

| INFORMATION ABOUT THE PERSON FILLING THE FORM |  |
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| <b>Name and family name</b>                   | <i>Tamara Jakovljević, PhD</i>   |
| <b>Research organization</b>                  | <i>Croatian Forest Research Institute</i>  |
| <b>Position in the organization</b>           | <i>Head of Laboratory for Physico-Chemical Analysis, researcher</i>  |
| <b>Country</b>                                | <i>Croatia</i>   |
| <b>E-mail</b>                                 | <i>tamaraj@sumins.hr</i>   |
| FACILITY <sup>1</sup>                         |  |
| <b>Name of the facility</b>                   | <p><i>Short name and complete name (Original language and English translation)</i></p> <p><i>LFKI-Laboratorij za Fizikalno-Kemijska Ispitivanja</i><br/><i>LPCA- Laboratory for Physico-Chemical Analysis</i></p> <p><i>URL address <a href="http://www.sumins.hr/">http://www.sumins.hr/</a></i></p>  |
| <b>Location of the facility</b>               | <p><i>Country Croatia</i></p> <p><i>Postal address Cvjetno naselje 41, 10450 Jastrebarsko</i></p> <p><i>UTM coordinates:</i><br/><i>Latitude: 45.667</i><br/><i>Longitude: 15.667</i></p>  |
| <b>Start date</b>                             | <i>Year since the facility has been operative: 1974</i>  |
| <b>Type of facility</b>                       | <p><i>Short description</i></p> <ol style="list-style-type: none"> <li>1 Mill and sieves for soil and plant material</li> <li>2 Drying oven</li> <li>3 Analytical balance</li> <li>4 UV - Visible spectrofotometry</li> <li>5 Elemental analysers</li> <li>6 Microwave</li> <li>7 Atomic absorbtion spectrophotometry</li> <li>8 Ion cromatography</li> <li>9 pH meter and conductometer</li> <li>10 Calcimeter</li> <li>11 Moisture analyser</li> </ol>   |
| <b>Keywords</b>                               | <i>Plant, soil, water, environmental chemistry</i>   |
| <b>Scientific characteristics</b>             | <p><i>Scientific objectives</i></p> <ul style="list-style-type: none"> <li>- to conduct top level research and training in areas of the forest nutrition, soil health condition, the monitoring of air pollution effects on forests and impacts of climate change on the environment</li> <li>- to develop and promote an inter-disciplinary research (chemistry, biology, (bio)chemical and biological engineering, forest products sciences)</li> </ul> <p><i>Interest for users -</i></p> <p><i>Particularities in comparison to similar facilities -</i></p> <p><i>Research projects in the frame of which the facility is used (include web site address)</i><br/><i>UN ECE ICP Forests <a href="http://icp-forests.net/">http://icp-forests.net/</a></i></p> |
| <b>Technical characteristics</b>              | <i>Detailed description of instrumentation</i>   |

<sup>1</sup> Note: This information could be published in the webpage of FORESTERRA



