), <i>Rev. Chim.</i>, <b>2004</b>, <u>55(12)</u>, 945-948</li> <li><b>Lucian Copolovici</b>, Simona Bungău, Felicia Drăgan, Determination of Acetylsalicylic Acid from Drugs Using Kinetic Methods, <i>Rev. Chim.</i>, <b>2005</b>, <u>56(4)</u>, 374-377</li> <li>Claudia Muresanu, <b>Lucian Copolovici</b>, and Florina Pogacean, Kinetic Method for <i>para</i>-nitrophenole Determination Based on an Enzyme Catalysed Reaction, <i>Central European Journal Chemistry</i>, <b>2005</b>, <u>3(4)</u>, 592-604</li> <li><b>Lucian Copolovici</b>, Iolanda Filella, Joan Llusà, Ülo Niinemets, Josep Peñuelas, The capacity for thermal protection of photosynthetic electron transport varies for different monoterpenes in <i>Quercus ilex</i>, <i>Plant Physiology.</i>, <b>2005</b>, <u>139</u>, 485-496</li> <li><b>Lucian Copolovici</b>, Ülo Niinemets, Temperature dependencies of Henry's law constants and octanol/water partition coefficients for key plant volatile monoterpenoids, <i>Chemosphere</i>, <b>2005</b>, <u>61</u>, 1390-1400</li> <li><b>Lucian Copolovici</b>, Ülo Niinemets, Effects of low-molecular organic compounds, pH and salt content on partitioning equilibrium of monoterpene at water -air and water-lipid phases interfaces, <i>Chemosphere</i>, <b>2007</b>, <u>69</u>, 621-629</li> <li><b>Lucian Copolovici</b>, Cristian Silvestru, Vito Lippolis, Richard A. Varga, Iodidomesityltellurium(II) iodido-trimesitylditellurium(II)(Te-Te), <i>Acta Crystallogr.</i>, <b>2007</b>, <u>C63</u>, o528-o529</li> </ol>	0 0,281 2,098 0,308 0,308 0,278 0,554 6,114 2,297 2,739 0,719

			12. <b>Lucian Copolovici</b> , Richard A. Varga, Vito Lippolis, Cristian Silvestru, Bis(tetraphenyl-imido-diphosphine acid) tri-iodide, <i>Acta Crystallogr.</i> , <b>2007</b> , E63, o4206-o4207	0,347
			13. <b>Lucian Copolovici</b> , Vilma Bojan, Cristian Silvestru, Richard A. Varga, 1-Bromo-2,6-bis( <i>N</i> -methylpiperazinylmethyl)benzene, <i>Acta Crystallogr.</i> , <b>2007</b> , E63, o4323	0,347
			14. <b>Lucian Copolovici</b> , Vilma Bojan, Cristian Silvestru, Richard A. Varga, 1-Bromo-2,6-bis( <i>N</i> -morpholinylmethyl)benzene, <i>Acta Crystallogr.</i> , <b>2007</b> , E63, o4570	0,347
			15. <b>Lucian Copolovici</b> , Ioan Baldea, Kinetics of the Phenol Oxidation by Permanganate in Acidic Media, <i>Rev. Roum. Chem</i> , <b>2007</b> , 52, 1045 – 1050	0,262
			16. Steffen Noe, <b>Lucian Copolovici</b> , Ülo Niinemets, Evi Vaino, Storage of limonene in leaves is positively correlated to the leaves lipid content, <i>Plant Biology</i> , <b>2008</b> , <u>10</u> , 129 - 137	1,944
			17. Bahtijor Rasulov, <b>Lucian Copolovici</b> , Agu Laisk, Ulo Niinemets, Postillumination isoprene emission: in vivo measurements of dimethylallyldiphosphate pool size and isoprene synthase kinetics in aspen leaves, <i>Plant Physiology</i> , <b>2009</b> , 149, 1609-1618	6,235
			18. Ivan Kourtchev, <b>Lucian Copolovici</b> , Magda Claeys, Willy Maenhaut, Characterization of atmospheric aerosols at a forested site in Central Europe, <i>Environmental Science &amp; Technology</i> , <b>2009</b> , 43, 4665-4671	4,630
