

CENOVITI INTERNATIONAL Network



The first and sole international network
for training and research
in œnology and viticulture



université
de BORDEAUX



The CENOVI INTERNATIONAL network

Close international cooperation

The **CENOVI INTERNATIONAL network**, launched in 2010 and coordinated by the University of Bordeaux (*Institut des Sciences de la Vigne et du Vin - ISVV*), is the first and sole international network in œnology and viticulture. Its aim is to boost **exchanges of know-how and expertise** between wine-makers, academics and industrial partners.

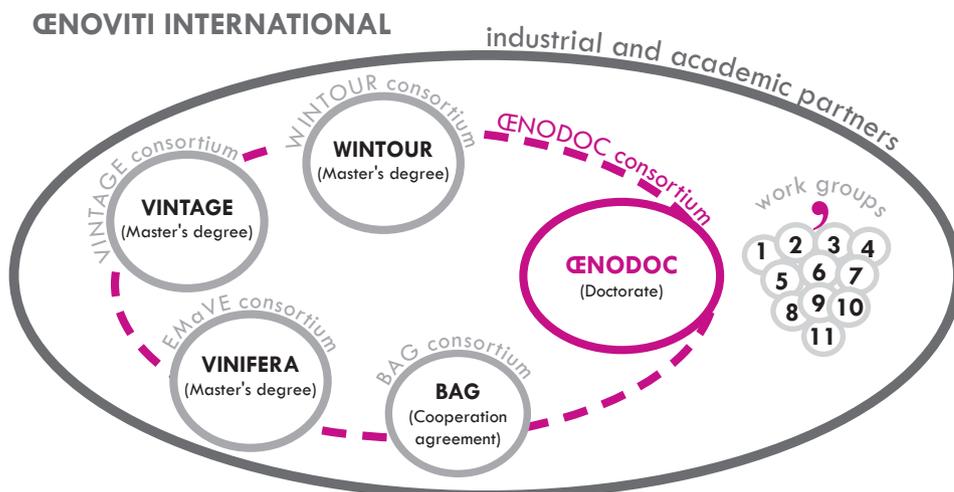
The network provides its members with a **high level of visibility** on the international scene by enabling them to **maximize their opportunities** in terms of joint training/research projects.



A structured organization

The CENOVI INTERNATIONAL network includes **52 partners worldwide**. All of them are recognized for their excellence in the field of œnology and viticulture.

The network is organized around an executive board consisting of the members of the consortium, the representatives of the major programs and the *fondation Bordeaux Université*. They gather in 11 transversal and thematic work groups but also in meetings such as general assemblies.



The CENOVI INTERNATIONAL network grew out the joint **CENODOC PhD program**, created to develop an international doctorate specific to the œnology-viticulture sector.

The CENOVI consortium also encompasses three Master's degrees (**VINTAGE, VINIFERA and WINTOUR**) and the **cooperation agreement BAG**.

THE WORK GROUPS

1. Climate change
2. Œnology, engineering and processes
3. Biotechnology
4. Industrial transfer
5. Genetic material, grape selection and production
6. Table grapes
7. Development, strategic monitoring and international relations
8. Vine diseases and parasites
9. Wine management and wine tourism
10. Sparkling wine
11. Wine and health



KEY FIGURES

21 countries, **5** continents

52 partners including :

- **12** industrial partners
- **4** research institutes
- **36** academic partners

10 PhD students

More than **200** master's degree students

More than **240** teachers-researchers

The innovative approach of the network

The ŒNOVITI INTERNATIONAL network is based on :

- the mobility of its staff and students,
- the exchange of experience and good practices between the relevant subjects,
- the building of a common core curriculum in education and training.

Corporate cooperation

The programs also involve many partners from industry and the socioeconomic world. Beyond their financial support, they provide their expertise to pursue top-quality R&D and to offer employment opportunities to young graduates.

AT THE SOURCE OF THE PROJECT

The ŒNOVITI INTERNATIONAL network and the ŒNODOC program enable academic and industrial partners to come together to address the research challenges in œnology and viticulture. Emphasis is given to the set-up of joint projects and on student mobility. Several thematics are already dealt with (climate change, quality of grapes and wines, biotechnologies, etc.). Ten doctorate students benefit from the ŒNODOC program; they will thus take advantage of the various skills existing in the universities laboratories and the R&D departments of the partner industries. I am particularly happy to be able to contribute to this action in the name of the University of Bordeaux.