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|  | <p>1 pretreatment of samples for physico-chemical analysis, fractions &lt;2 mm</p> <p>2 automated instrument for measuring soil and plant moisture and heated and ventilated oven (105±2 °C)</p> <p>3 automatic weight measurement; weight range 0.01- 120.00 g, accuracy 0.0001 g, repeatability ≤± 0.0001 g, linearity ≤± 0.0002 g</p> <p>4 colorimetry technique, autosampler with 8 sample positions; photometric accuracy : ±0.002 Abs (0- 0.5 Abs), ±0.004 Abs (0.5-1.0 Abs); photometric reproducibility: ±0.001 Abs (0-0.5 Abs), ±0.002 Abs (0.5-1.0 Abs); wavelength range 190 nm- 1100 nm</p> <p>5 dry combustion at 1351 °C using pure oxygen; gas required: helium, compressed air, oxygen; temperature range 300- 1500 °C</p> <p>6 closed vessel microwave digestion and extraction system; contains 10 vessels for acid digestion of easy to medium-difficult samples (soils, food and feed, etc.), one vessel is reference segment used for temperature and pressure control; operates at 100 bar maximum pressure and 300 °C maximum temperature</p> <p>7 atomic absorption spectrophotometry with flame (temperature up to 2800 °C) and graphite furnace (temperature up to 3000 °C); gas required: air, argon, nitrogen, acetylene, nitrous oxide</p> <p>8 ion chromatography, the measurement of anions and cations; Anion Self-Regenerating Suppressor, detection-Suppressed Conductivity using CD25, Cation Self-Regenerating Suppressor ; detection-supressed conductivity</p> <p>9 potentiometry and conductimetry; measurement range for pH -2.00 – 20.00, and conductivity 0.001 µS/cm- 1000 mS/cm; both with temperature compensation</p> <p>10 calcimeter (Scheibler unit) – volumetric method</p> <p>11 moisture content; halogen ring-shaped radiator as heating module; temperature range 50- 200 °C; sample weight 0.5- 54 g; balance resolution 0.001 g; repeatability for 2 g sample 0.10 %, repeatability for 10 g sample 0.015 %</p> <p><i>Measured parameters</i> 2 dry matter and water content on a mass basis<br/>         3 weight 4 phosphorus and ammonium (soil, plant, water) 5 carbon, nitrogen and sulphur<br/>         7 elements Ca, K, Mg, Mn, Cu, Pb, Cd, Zn, Fe, Cr Na 8 anions (<math>F^-</math>, <math>Cl^-</math>, <math>Br^-</math>, <math>NO_3^-</math>, <math>NO_2^-</math>, <math>PO_4^{3-}</math>, <math>SO_4^{2-}</math>) and cations (<math>Na^+</math>, <math>NH_4^+</math>, <math>K^+</math>, <math>Mn^{2+}</math>, <math>Ca^{2+}</math>, <math>Mg^{2+}</math>) in water 9 pH and conductivity 10 carbonate content in soil 11 moisture content in soil and plant</p> <p><i>If there is any file, map or images relevant about this infrastructure, please attach it (indicating here the name of the file).</i></p> |
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**SCIENTISTS AND/OR TECHNICIANS IN CHARGE OF THE FACILITY**

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| <b>Principal investigator</b>              | <i>Tamara Jakovljević, PhD, tamaraj@sumins.hr</i> |
| <b>One line for each additional person</b> | <i>Name and e-mail address</i>                    |

**ADMINISTRATIVE INFORMATION**

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| <b>Availability for participating in mutual measurements</b> | <i>Yes, Tamara Jakovljević, PhD, tamaraj@sumins.hr</i>   |
|  | <i>Conditions or Policy of use</i>   |
| <b>Availability for accessing the data collected</b>         | <i>Yes or No</i><br><i>If yes, Name and e-mail address of the contact person Yes, Tamara Jakovljević, PhD, tamaraj@sumins.hr</i> |



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|  | <i>Conditions or Policy of use</i>  |
| <b>Institution that manages the facility</b> | <i>Name (Original language and English translation) Hrvatski šumarski institute, Croatian Forest Research Institute</i> |
|  | <i>URL address</i>  |

| <b>Continue</b>  |  |
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| <b>Structure or institution which manages the data</b>                       | <i>Name (Original language and English translation) Hrvatski šumarski institute, Croatian Forest Research Institute (CFRI)</i> |
|  | <i>URL address</i>   |
| <b>Is the facility participating in a national or international Network?</b> | <i>Name (Original language and English translation) UN ECE ICP Forests</i>   |
|  | <i>URL address <a href="http://icp-forests.net/">http://icp-forests.net/</a></i>   |
| <b>Is the facility open for transnational collaboration?</b>                 | <i>Conditions: yes, CFRI consent</i>   |