			19. <b>Lucian Copolovici</b> , Astrid Kannaste, Ulo Niinemets, Gas chromatography-mass spectrometry method for determination of monoterpene and sesquiterpene emissions from stressed plants, <i>Studia Univ. Babeş-Bolyai, Chem.</i> , <b>2009</b> , <u>54</u> , 329-333	0,231
			20. <b>Lucian Copolovici</b> , Ulo Niinemets, Flooding induced emissions of volatile signalling compounds in three tree species with differing waterlogging tolerance, <i>Plant Cell and Environment</i> , <b>2010</b> , 33, 1582-1594	5,145
			21. Merje Toome, Pille Randjärv, <b>Lucian Copolovici</b> , Ülo Niinemets, Katrin Heinsoo, Anne Luik, Steffen M. Noe, Leaf rust induced volatile organic compounds signalling in willow during the infection, <i>Planta</i> , <b>2010</b> , 232(1), 235-243	3,098
			22. <b>Lucian Copolovici</b> , Ioan Baldea, Kinetics of the phenol oxidation by permanganate in acidic media. The intermediate oxidized species 4,4'-biphenolquinone evolution, <i>Studia Univ. Babeş-Bolyai, Chem.</i> , <b>2010</b> , 55(2), 155-167	0,231
			23. <b>Lucian Copolovici</b> , Ioan Baldea, Alexandra Csavdari, Determination of aromatic amines and phenols by kinetic methods based on Landolt effect, <i>Studia Univ. Babeş-Bolyai, Chem.</i> , <b>2010</b> , 55(1), 103-111	0,231
			24. Ulo Niinemets, <b>Lucian Copolovici</b> , Katja Huve, High within-canopy variation in isoprene emission potentials in temperate trees: implications for predicting canopy-scale isoprene fluxes, <i>Journal of Geophysical Research – Biogeosciences</i> , <b>2010</b> , 115, G04029	3,303
			25. <b>Lucian Copolovici</b> , Astrid Kannaste, Triinu Rimmel, Vivian Vislap, Ulo Niinemets,	2,657

					<p>Volatile emissions from <i>Alnus Glutiosa</i> induced by herbivory are quantitatively related to the extent of damage, <i>Journal of Chemical Ecology</i>, <b>2011</b>, 37, 18-28</p>	
					<p>26. Steffen M. Noe, Veljo Kimmel, Katja Huve, <b>Lucian Copolovici</b>, Miguel Portillo-Estrada, Ulle Puttsepp, Kalev Jagiste, Ulo Niinemets, Lukas Hortnagl, Georg Wohlfahrt, Ecosystem-scale biosphere–atmosphere interactions of a hemiboreal mixed forest stand at Jarvselja, Estonia, <i>Forest Ecology and Management</i>, <b>2011</b>, 262, 71-81</p>	2,487
					<p>27. Ülo Niinemets, Uwe Kuhn, Peter C. Harley, Michael Staudt, Almut Arneth, Alessandro Cescatti, Paolo Ciccioli, <b>Lucian Copolovici</b>, Chris Geron, Alex Guenther, Jürgen Kesselmeier, Manuel T. Lerdau, Russell K. Monson, Josep Peñuelas, Estimation of isoprenoid emission factors from enclosure studies: measurements, data processing, quality and standardized measurement protocols, <i>Biogeosciences</i>, <b>2011</b>, 8, 2209-2246</p>	3,859
					<p>28. Z. Sun, <b>Lucian Copolovici</b>, Ulo Niinemets, Can the capacity for isoprene emission acclimate to environmental modifications during autumn senescence in temperate deciduous tree species <i>Populus tremula</i>?, <i>Journal of Plant Research</i>, <b>2012</b>, 125, 263-274</p>	1,749