Pierre-Louis TEISSEDRE, university of Bordeaux (ISVV), professor of œnology

The CENOVITI INTERNATIONAL network

The network, coordinated by the University of Bordeaux, includes partners from all over the world.



As the main academic training facility for agronomic sciences in Austria, we are dedicated to providing our students with superior education in viticulture and œnology. Expanding the range of international exchange possibilities for students and staff within the CENOVITI framework is a mission we happily contribute to and, vice versa, greatly benefit from.

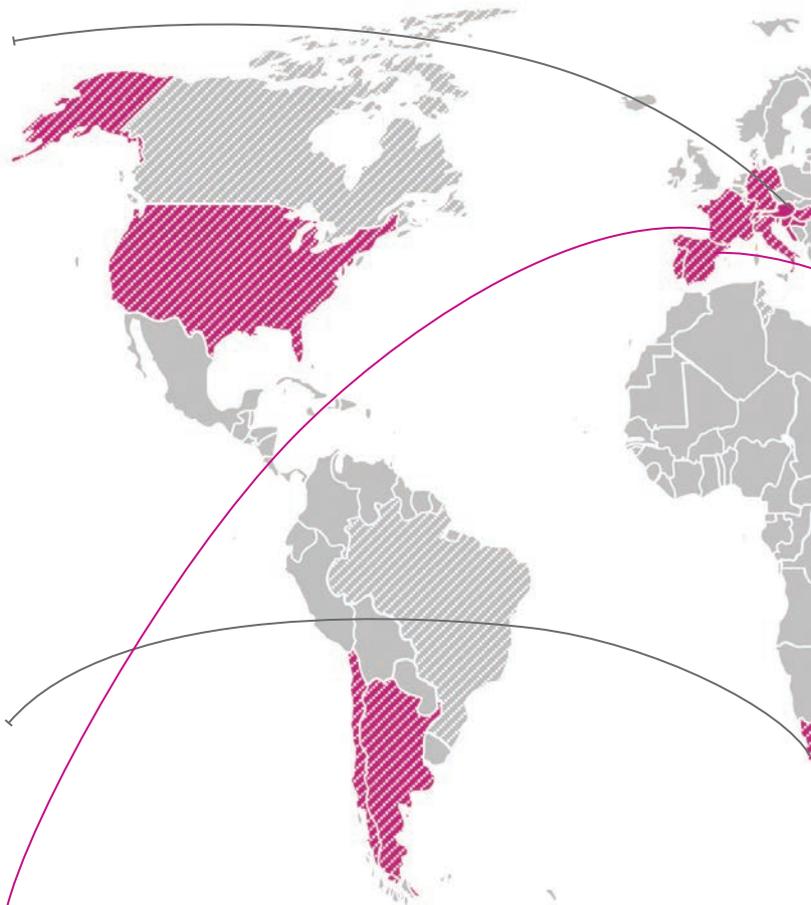
Pr Astrid FORNECK, University of Natural Resources and Life Sciences, Vienna (Austria), head of the viticulture & œnology program



