

<b>Job title</b>	<b>PhD position in analytical/wine chemistry</b>
<b>Ref</b>	<b>2018-26-METABOX</b>
<b>Job type (PhD, Post-doc, Engineer)</b>	<b>PhD</b>
<b>Contract duration (months)</b>	36 months
<b>Qualifications (Master degree, PhD...)</b>	Master degree
<b>Job hours (full time/ part time)</b>	Full time
<b>Employer</b>	UBFC – Université de Franche-Comté
<b>Host Laboratory</b>	UMR A 02.102 PAM Université de Bourgogne/Agrosup Dijon PCAV team
<b>URL Host Laboratory</b>	<a href="http://www.umar-pam.fr/fr/">http://www.umar-pam.fr/fr/</a>
<b>Address Host Laboratory</b>	Institut Universitaire de la Vigne et du Vin – Jules Guyot, Rue Claude Ladrey, BP 27877, 21078 Dijon Cedex
<b>Job description</b>	<p><b>UNDERSTANDING THE OXYDATIVE STABILITY OF WINE FOR THE DISCOVERY OF NEW ALTERNATIVES TO SULFITES: A COMBINED METABOLOMICS/ANALYTICAL CHEMISTRY APPROACH</b></p> <p>The objectives of this PhD will be to bring advanced and yet unraveled scientific knowledge about the antioxidant chemistry associated with food preservation through the particular study of white wine chemistry, and to identify potential alternatives to known preservatives such as sulfites. Wine is thus considered here, as an emblematic representative of oxidation-sensitive fermented matrices, to which cutting-edge analytical approaches will be applied, including high-resolution MS (LC-MS and FT-ICR-MS), 3D-Fluorescence and Electron Spin Resonance. These approaches will rely on the development of standard operating procedures for simulating controlled chemical oxidation, considered as representative of natural autoxidation during bottle ageing. Innovation in this project will thus be characterized by the unprecedented questioning of the complex chemistry of the long-lasting sulfite antioxidants in order (i) to understand what are the chemical pathways involved in their consumptions, (ii) to be able to control the potential natural resistance of wine matrices, and (iii) to reveal which would be the optimal characteristics of alternatives.</p> <p>The PhD candidate will involve within the frame of a co-tutelle between Université de Bourgogne (UMR PAM, Prof. Régis Gougeon) and the Foodomics platform at Technical University of Munich (Prof. Dr. Philippe Schmitt-Kopplin). The two groups already bear a long-lasting collaboration, which has led to breakthroughs in the understanding of the wine chemistry through combined metabolomics approaches [1-4].</p>

	<p>[1] Gougeon, R.D., Lucio, M., Frommberger M., Peyron, D, Chassagne, D., Alexandre, H., Feuillat, F., Voilley, A., Cayot, P., Gebefügi, I., Hertkorn, N., Schmitt-Kopplin, P. (2009) The chemodiversity of wines can reveal a metabo-geographic expression of cooperage oak wood. <i>Proc. Natl. Acad. Sci. USA</i> 106(23), 9174-9179</p> <p>[2] Roullier-Gall, C.; Hemmler, D.; Gonsior, M.; Li, Y.; Nikolantonaki, M.; Aron, A.; Coelho, C.; Gougeon, R. D.; Schmitt-Kopplin, P., Sulfites and the wine metabolome. <i>Food Chemistry</i> <b>2017</b>, 237, 106-113</p> <p>[3] Nikolantonaki, M., Julien, P., Coelho, C., Roullier-Gall, C., Ballester, J., Schmitt-Kopplin, P., &amp; Gougeon, R. D. (2018). Impact of Glutathione on Wines Oxidative Stability: A Combined Sensory and Metabolomic Study. <i>Frontiers in Chemistry</i>, 6, 182. <a href="http://doi.org/10.3389/fchem.2018.00182">http://doi.org/10.3389/fchem.2018.00182</a></p> <p>[4] Nikolantonaki, M., Coelho, C., Noret L., Zerbib M., Vileno B., Champion D. &amp; Gougeon, R. D. (2018) Measurement of white wines resistance against oxidation by Electron Paramagnetic Resonance spectroscopy. <i>Food Chem.</i> <a href="https://doi.org/10.1016/j.foodchem.2018.07.052">https://doi.org/10.1016/j.foodchem.2018.07.052</a></p>
<b>Supervisor(s)</b>	Gougeon Régis, <a href="mailto:regis.gougeon@u-bourgogne.fr">regis.gougeon@u-bourgogne.fr</a> Nikolantonaki Maria, <a href="mailto:Maria.nikolantonaki@u-bourgogne.fr">Maria.nikolantonaki@u-bourgogne.fr</a> Coelho Christian, <a href="mailto:Christian.coelho@u-bourgogne.fr">Christian.coelho@u-bourgogne.fr</a>
<b>Candidate profile</b>	<p>We are looking for an efficient and motivated candidate, with team working and interpersonal ability.</p> <p>He/she should be a successful MS student in the field of analytical chemistry. He/she should have solid backgrounds and skills in mass spectrometry and statistical analysis. He/she will be also responsible for the development and achievement of new experiments.</p> <p>Some knowledge in oenology will be appreciated.</p> <p>English speaking necessary, French speaking appreciated</p>
<b>Keywords</b>	Analytical chemistry, metabolomics, wine, oxidation, sulfites
<b>Application deadline</b>	September 28 <sup>th</sup> , 2018
<b>Starting Job</b>	January 7 <sup>th</sup> , 2018
<b>Application</b>	<p><b>PhD Position</b></p> <p>Please send the following documents (all in one PDF file) by e-mail to <a href="mailto:job-application@ubfc.fr">job-application@ubfc.fr</a>:</p> <ol style="list-style-type: none"> <li>1) For EU candidates: Copy of your national ID card or of your passport page where your photo is printed. For non-EU candidates: Copy of your passport page where your photo is printed.</li> <li>2) Curriculum Vitae (1 page).</li> <li>3) Letter of motivation relatively to the position (1 page).</li> <li>4) Copy of your Master degree and/or Engineer degree if already available.</li> <li>5) Copy of your final marks and ranks.</li> <li>6) Coordinates of reference persons (maximum 3, at least your master thesis supervisor): Title, Name, organization, e-mail.</li> </ol> <p>If you have questions regarding the application, please contact the supervisors.</p>