					<p>29. <b>Lucian Copolovici</b>, Astrid Kannaste, Leila Pazouki, Ulo Niinemets, Emissions of green leaf volatiles and terpenoids from <i>Solanum lycopersicum</i> are quantitatively related to the severity of cold and heat shock treatments, <i>Journal of Plant Physiology</i>, <b>2012</b>, 169, 664-672</p>	2,791
					<p>30. Steffen Noe, Katja Huve, Ulo Niinemets, <b>Lucian Copolovici</b> Seasonal variation in vertical volatile compounds air concentrations within a remote hemiboreal mixed forest, <i>Atmospheric Chemistry and Physics</i>, <b>2012</b>, 12, 3909–3926</p>	5,520
					<p>31. Zhihong Sun, Ülo Niinemets, Katja Huve, Steffen M. Noe, Bahtijor Rasulov, <b>Lucian Copolovici</b>, Vivian Vislap Enhanced isoprene emission capacity and altered light responsiveness in aspen grown under elevated atmospheric CO<sub>2</sub> concentration, <i>Global Change Biology</i>, <b>2012</b>, 18, 3423–3440</p>	6,862
					<p>32. Eve Veromann, Merje Toome, Astrid Kännaste, Riina Kaasik, <b>Lucian Copolovici</b>, Jaak Flink, Gabriella Kovács, Lea Narits, Anne Luik, Ülo Niinemets, Effects of nitrogen fertilization on insect pests, their parasitoids, plant diseases and volatile organic compounds in <i>Brassica napus</i>, <i>Crop Protection</i>, <b>2013</b>, 43, 79-88</p>	1,598
					<p>33. Ocsana Opriş, Florina Copaciu, Maria Loredana Soran, Dumitru Ristoiu, Ülo Niinemets, <b>Lucian Copolovici</b>, Influence of nine antibiotics on key secondary metabolites and physiological characteristics in <i>Triticum aestivum</i>: leaf volatiles as a promising new tool to assess toxicity, <i>Ecotoxicology and Environmental Safety</i>, <b>2013</b>, 87, 70–79</p>	2,203
					<p>34. Florina Copaciu, Ocsana Opriş, Virginia Coman, Dumitru Ristoiu, Ülo Niinemets, <b>Lucian Copolovici</b>, Diffuse water pollution by anthraquinone and azo dyes in environment importantly alters foliage volatiles, carotenoids and physiology in wheat (<i>Triticum aestivum</i>), <i>Water Air and Soil Pollution</i>, <b>2013</b>, 224, 1478</p>	1,742

					35. Astrid Kännaste, <b>Lucian Copolovici</b> , Leila Pazouki, Marina Suhhorutšenko, Ülo Niinemets, Highly variable chemical signatures over short spatial distances among Scots pine ( <i>Pinus sylvestris</i> ) populations, <i>Tree Physiology</i> , <b>2013</b> , 33, 374-387	3,131	
					36. Magdalena Tomás, Jaime Flexas, <b>Lucian Copolovici</b> , Jeroni Galmés, Lea Hallik, Hipólito Medrano, Miquel Ribas-Carbó, Tiina Tosens, Vivian Vislap, Ülo Niinemets, Importance of leaf anatomy in determining mesophyll diffusion conductance to CO <sub>2</sub> across species: quantitative limitations and scaling up by models, <i>Journal of Experimental Botany</i> , <b>2013</b> , 64, 2269-2281	5,242	
					37. Emanuele Pallozzi, Tsonko Tsonev, Giovanni Marino, <b>Lucian Copolovici</b> , Ülo Niinemets, Francesco Loreto, Mauro Centritto, Isoprenoid emissions, photosynthesis and mesophyll diffusion conductance in response to blue light, <i>Environmental and Experimental Botany</i> , <b>2013</b> , 95, 50-58	2,578	