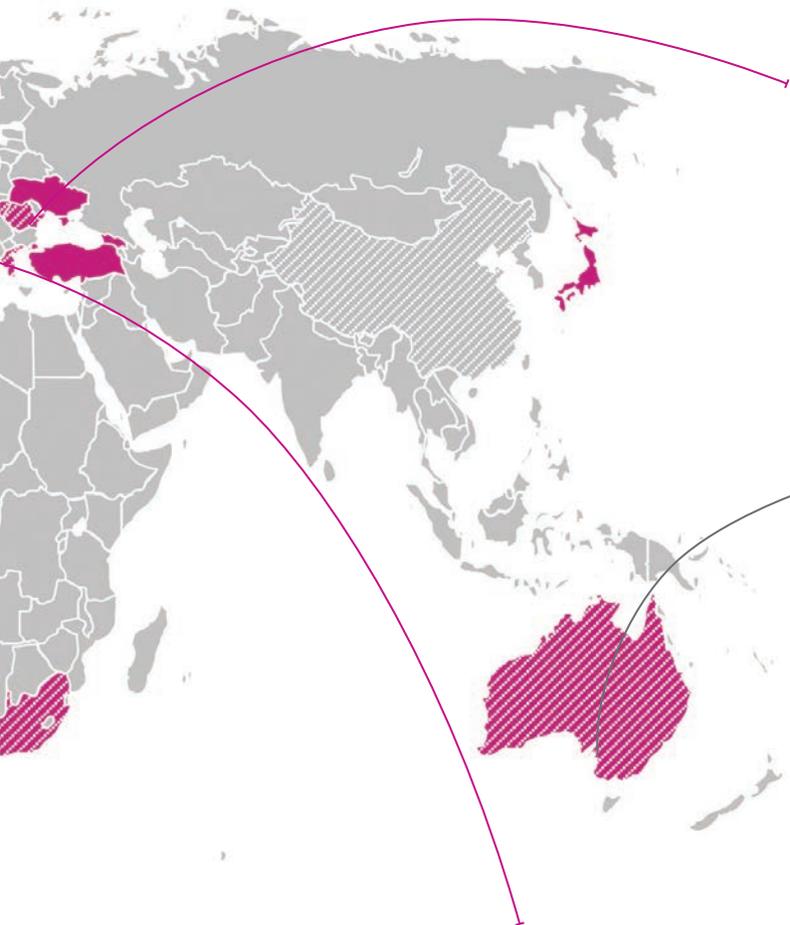
CENOVITI INTERNATIONAL provides a formidable opportunity to establish research collaborations and to implement student exchange, in particular within the CENODOC programme. One of our doctoral students, Louwrens THERON is currently working on a joint research project in the field of wine microbiology. He is sharing his time between Bordeaux and Stellenbosch which allows him to experience

both working and living environments while also benefiting from the best know-how and equipment for his project. At the end of his studies, he will receive a joint PhD degree from both universities. We believe that this project is strengthening the relationships between these two universities, thus paving the way for further collaborations in the future.

Benoit DIVOL, Stellenbosch University (South Africa), senior lecturer in œnology



-  Members of CENOVITI INTERNATIONAL
-  Partners of CENODOC, VINTAGE, EMaVE and WINTOUR projects



Romania has a long tradition of viticulture and œnology, and after joining the European Union in 2007, modern winemaking facilities and vine plantations developed in the country. The training of specialists in this field is therefore one of our priorities. In this respect, CENOVI INTERNATIONAL offers opportunities to access the vast expertise and knowledge in science, research and technology provided by the partners of the network.



Arina Oana ANTOCEA, University of Agronomic Sciences and Veterinary Medicine, Bucharest (Romania), professor of œnology

The world of wine is increasingly global, and grape and research challenges and opportunities are equally global in nature. Networks such as CENOVI INTERNATIONAL allow for increased engagement and coordination between relevant international players. They act as a platform upon which projects of significance to the global wine sector can be conceived and conducted.



Dr Dan JOHNSON, The Australian Wine Research Institute, Adelaide (Australia), managing director

IRTA's approach for viticulture in the XXI century is focused on technology options that analyze how farming management concepts, practices and technologies (including plant breeding) could enable sustainable intensification of crop production. Thus, we would increase the production and quality of grape, and support wine supply.

Dr Robert SAVÉ, IRTA (Catalonia, Spain), viticulture and œnology coordinator and Universitat Autònoma de Barcelona, professor of ecology



The main activities of the network

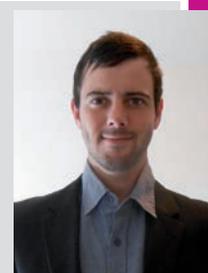
High-level training and research programs

The joint ŒNODOC doctorate

ŒNODOC is an international and multidisciplinary doctorate program aimed at addressing the current challenges in œnology and viticulture. To date, it has involved 10 doctorate students :

- **Marta AVRAMOVA**, AWRI and university of Bordeaux
Comparative and functional genomics of *Dekkera (Brettanomyces) bruxellensis*
- **Marion BRENIAUX**, Universities Rovira I Virgili and Bordeaux, Lallemand  Thesis
Molecular mechanisms involved in lactic acid bacteria inhibition by wine phenolics
- **Julie DRAPPIER**, Universities of Geisenheim and Bordeaux (BAG cooperation)
Impact of temperature on the aromatic component of grape berries and wines
- **Álvaro S. GONZALEZ**, universities of Santiago and Bordeaux (submitted in May 2012)
Impact of plant growth regulators application on phenolic quality of grape berry skins and wine (*Vitis vinifera* L., Cvs. Cabernet Sauvignon and Carménère)
- **Mar MARGALEF**, Universities Rovira I Virgili and Verona
Molecular mechanisms involved in the dynamics of adaptation of *Oenococcus oeni* to wine, and particularly in the maintenance of cell redox balance
- **Maria MARTÌ RAGA**, Universities Rovira i Virgili and Bordeaux, Biolaffort
Genotypic and fisiological restraints to nitrogen metabolism in *Saccharomyces cerevisiae* during second fermentation
- **Maria Alessandra PAISSONI**, Universities of Turin and Bordeaux
Characterization of condensed Tannins from grapes and their qualitative incidence on astringency and bitterness sensory properties
- **Louwrens THERON**, Universities of Stellenbosch and Bordeaux
Isolation, characterization and impact of acid proteases in the wine yeast *Metschnikowia pulcherrima*
- **Jochen VESTNER**, Universities of Geisenheim, Stellenbosch and Bordeaux
Investigation of the effect of malolactic fermentation (MLF) on the flavour and volatile composition of wines from certain varieties
- **Jing WU**, AWRI and university of Bordeaux
Microclimate of grape berries and quality - aromas, modeling and adaptation to climate change

The ŒNODOC programme provided me with an opportunity to broaden my horizons. From a professional point of view, doing a PhD between two countries allows me to work with different professionals within my field of study thereby exposing me to different perspectives and approaches to doing research. Being awarded a joint degree from two universities will also be a testimony of my adaptability to different situations. Furthermore, this programme allows me to network within the scientific community therefore opening the doors for future career prospects. On a personal level, my enrolment in this programme gives me the opportunity to travel and experience new cultures which is enriching and eye-opening.



Louwrens THERON, doctorate student

Post-doctoral research mobility

Students who completed their PhD within an academic partner of the network have the possibility to plan a stay with a partner institution in order to foster the exchange of experience and good practices.



The first objective of this 10 weeks stay was to learn about a new method to study wine aroma perception. Thanks to this new approach in œnology, which has been particularly developed during this last decade in Bordeaux, this technique could be applied to investigate Australian Cabernet Sauvignon wines aroma.

The second objective was to link with researchers at ISVV in order to open perspectives for future collaborations between NWGIC and ISVV. This objective was met and future collaborations are currently under discussion..

Dr. Guillaume ANTALICK, National Wine and Grape Industry Centre (NWGIC), Charles Sturt University, Australia - university of Bordeaux (ISVV), France

The joint master's degrees

- **VINTAGE INTERNATIONAL** (coordinated by "Ecole Supérieure d'Agricultures" of Angers): this master's degree aims at enabling students to acquire dual technical and marketing skills covering the entire wine industry (vines, wines, terroir, environment, etc.) at the international level. Since its creation, about 200 students have graduated.
- **VINIFERA EUROMASTER** (coordinated by Montpellier SupAgro) : this international master's degree – taught in English – focuses on the science of viticulture and œnology. This joint diploma, granted by six European universities, offers careers opportunities in research, wine-production and vineyard management About 20 to 30 students a year have graduated since its creation in 2007.
- **WINTOUR** (coordinated by "Universitat Rovira I Virgili", Tarragona): The European Joint Master on Wine Tourism Innovation offers a really integrated program that takes advantage of the know-how in tourism and œnology of three European universities: Rovira i Virgili (Tarragona), Bordeaux and Porto. Three different internship topics are available (winemaking, marketing and oenotourism), thanks to the active participation of the non-academic partners.

BAG cooperation (Bordeaux - Adelaïde - Geisenheim)

In 2010, the ISVV (University of Bordeaux), the AWRI (Adelaïde) and the Hochschule Geisenheim University signed an agreement to step up cooperation on research, higher education and technology transfers in grape and wine sciences (adaptation to climate change, management of the spoilage yeast *Brettanomyces*, grapevine trunk diseases consumer behaviour in China).

Franco-Spanish Master's degree in œnology

This joint training program results in a double degree in œnology from the universities of Bordeaux in France and Tarragona in Spain. Three students from each university are involved every year, they benefit from a 6-month mobility period in the partner university.