					38. Ülo Niinemets, Astrid Kännaste, <b>Lucian Copolovici</b> , Quantitative patterns between plant volatile emissions induced by biotic stresses and the degree of damage, <i>Frontiers in Plant Science</i> , <b>2013</b> , 4, 262. doi: 10.3389/fpls.2013.00262	0	
					39. <b>Lucian Copolovici</b> , Astrid Kännaste, Triinu Rimmel, Ülo Niinemets, Volatile organic compound emissions from <i>Alnus glutinosa</i> under interacting drought and herbivory stresses, <i>Environmental and Experimental Botany</i> , <b>2014</b> , 100, 55-63	2,578	
					<b>Total Factor de impact</b>		
<b>Total Punctaj A2.1</b>					<b>3481,76</b>		
2	Activitatea de cercetare (A2)	2.2	Brevete de invenție	Internațional <sup>(1)</sup>	FI <sub>equiv</sub> = 5,0	-	0
				Național <sup>(2)</sup>	FI <sub>equiv</sub> = 0,5	-	0
				<b>Total Punctaj A2.2</b>			
		2.3	Articole în reviste și volumele unor manifestări științifice, indexate în baze de date internaționale <sup>(3)</sup> ISI proceedings	Profesor /CSI <i>minimum 16</i>	5 puncte/lucrare	1. A. Rustoiu-Csavdari, L. Copolovici, Z. Nagy, Possible Use of Artificial Neural Network in Tricomponent Calibration, Proc. 14th International Congress of Chemical and Process Engineering, 27-31 August, Praha, Czech Republic, 2000 (on CD).	5
				<b>Total Punctaj A2.3</b>			
		2.4	Granturi/proiecte câștigate prin competiție	Director/responsabil:Profesor/CSI <i>minimum 2 (granturi/proiecte/contracte)</i>			
Internaționale – 15 puncte/5000 euro	1. Grant SPO for Est European researchers from Belgium Government – <b>19.200 Euro</b>			57,60			
	2. Grant European Science Foundation Sesquiterpene emission from plants induced by stress conditions, Reference number 1838 – <b>7.200 Euro</b>			21,60			
	3. Estonian Science Foundation Physico-chemical traits of and signalling by volatile compounds Grant JD 101 - <b>75415,75 Euro</b>			226,25			
		Naționale – 10 puncte/5000 euro	Grant PNII-RU-TE-2011-3-0022 Emission of volatile compounds from Betulacea and Fagacea elicited during biotic and abiotic stresses – <b>920.000 Lei</b>			408,89	
<b>Total Punctaj A2.3</b>					<b>714,34</b>		
<b>TOTAL A2</b>					<b>4201,10</b>		

Nr.crt.	Domeniul activităților	Tipul activităților	Categorii și restricții	Subcategorii	Indicatori	Punctaj	
0	1	2	3	4	5	6	
3	Recunoașterea și impactul	3.1	Citări în reviste ISI Thomson Reuters și BDI (se exclud autocitările <sup>(5)</sup> )	Profesor/CSI <i>minimum 30 citări</i>	3 puncte/citare <sup>(3,4)</sup>	188 citări conform ISI Web of Knowledge la data de 20.01.2014	188*3
				<b>Total punctaj A3.1</b>			<b>564</b>
<b>TOTAL A3</b>							<b>564</b>

## 2. Condiții minimale (A<sub>i</sub>)<sup>(6)</sup>

Nr. crt.	Categorii			
	Domeniul de activitate	Condiții profesor	Condiții CSI	Punctaj realizat
1	Activitatea didactică/profesională (A1) <sup>(7)</sup>	Minimum 210 puncte	Opțional	<b>247</b> puncte
2	Activitatea de cercetare (A2)	Minimum 500 puncte	Minimum 500 puncte	<b>4201,10</b> puncte
3	Recunoașterea impactului activității (A3)	Minimum 90 puncte	Minimum 90 puncte	<b>564</b> puncte
<b>TOTAL</b>		Minimum 800 puncte	Minimum 800 puncte	<b>5012,10</b> puncte