European Union projects

The members of the **œNOVITI INTERNATIONAL** network submit projects to the European Union (in particular as part of the **Marie-Sklodowska-Curie Actions of the Horizon 2020** programme and **Erasmus +**) on a regular basis.

œNOBIO

After the success of the œNOBIO project in 2014, a new application was submitted in 2016 in order to involve academic partners but also socio-economic actors. The core of this new project is to offer an harmonized European programme in **organic vine and wine** for advanced Bachelor/Master/PhD students.



IP œNOBIO, Bordeaux, June 2014

œNOCLIM

œNOCLIM gathers nine partners from France, Spain, Italy, Portugal, South Africa and Australia in a scientific network focusing on the consequences and solutions of the impact of climatic change on vines, grapes and wines. It encompasses abiotic stress on grape quality and ripening, reduction of alcohol level in wine by adapted yeasts and engineering process, adapted bacteria for malolactic fermentation, wine quality changes and sensorial preservation.

High-level events

General Assemblies

The general assemblies (GA) constitute key events in the life of the **œNOVITI INTERNATIONAL** network. They take place twice a year and gather all the members. The GA are hosted successively by the partners of the network : Bordeaux et Narbonne (France), Verona (Italy), Tarragona (Spain), Lisbon (Portugal), Geisenheim (Germany), Barcelona (Spain), Conegliano (Italy).

Scientific symposia

Organized simultaneously with the GAs, they gather **academic and industrial specialists** to speak on the current challenges and opportunities for the œnology and viticulture sector.

- "The alcohol content of wines and the possibles practices for its reduction within the context of climate change", Bordeaux, Sept. 2013
- "Exploitation of autochthonous and more used vines varieties: genetic pedigree and phenotyping, tolerance and stress, diseases to control, rootstocks", Geisenheim, Nov. 2014
- "Sparkling wines and cava current challenges", Barcelona, May 2015
- "Non-conventional micro-organism in wine making", Conegliano, Oct. 2015
- "Processes, œnological practices, packaging - Wine quality evolution and future, consumers perception", Bordeaux, May 2016



1st scientific colloquium, Bordeaux, Sept. 2013

The partners of the network (as of April 2016)

Why become a partner ?

The members of the network constitute work groups in order to complete collaborative projects regarding scientific and technical research, but also to foster training, exchanges of staff and students and organization of conferences.

By becoming a member of CENOVI INTERNATIONAL, you will contribute to the development of:

- the **largest international network** dedicated to research and training in œnology and viticulture,
- **research** in this sector and help to meet collectively its new challenges,
- **training programmes of excellence** at the international level.



Academic partners

Adelaide University – Adelaide, Australia
Agricultural University of Athens – Athens, Greece
Agricultural University of Georgia – Tbilisi, Georgia
Bordeaux Sciences Agro – Bordeaux, France
Charles Sturt University – Wagga Wagga, Australia
Cukurova University – Adana, Turkey
Ecole supérieure d'agriculture d'Angers (ESA) – Angers, France
Ege University – Izmir, Turkey
Haute école de viticulture et œnologie – Changins, Suisse
Hochschule Geisenheim University – Geisenheim, Germany
Montpellier SupAgro – Montpellier, France
Kedge Business School – Bordeaux, France
National University of Cuyo – Mendoza, Argentina
Odessa National Academy of Food Technologies – Odessa, Ukraine
Pontificia Universidad Católica de Chile – Santiago, Chile
Rovira I Virgili University – Tarragona, Spain
Stellenbosch University – Stellenbosch, South Africa
Technical Educational Institute of Athens – Athens, Greece
University of Agronomic Sciences and Veterinary Medicine – Bucharest, Romania
university of Bordeaux, Institut des Sciences de la Vigne et du Vin (ISVV) – Bordeaux, France
University of California – Davis, USA

University of La Rioja – Logroño, Spain
University of Lisbon – Lisbon, Portugal
University of Milan – Milan, Italy
University of Natural Resources and Life Sciences (BOKU) – Vienna, Austria
University of Nova Gorica – Nova Gorica, Slovenia
University of Padova – Padova, Italy
University of Pécs – Pécs, Hungary
University of Porto – Porto, Portugal
University of Tras-os-Montes e Alto Douro – Vila Real, Portugal
University of Turin – Turin, Italy
University of Udine – Udine, Italy
University of Verona – Verona, Italy
University of Yamanashi – Yamanashi, Japan
University of Zagreb, Faculty of Agriculture – Zagreb, Croatia
University of Zagreb, Faculty of Food Technology and Biotechnology – Zagreb, Croatia

Research institutes

Agricultural Institute of Slovenia – Ljubljana, Slovenia
Institute for Research and Technology in Food and Agriculture (IRTA) – Caldes de Montbuy, Spain
The Australian Wine Research Institute (AWRI) – Glen Osmond, Australia
Viticulture Research Centre (CRA) – Conegliano, Italy

Industrial partners

Château Pichon-Longueville – Pauillac, France
Alfa Laval Italy – Monza, Italy
Biolauffort – Flouirac, France
Concha y Toro – Santiago, Chile
E & J Gallo Winery – Modesto, USA
Lallemand – Blagnac, France

Linde Gas – Arluno, Italy
MBF – Veronella, Italy
Miguel Torres S.A. – Vilafranca del Penedès, Spain
Preparatori d’Uva – Manzano, Italy
Sogrape – Avintes, Portugal
Vason Group, JU.CLA.S S.R.L. – Verona, Italy
Winetech – Paarl, South Africa

The partnership with Château Pichon-Longueville

This first sponsor made a major contribution to the launch of the network and in particular of the ŒNODOC programme. The donation of 120 k€ finances the mobility of the numerous partners within the network. The Château also provides an input of its competences through its active participation in the network’s actions.



We support the ŒNODOC programme designed to meet the current challenges in œnology and viticulture. It is an ambitious project with an international and multidisciplinary reach. The issues addressed include, among others, research, health and the environment, topics which concern all of us. We are particularly happy within AXA Millésimes to contribute to the network.

Christian SEELY, Château Pichon-Longueville (AXA Millésimes), general manager

The partnership with IdEx Bordeaux (Initiative d’Excellence)

IdEx Bordeaux is an **investment program designed to support the transformation and development of the university of Bordeaux** through the creation of clusters of excellence in higher education and scientific research. In the framework of ŒNOVITI INTERNATIONAL, IdEx helps financing :

- Doctoral theses for eighteen months (for the students of ŒNODOC partner universities)
- Travels for teachers and researchers
- Colloquia and conferences



fondation Bordeaux Université

The fondation Bordeaux Université is an **original interface between the academic and the socioeconomic spheres**. Through new forms of cooperation, the foundation federates a broad network of companies, associations, institutions and citizens who design and steer with the academic world.

Depending on the wishes of the patrons, the fondation Bordeaux Université ensures the visibility or anonymity of the allocated donations as well as a complete transparency in the use of funds.

Contact : fondation@univ-bordeaux.fr



Join CENOVI INTERNATIONAL !

How can you become a partner ?

Academic partners

Membership for academic members: 1,000 €/year

Industrial partners

The CENOVI INTERNATIONAL network is actively looking for sponsors. Thanks to their donations, we want to ensure the long life of this network of excellence and its actions. There are different kinds of partnership to be invented and built together.



Launch of the network, Bordeaux, March 21, 2012

Two kinds of sponsorship

You can support the CENOVI INTERNATIONAL network in its entirety by making an open donation. Alternatively, you can specify that your donation be dedicated to actions of training, research or distribution within the framework of partnerships: the gold grape or the silver grape.

Become a "gold grape" partner

30K€/year over 3 years

Member of the network for 3 years.

A special partnership built jointly within the framework of one or several structural actions developed within the network: research work (bachelor's and master's degree, doctorate or post-doctorate grants), the organisation of major events, the launching of new partnerships through the financing of mobility, and more.

Become a "silver grape" partner

10K€

Member of the network for 1 year.

Financing of a one-off action: research or training prize, a local event, the mobility of researchers or students, the purchaser of research equipment, and more.

There are many other possibilities for partnership

You can also offer your support in other ways:

- by hosting members of the network when they travel,
- through the donation of samples (wines, plants, etc.),
- visits of your facilities, etc.



The network benefits from the support of:



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Fondation Bordeaux Université, university of Bordeaux

contact

Pierre-Louis TEISSEDRE, professor of œnology
pierre-louis.teissedre@u-bordeaux.fr - T 33 (0)5 57 57 58 53
<http://www.oenoviti.univ-bordeauxsegalen.fr>